# American Institute of Higher Education

# 7th International Conference Proceedings

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## Williamsburg, VA

## March 7 - 9, 2012

## MESSAGE FROM THE CONFERENCE CHAIR

On behalf of the Conference Organizing Committee, I would like to welcome you to Williamsburg and to the 7th International Conference of the American Institute of Higher Education (AmHighEd). The conference will provide an opportunity for participants to share their ideas and research in the fields of business and education.

The Best Papers selected in the categories of Business and Education will, after incorporation of reviewers' comments, be published in the American Journal of Business Research and the American Journal of Educational Studies, respectively. In addition, the remainder of the top five papers will undergo an expedited review process for possible publication in these journals.

We at AmHighEd believe that research is a cooperative enterprise among scholars and practitioners, which is why we are committed to providing a collaborative environment that fosters the free flow of ideas and constructive feedback among researchers, practitioners, and students. We would like to thank all the attendees whose contributions and participation are essential to creating a stimulating environment at the conference.

I would like to take this opportunity to thank the organizing team that did an excellent job of putting this conference together. I am also indebted to our reviewers who reviewed the manuscripts, sometimes under extreme time constraints, and selected the best papers that fit this conference.

We hope you will find the conference productive, informative, and enjoyable. We also wish you a pleasant stay in Williamsburg and look forward to receiving your constructive comments that would help us in our future planning. Please visit our website (www.amhighed.com) to obtain information of future conferences, journals, webinars, and grant-writing services.

Sincerely,

Alireza Lari
Conference Chair
American Institute of Higher Education

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# AN INNOVATIVE DECADE OF ENDURING ACCOUNTING IDEAS AS SEEN THROUGH THE LENS OF CULTUROMICS: 1900-1910

**Sunita Ahlawat**
**School of Business**
**The College of New Jersey**
**Ewing, NJ 08628**
**ahlawat@tcnj.edu**

**Sucheta Ahlawat**
**School of Management, Marketing and International Business**
**Kean University**
**Union, NJ 07083**
**sahlawat@kean.edu**

**Abstract**

Culturomics is a new field of study to investigate how use of a word or phrase has changed over the past few centuries. We use the Culturomics approach to describe the temporal changes in the evolution of accounting thought. This is now possible as more and more books are being scanned and texts digitized. With digitization, it is possible to apply quantitative analysis to diverse fields in novel ways. We document the trajectories of terms that define the accounting field and our initial interpretations of them. Our analysis reveals that the ten-year period, from 1900 to 1910, stands out as a fertile period of innovative accounting ideas that endure to this day.

**Keywords:** Culturomics, Corpus, Digitized texts, Accounting thought, Linguistic evolution

## Introduction

Culturomics is a new field of study to investigate how usage frequency of a word or phrase has changed over the past few centuries. The words written in books narrate the history of social science and humanities. Using the Culturomics approach, this paper will describe and report on the temporal changes in the evolution of accounting thought. This is now possible as more and more books are being scanned and texts digitized. With this new approach, quantitative analysis can be applied in novel ways to diverse fields. We document the trajectories of terms that define the field of accounting and our initial interpretations. We find that during a ten year period (1900-1910), many important managerial accounting concepts (e.g., break-even analysis, gross margin), financial accounting principles (e.g., revenue recognition, matching), and analytical ratios (e.g., earnings per share) were first introduced to a wider swath of readers.

## The Google Labs n-gram Viewer

In December 2010, Google launched its Google Books Ngram Viewer, a research engine that enables people to explore cultural history by statistically analyzing the world's books. Users can research how popular certain words and phrases have been over several centuries, based on their

appearance in books. Jon Orwant, from the Google Books team describes the process as "the datasets contain phrases of up to five words with counts of how often they occurred in each year.(…) The Ngram Viewer lets you graph and compare phrases from these datasets over time, showing how their usage has waxed and waned over the years."

Single words represent a 1-gram while phrases are described as n-gram where n = the number of words in a phrase. Entry of a single word or non-word or a multi-word phrase results in a time-series graph showing the prevalence of that term or phrase for each year between 1800 and 2000.

This simple online tool allows users to search different collections of books, called "corpora" to see cultural trends throughout history, as recorded in books. We use this tool to examine trends in the accounting field since the 1800s.

**The Corpora**

In 2010, the Economist reported that Google has digitized 15 million books printed since the 15th century. This massive electronic library represents 12% of all the books ever published. Jean-Baptiste Michel of Harvard and his team shaved the digitized collection down to just over 5 million volumes for which reasonably accurate bibliographic data including the date and place of publication, were available. Their focus was mainly on English books between 1800 and 2000. Periodicals were excluded. That yielded a corpus of over 500 billion 1-grams.

Different collections of books represent the corpora; Corpora are available in English, Chinese, French, German, Hebrew, Russian, and Spanish. Users are able to examine words and phrases from each corpus so as to compare the time-series usage of words and phrases between languages. All of these corpora were generated in July 2007 and are expected to be updated as the book scanning continues. Distinct persistent identifiers will accompany each updated versions.

**The Culturomics Approach**

Jean-Baptiste Michel, et. al., (2010) define culturomics as 'the application of high-throughput data collection and analysis to the study of human culture'. They summarize what culturomics can do:

> "Analysis of this corpus enables us to investigate cultural trends quantitatively. We survey the vast terrain of 'culturomics,' focusing on linguistic and cultural phenomena that were reflected in the English language between 1800 and 2000. We show how this approach can provide insights about fields as diverse as lexicography, the evolution of grammar, collective memory, and the adoption of technology, the pursuit of fame, censorship, and historical epidemiology. Culturomics extends the boundaries of rigorous quantitative inquiry to a wide array of new phenomena spanning the social sciences and the humanities."

**The Dataset**

The digital storehouse currently consists of the 500 billion words culled from nearly 5.2 million digitized books published between 1800 and 2000 in seven languages. The dataset's quality is

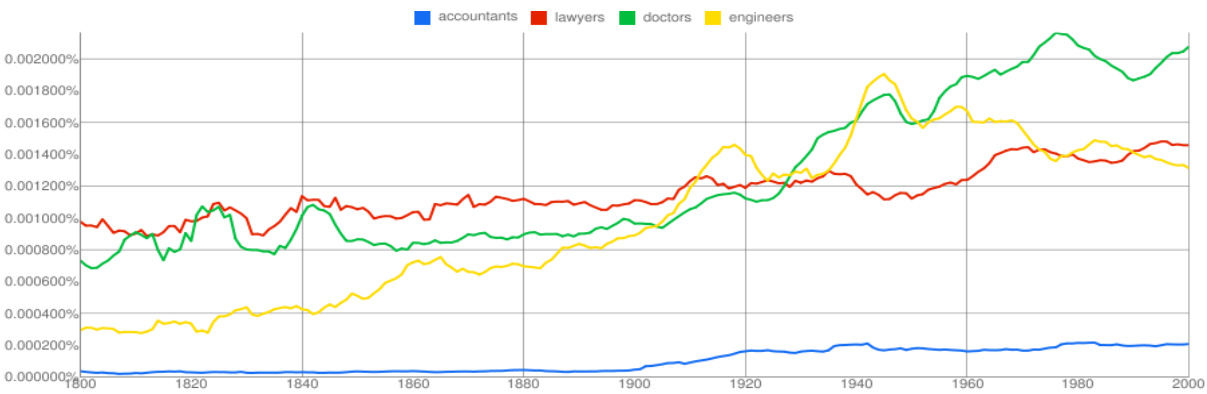
highest for English between 1800 and 2000. The file format of the dataset consists of zipped tab-separated data and the format for each line is (much of the discussion on the dataset, the file format, and illustrations is based on materials available on ngrams.googlelabs.com): ngram TAB year TAB match_count TAB page_count TAB volume_count NEWLINE. Below is an illustration of what the data looks like:

The 30,000,000th and 30,000,001st lines from file 0 of the English 1-gram (googlebooks-eng-all-1gram-20090715-0.csv.zip):

| | | | | |
|---|---|---|---|---|
| circumvallate | 1978 | 313 | 215 | 85 |
| circumvallate | 1979 | 183 | 147 | 77 |

The first line tells us that in 1978, the word "circumvallate" (which means "surround with a rampart or other fortification") occurred 313 times overall, on 215 distinct pages and in 85 distinct books from our sample. Inside each file the n-grams are sorted alphabetically and then chronologically. The files themselves aren't ordered with respect to one another. When you enter phrases into Google Books N-gram Viewer, it displays a graph showing how those phrases have occurred in a corpus of books over the selected years. For example, entering the terms: accountant, lawyer, doctor, and engineer in N-gram Viewer, for a period 1800-2000, produces Figure (a) below:

Figure a.




The y-axis shows that of all the unigrams contained in the sample of books written in English and published in the United States, the percentage of them that are "accountants" or "lawyers" or "doctors" or "engineers." The use of the phrase "engineers" started to rise around 1820s, overtaking "doctors" around 1900 and then "lawyers" around 1910. It peaked shortly after 1940 and has fallen steadily since with modest upswings along the way. "Doctors" have gained ground overtaking all other professions around 1950s.

The (y) axis represents usage frequency which is the ratio of the number of instances of the n-gram in any given year to the total number of words in the corpus in that year. For example, Micheal, et al (2010) show that in 1861 the word "slavery", a 1-gram, occurred 21460 times in the corpus containing 386,434,758 words giving a frequency of $5.5 \times 10^{-5}$ or 0.000055. In their Science article, Micheal et al (2010) illustrated some very interesting and curious findings. They include:

1. The size of the English language is increasing at about 8,500 words per year.
2. There are more words than appear in any dictionary.
3. There is lexical "dark matter." Words that do not appear in standard references.
4. Irregular verbs evolve into regular forms.
5. Memory of past events fades at varying rates.
6. The length of fame is becoming shorter.
7. Censorship and suppression of events and people become evident in graphical output.

We use this new tool to examine the evolution of accounting thought. The history of accounting is as old as civilization. Accountants participated in the development of cities, trade, and the concepts of wealth and numbers. Today, accounting is called the 'language of business.'

**The Evolution of Accounting Thought**

The first known piece of writing on the topic goes back 500 years when Luca Pacioli, considered the father of accounting, published his treatise on bookkeeping in 1494. It is this treatise that is believed to have laid the foundation for double-entry bookkeeping. Accounting became a recognized profession in England when the Bankruptcy Act of 1831 allowed accountants to be appointed "official assignees' and they began to take on the additional role of auditors for public companies (Giroux 2011). We use the N-gram tool to examine the linguistic history of accounting and some business terms. Graphs are case-sensitive and whether the term is singular or plural.

We examine the trajectory of linguistic terms that have shaped the field of accounting. We select our 'terms' and organize the analysis around eight themes: 1) accounting programs, 2) accounting process, 3) accounting outputs and reports, 4) accounting elements, 5) cost management, 6) accounting standards & regulation, 7) analysis & ratios, and 8) other.

We graph 79 sets of terms in total. The graphs for each of the eight accounting themes are available from the authors upon request. These graphs reveal something very interesting in that the ten year period from 1900 to 1910 stands out for introducing innovative accounting ideas to the world. In fact, this decade shows some of the earliest bursts of vigorous discourse in the evolution of accounting thought. It is important to note that these ideas endure to this day. We call it the golden decade of enduring ideas. Twenty-two sets of terms out of 79 comprise this decade.

**Golden Decade of Enduring Ideas**

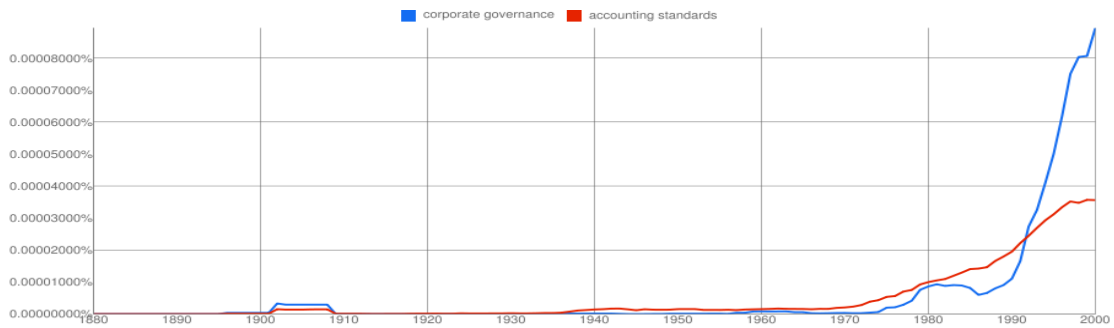
The terms listed in Table 1 came to life during the golden decade of enduring ideas and were widely disseminated through the written word.

Table 1
Notable Terms Highlighting the Conspicuous decade of 1900-1910

| Graph # | Terms | Graph # | Terms |
|---|---|---|---|
| **1** | corporate governance, accounting standards | **12** | EBITDA |
| **2** | GAAP, IFRS | **13** | financial statement analysis |
| **3** | environmental cost | **14** | Break even analysis |
| **4** | financial accounting, managerial accounting | **15** | a) Cost center; b) Profit center; c) Investment center |
| **5** | double entry system | **16** | Process costing, Job order costing |
| **6** | accrual accounting, cash basis accounting | **17** | Activity based costing |
| **7** | revenue recognition, matching principle | **18** | Static budget, flexible budget |
| **8** | contribution margin, profit margin | **19** | accounting for derivatives |
| **9** | fixed cost, variable cost | **20** | mortgage payable, loan payable |
| **10** | return on investment, return on equity | **21** | deferred tax |
| **11** | Earning per share, Price earning ratio | **22** | mortgage backed securities |

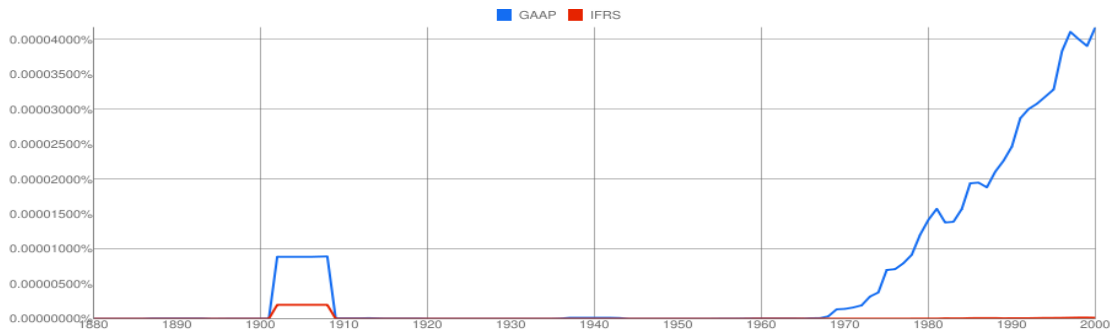
The graphs depicting the golden decade follow next (Since the maximum file size allowed for EAA submission is *1024 KB,* some graphs list in Table 1are not shown). Most graphs cover the period 1880-2000, because there was no discernable activity prior to that. Some graphs cover the full 1800-2000 period.

1



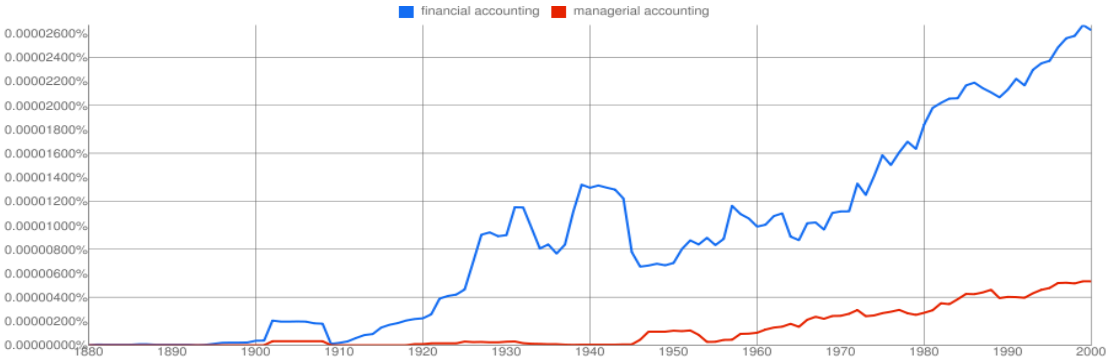

We may consider 'corporate governance' and 'accounting standards' as fairly recent concepts or terms but people wrote about them as early as 1900s with considerable frequency.

2



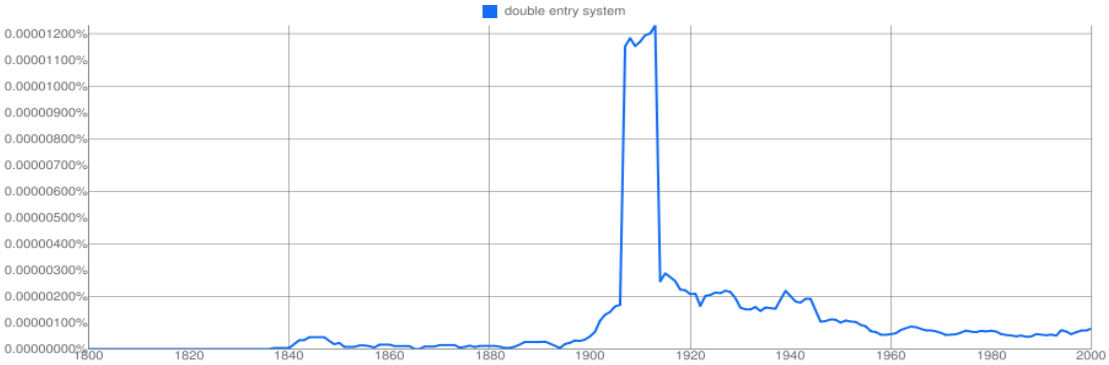
Writers and thinkers were discussing GAAP vs. IFRS as far during back as early 1900s.

4



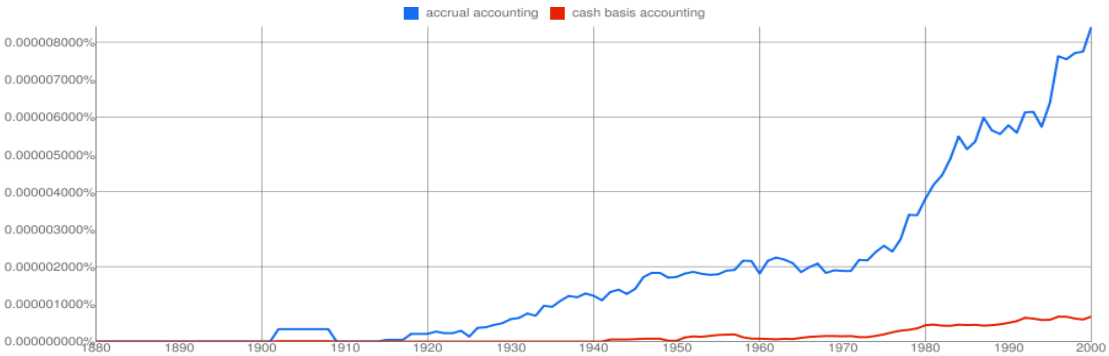

Financial accounting saw a major spike in the 1900-1910 decade; managerial accounting first hit the scene during this time period.

5



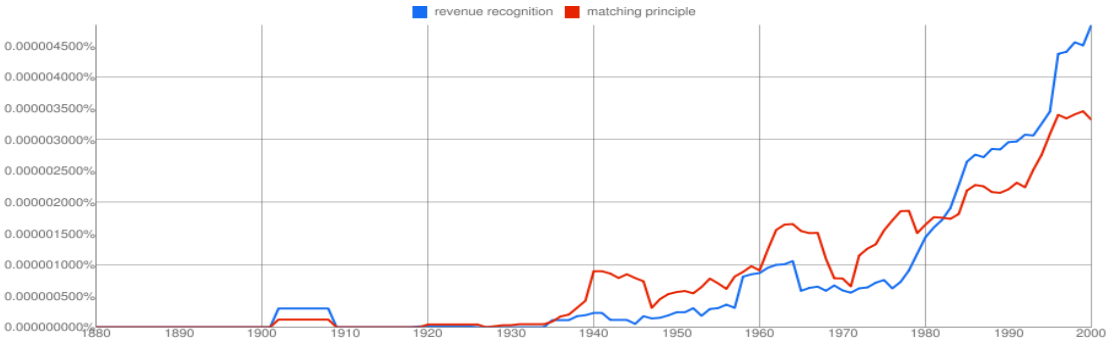

The coverage of the double entry system took off during the golden decade.

6



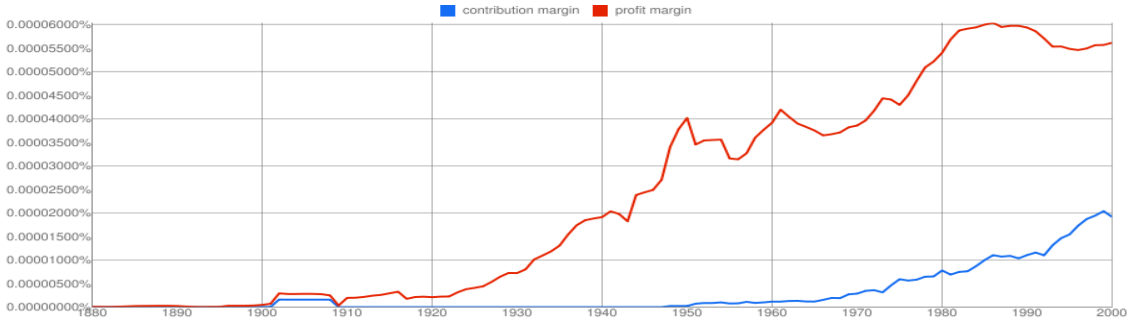

Although followed by a few years of quiet, 1900-1910 saw the arrival of accrual accounting.

7




Similarly, the two pillars of accrual accounting first became the topic of discourse during 1900-1910.

8

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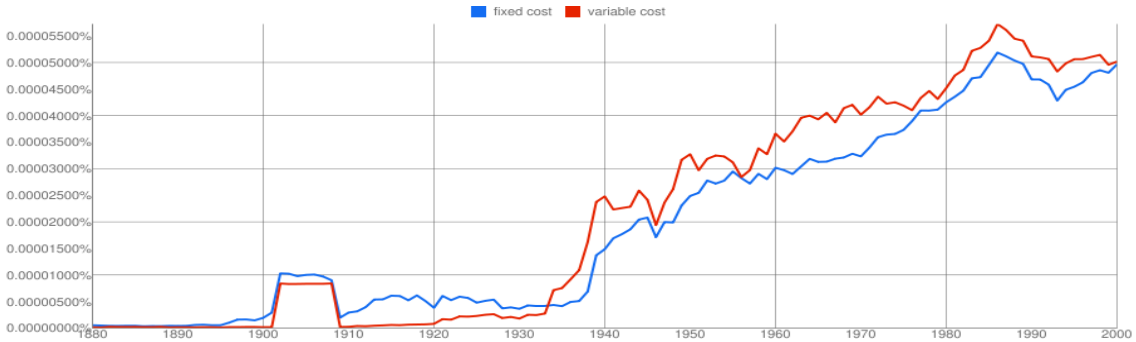


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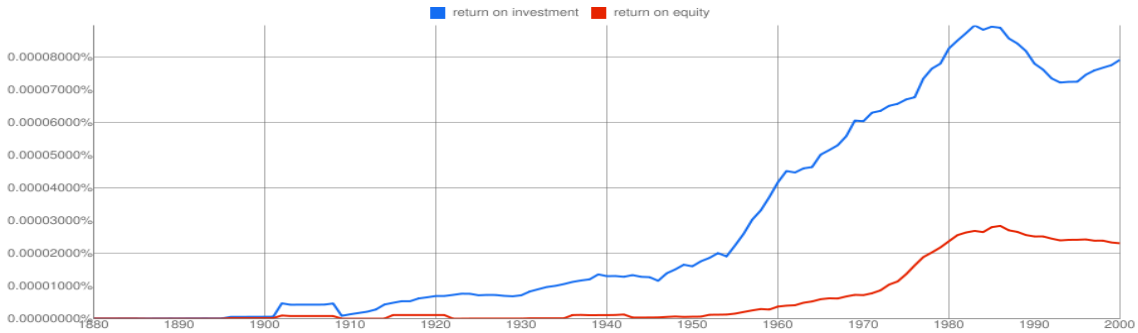
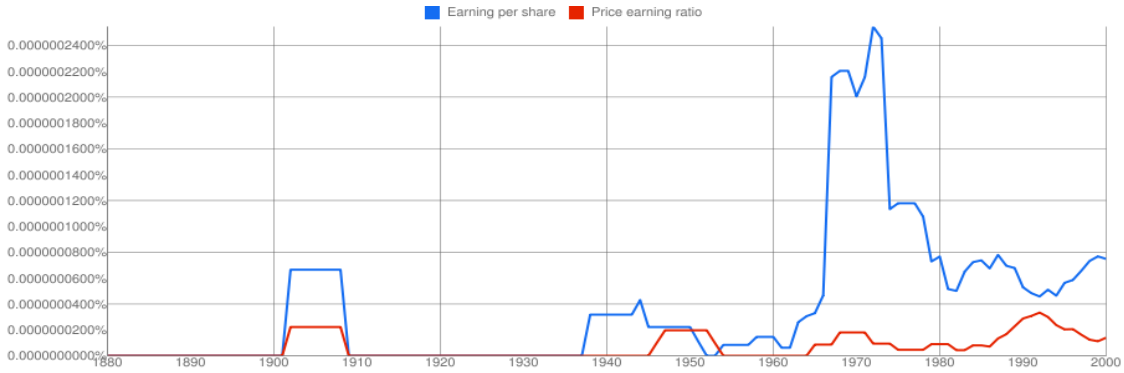
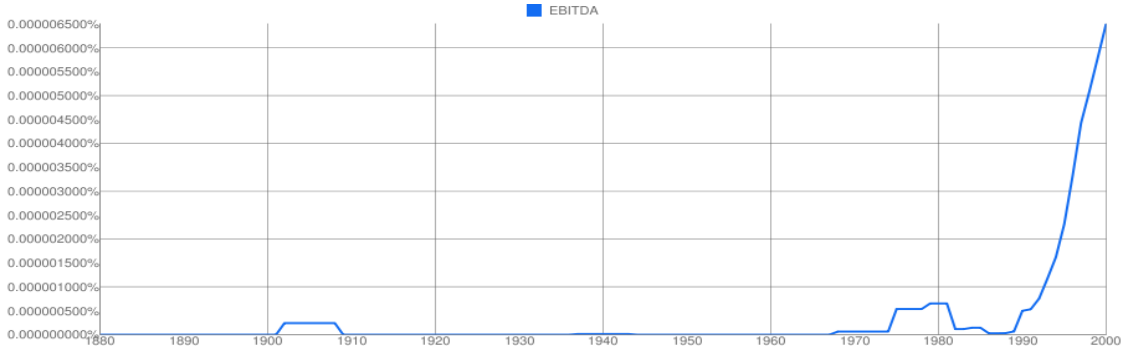


11


Earning per share
Price earning ratio
0.0000002400%
0.0000002200%
0.0000002000%
0.0000001800%
0.0000001600%
0.0000001400%
0.0000001200%
0.0000001000%
0.0000000800%
0.0000000600%
0.0000000400%
0.0000000200%
0.0000000000%
1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000

12


EBITDA
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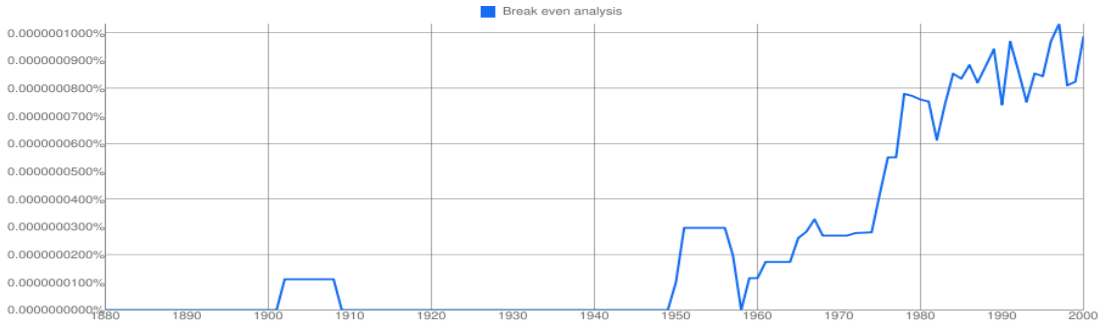
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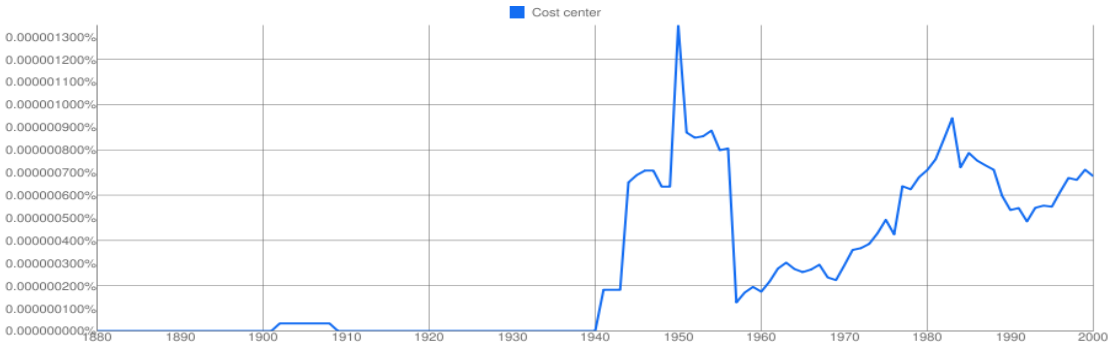


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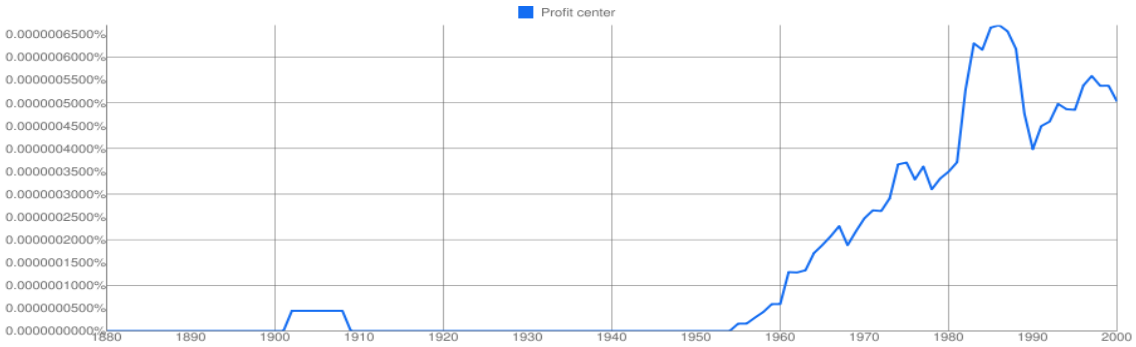


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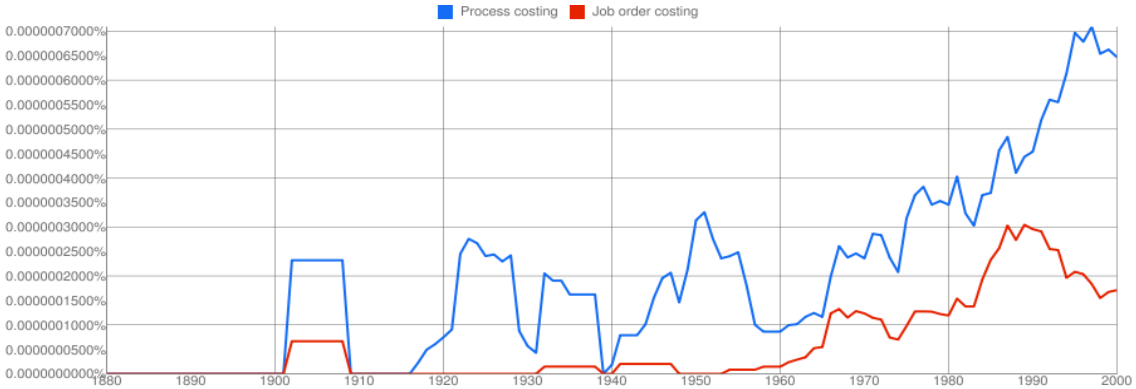

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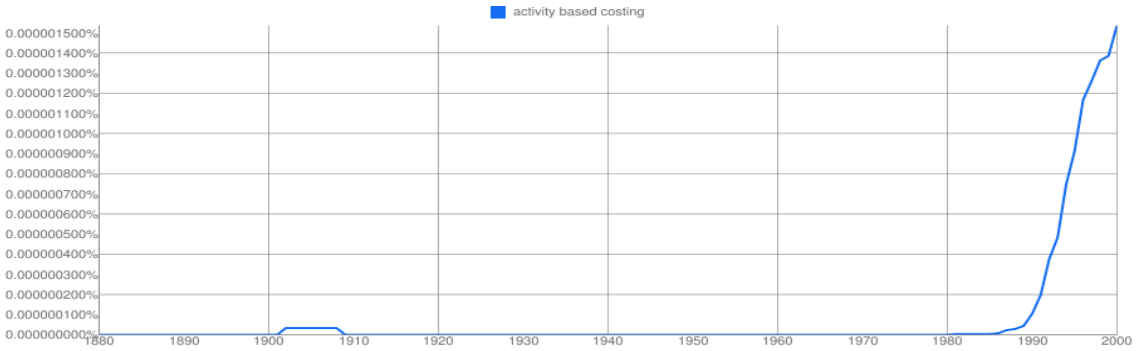


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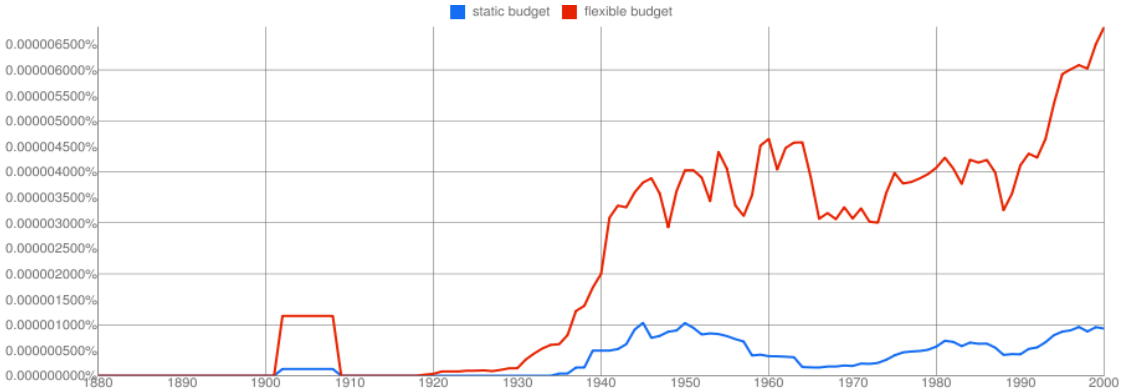


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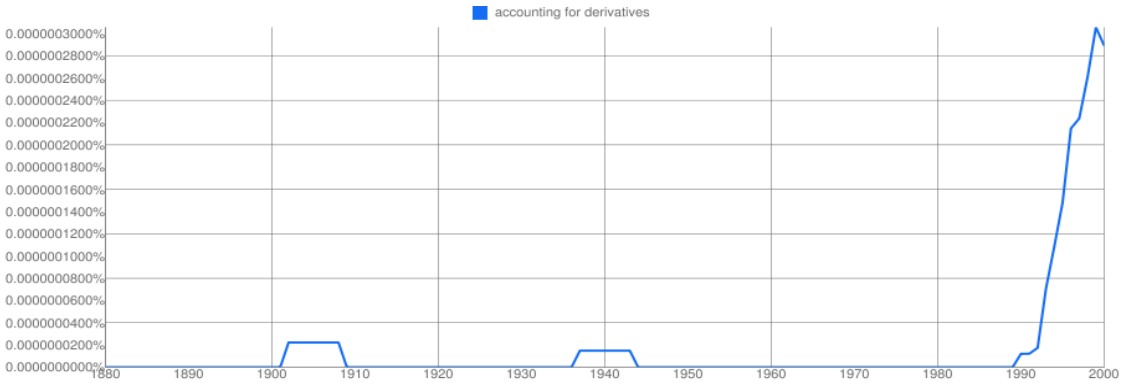


Although derivatives took off in the 1990s, accounting for derivatives was written about during the decade 1900-1910.

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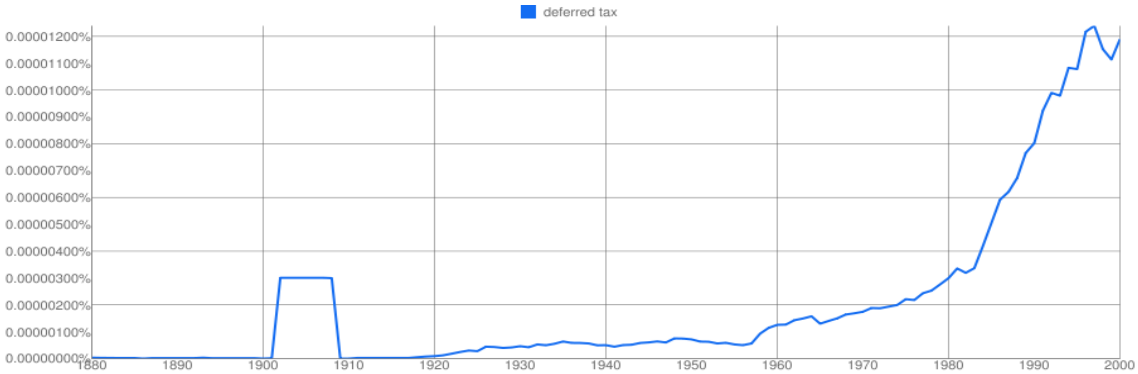

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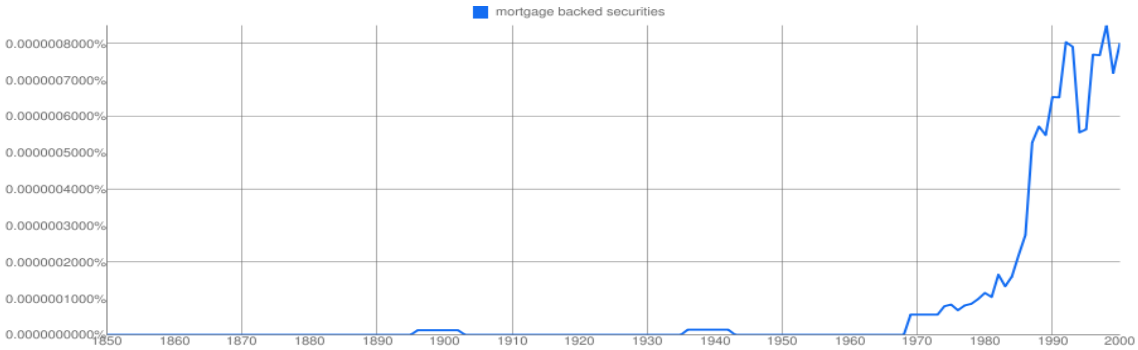


Although mortgage backed securities were a topic of much conversation, debate, and blame after the fiscal fiasco of 2008, the term first appeared in writing in late 1890s.

**Summary**

Culturomics results are a new type of evidence for understanding the historical evolution of a field of study. Analysis of the corpus of digitized texts enables us to investigate the linguistic trends quantitatively. In this paper, we document with the briefest of surveys, the trajectories of terms that define the field of accounting and our initial interpretations. The period of ten years from 1900 to 1910 stands out for producing the earliest burst of innovative accounting ideas in print that include important concepts at work today such as, 'corporate governance', 'revenue recognition', 'matching principle,' and 'accounting standards.' According to Chatfield (1996), Dickinson invented the format for today's income statement, summarized in *Accounting Practice & Procedures* (1908). Another prolific writer was Dicksee. He was a proponent of the going concern principle. He wrote one of the best know books of the era, *Auditing* (1902), which was later adapted by Montgomery (1905).

This ten year period was also seminal in commencing many managerial accounting concepts including, 'fixed cost,' 'variable cost,' 'break-even analysis,' 'gross margin,' 'contribution margin,' 'gross profit,' 'profit margin,' 'return on investment,' 'return on equity,' 'cost center,' 'profit center,' 'investment center,' 'responsibility accounting,' 'static budget,' flexible budget,' 'activity based costing,' 'process costing,' and 'job order costing.' Church (1901) advocated the use of production centers. According to Chatfield (1974, 169) the 'earliest known writings on standard costing' were by Longmuir (1902) and Garry (1903). Other early writers were Hall (1904), Nicholson (1909), and Strachan (1909). They emphasized the contrast to process costing. Although Longmuir (1902) rejected job order costing, he was particularly concerned in controlling cost function. Garry (1903) dealt with price and volume variances. Emerson (1908) employed the idea of standard hour as the 'real standard unit cost' as well as using a single overall variance between actual and standard costs. Mann (1904) argued for separating overhead costs into those for selling and those for production. He also advanced the idea of using machine hour rate for cost allocation. He was among the first thinkers to come up with what was later called break-even chart. Whitmore (1908) introduced the idea of charging and writing off idle capacity costs in a separate account.

The basic managerial accounting framework was created in a major way during the ten year period from 1900 to 1910. Other analytical ideas that were introduced during this time frame were 'earning per share', and 'price earnings ratio.' Environmental cost is another notion that may seem to have registered in public domain recently. However, people wrote about it during the decade, 1900-1910.

Surprisingly, the acronyms 'GAAP' and 'IFRS' were also topics of interest during this ten year period. The analyses suggest that these ten years were a period of great intellectual productivity and engagement. We may even call it the golden decade of enduring ideas. Interestingly, this period was followed by decades of lull for many of these concepts. However, these concepts proved to be useful as we see them applied today.

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# THE ROLE OF TEACHER GENDER IN PROFESSIONALIZATION, CURRICULUM AND INSTRUCTION AND STUDENT ACHIEVEMENT AT THE ELEMENTARY SCHOOL LEVEL

**Cynthia J. Benton**
**Childhood/Early Childhood Education Department**
**State University of New York College at Cortland**
**Cortland, NY 13045**
**cynthia.benton@cortland.edu**

**Abstract**

This study investigated relationships between methods of instruction and achievement of student outcomes in science and mathematics at the elementary school level and issues of stasis in the gender status of the elementary teaching profession. As a conceptual study using a meta-analysis approach, empirical and theoretical studies were analyzed and qualitative comparisons were made to the author's longitudinal research data from studies conducted between 1997 and the present, on the induction and retention of male elementary teachers. The study extrapolated social, psychological, interpersonal and educational implications connecting the gender of teachers to the status of teaching STEM subjects (Science, Technology, Engineering and Mathematics). Findings indicate a tenuous relationship between the continued feminization of the teaching profession, the lack of male teachers to act as role models and teaching innovators for in the elementary classroom, and the continued poor performance of American school children on measures of STEM subject achievement. While frequent studies have been aimed at the need for male teachers' positive involvement with young children, few empirical studies have been aimed at linking the lack of achievement in certain areas with either the lack of balanced gender perspective on learning or on the preparation of teachers by gender. This study aims to solidify conceptual relationships that can lead to further study of the effects of limited gender perspectives on young children's learning.

**Keywords:** Teaching profession, STEM instruction, Gender and teaching, Feminization of teaching, Male elementary teachers, Achievement in STEM subjects

## Introduction

In the past decade, as in the past half-century, there has been increasing scrutiny of the performance of American school children in Science, Math and Technology (STEM). Note that the acronym STEM typically is substituted for Science Technology Engineering and Mathematics; however, this paper focuses only on the general skills in mathematics and science considered in the elementary school curriculum. Funding for science and mathematics has comprised a large proportion of grants earmarked for improving instruction in public schools (NEA, 2003a). Frequently, studies seek to establish connections between the qualifications and preparation of teachers and their effect on student learning as the critical factor in STEM achievement (NEA, 2004). Yet few studies have established a direct correlation between the preparation and achievement of students, and the individual qualities and demographics of teachers.

Another factor presented as a perennial educational issue with generally weak empirical examination is the participation of male teachers in elementary schools. While occasional emphasis is placed on questions surrounding male teachers' presence and effect on elementary teaching, the statistics regarding male teachers has remained essentially unchanged for the past 80 years (Cook, 2004). Currently, approximately 92 percent of classroom teachers between Pre-Kindergarten and sixth grade are female (Sawchuk, 2012). The connections between gender, teacher preparation and instructional skills have been investigated, but with inconclusive outcomes.

Studies have indicated the importance of male role models, some possible connections between gender and achievement, and the increasingly critical problems of STEM instruction in the curriculum (Cook, 2004; Feistritzer, 2005; Gaskell & Willinsky, 1995). However, minimal numbers of studies have attempted to monitor the connections between these various social, psychological, cultural and educational issues. The critical connection between attitudes about teachers' preparation to teach STEM subjects, the typical teacher preparation curriculum, and the capacity of elementary teachers to effect change in the instruction and achievement of STEM subjects must occupy a more focused place in empirical research. The goal of this study was 1) to investigate possible relationships among several disparate lines of research related to gender balance in the elementary teacher force and 2) to establish a basis for additional projects investigating the improvement of both teaching and learning in STEM subjects, with a particular eye to gender in the teaching profession.

**Study Design and Perspective**

This conceptual study was designed as a meta-analysis of existing literature on attitudes toward feminization of the teaching profession, the presence of males in elementary education, the attitudes surrounding the teaching and learning of STEM subjects, and the professional and instructional limitations based on the literature about elementary teaching.

Studies from a variety of disciplines, including women's studies, gender psychology, education, curriculum and instruction and faculty career development were studied through the lens of elementary students' science and mathematics achievement. The report focused on the connection between achievement abilities of elementary students with the gender and capabilities of their teacher.

Comparative analyses of the data from the literature search, along with ongoing data and content analysis of previous studies in male elementary teaching were performed according to Bogdan and Biklen's (1998) qualitative design concepts. Data from the author's longitudinal qualitative study of males in elementary teaching and teacher career induction were included.

**Analysis of Data in the Literature**

***The Teaching Force and Professional Status.*** The professional status of elementary teachers has changed minimally in the past century. Most indicators reveal not only stasis in demographics, but also in the quality of professional life for teachers and in public opinion, with a continued feminization and decreasing public regard for teachers (Brophy & Good, 1973a & 1973b; Clarke, 2009). More than eight out of 10 public school teachers (82 percent) are female (up from 74 percent in 1996, 71 percent in 1990, and 69 percent in 1986) (NEA, 2004). Eighty-four percent of teachers

who have five or fewer years' experience teaching in 2009 are women (up from 79 percent in 1996)(Sawchuk, 2012). While 28 percent of teachers with 30 or more years experience are male, only 16 percent of those with five or fewer years of experience teaching are male (Feistritzer, 2005). These statistics are not unique to the United States. Most countries considered to lead the world in STEM achievement have women as a majority of the teaching force for children through 12 years of age. Statistics on women primary teachers in the United States are comparable, yet higher than those in Belgium (77%), Germany (70%), France (78%), Ireland (79%), Sweden ( 74%), and the United Kingdom ( 80%), while some of the highest achieving countries show a more equal balance of elementary teacher gender, notably, Denmark (60%), Finland (69%), Greece (57%), and Netherlands (53%) (Clarke, 2009).

By far the most commonly cited argument for a statistical balance between genders in the teaching population is that males should be models for young children, especially boys (Author, 2010). Male teachers can be a positive role model for boys who have few role models in their lives, and they demonstrate teaching as an appropriate career choice for boys, and show that participating in learning is not merely a female pursuit (Author, 1997). Some studies have also established some connections between the delivery of curriculum and instruction and student achievement in relation to teacher gender (Caplan, Crawford, Hyde & Richardson, 1997; Cook, 2004; Gabriel & Smithson, 1990; Gold & Reis, 1982).

The status of teaching is directly related to its public image. Prestige and respect, not only salary, are seen as crucial elements in the quest for a truly professional teacher workforce (Sawchuk, 2012). Negative gender perceptions, ,especially related to education, are pernicious. Children's image of males coincide with Disney movies where stereotypically, males are aggressive, muscular, argumentative, and often cruel (Mahalik, Locke & Ludlaw, 2003). Young children's experiences in popular culture are strongly reinforced when they go to school. There are few men in schools, and it is rare to find men who are the welcoming, caring, nurturing teacher in the classroom, a standard established by female models of teaching (Macan-Ghaill, 1994). No subtle messages or subliminal influences are needed. The direct message sent by early childhood experiences and the elementary classroom is singular: men don't belong here doing this work--this is women's work (Author, 1997; Brophy & Good, 1973a; Bem, 1993; Cook, 2004).

The feminization of a profession has been linked to reduced social status, and status appears to be more important to men than women (Gherardi & Poggio, 2001; NEA,2003b). There are other reasons why teaching is perceived as a less valuable occupation now than may have been the case in the past. Teachers were given relatively higher esteem, if low income, from 1944 up to the mid 1970s (Cook, 2004). Since then, the integrity and autonomy of the professional teacher has been increasingly challenged in a multitude of ways. Various government reforms have had a significant impact on the status of teaching, and the introduction of market principles may have undermined the concept of teaching as an honorable profession, while at the same time, an increased shift to female majority in the profession occurred (Feistritzer, 2005).

There are a number of reasons cited in the literature for the feminization of the workforce in teaching. First, the gendered choice of subjects at an early age leads to the reproduction of expectations about career choices (Harding, 1986; Halpern & LaMay, 2000; Luttrell, 1997). Second, while girls' scores and participation in mathematics and advanced sciences have improved, and

females have become the majority of college-goers, there is still not a proportionate increase in STEM fields or in career choice (NEA, 2004; Sawchuk, 2012; Wrigley, 1992). Third, the employment market still enables male graduates to earn higher salaries in the science/technical disciplines in which they predominate (Poster, 2002). Occupational segregation, ironically, leads to men's retreat from a predominantly female profession, often accompanied by the reduced status of the profession partly caused by female domination, and in turn leads to fewer men entering it (Nelson & Sheppard, 1992; Poster, 2002; Reskon, 1991; Robinson, Sheen & Flake-Hobson, 1978). Finally, men in primary teaching, particularly in the early years, may be regarded with some degree of suspicion (Robinson, 1981).

***Gender Attitudes about Teachers of Young Children.*** While general attitudes about access to professions and the achievement of women and men in the workplace have equalized, current negative cultural events point to the reverse effect taking place for males in elementary education (Robinson, 1979; Sargent, 2001; Sawchuk, 2012). News events of the past decade indicate increasing sensationalized reporting of inappropriate sexual behaviors of men working with children and athletes. While the events represent a very tiny proportion of the teaching profession, such events serve to sensitize the public to the relationship between males and children in their care, while typically excluding positive examples of successful and sensitive professionals in the field (Sargent, 2001).

Men who work in primary teaching may be seen as odd or unnatural, with questions raised about their sexuality or manhood (Author, 1997; Sargent, 2001; Seifert, 1988). For women, on the other hand, teaching at the elementary level is seen as a much more natural occupation, indicating a conflation of teaching with motherhood (Sugg, 1978; Twenge, 1997). Suspicion of men in teaching, particularly at the youngest levels, most often is linked to public concern about child protection issues (Seifert, 1988).

Another altered social perception is the negation of the *Glass Escalator Effect* (Williams, 1992) Generally, the term *glass escalator* is used to refer to the tendency of males in traditionally female-dominated professions to rise into positions of leadership. In education, for the majority of the 20th century, if a male entered elementary teaching, he was 90 percent more likely to become the principal of a school than a female counterpart entering at the same time (Sargent, 2001). In past cases, men report the imperative to be politically correct in social settings in the elementary school. Unlike previous conclusions, male elementary teachers do not assume they will move up to an administrative position (Author, 1997). In some cases, a definite opposite effect is in place because a weak male teacher is more readily identified. At the same time, gender equity across school districts has become important. The assumption of administrative advancement (the only way to substantially increase pay in the profession) has altered, and administrators are aware of the necessity to balance gender as a factor in the choice of advancing teachers to administrative positions. Historically, women have been considered second-wage earners. Now women's earnings, if not the sole wage for their household, may be necessary to have income keep pace with the cost of living (Feistritzer, 2005)

***Male Teachers' Impact on Student Social Development and Instruction.*** Generally the test of an effective or necessary change in education is the need to improve student achievement. While no data support the superior performance of male elementary teachers' students compared to female

teachers' students on measures of achievement, a more important effect may be overlooked (Halpern & LaMay, 2000). Affecting the long-term attitudes about achieving and persisting in school may make the equal representation of genders in teaching critically important (Mancus, 1992). Both boys and girls observe that teaching is a feminized profession and assume some limitations to who woman can be, and by association, that men must be doing more important things (Allan, 1995; Hechtman & Rosenthal, 1991).

Encouraging more men to enter the teaching workforce may transform the school in a number of ways. Male elementary teachers create an educational environment that provides a fully rounded picture of learning. Men do things differently; they bring a variety of interests and personal characteristics into teaching which enrich the social and intellectual life of the school, and which provide students a more complex view of how the world works (Allan, 1995; Martin, 2006). Several studies established that boys' underachievement at school may be addressed by having more male teachers as positive role models (Gaskell & Willinsky, 1995; King, 1998; Smiler, 2004). However, this assumption is challenged and it is argued that the male role model approach may implicitly denigrate women (McCormick, 1994). Furthermore, socio-economic inequality among students may be the most significant cause of under-achievement, so increasing the number of male teachers might have a relatively minor effect (NEA, 2003b). The demographic shift in boys' achievement in school and the decreasing number of boys who attend college make investigation of this issue critical to maintaining academic and social productivity.

One observed phenomenon is that male elementary teachers, over the course of a teaching year, are more likely to include multiple activities that address all learning modalities, multiple intelligences and cognitive, affective, and psychomotor domains of learning, and consequently, they address both male and female student needs in learning and address social perceptions as well (Author, 1997 & 2010; Sokal & Katz, 2008; Woods, 1987). Male teachers tend to have demonstrably unique classrooms, and they alter the perceptions of the entire school to outside observers, parents and the community at large (Author, 1997). If professional lives are to be democratized, males should be represented equally in the workplace, and should have equal voice in professional decision-making. Males are attended to, but in order to be thought as good at their professional lives they have to be better than their female counterparts in elementary teaching, a typical marginalized stance (Banks, 2006). They receive more attention and are sought out by administrators eager to bring some gender balance to the workplace, but their likelihood of being considered as equals in the nurturing and teaching categories is not supported in the literature.

In a previous study, participants who enter teaching as a second profession overwhelmingly chose to stay in the classroom rather than moving to administration (Author, 1997). However, another study for males entering the field currently shows males are much more likely to directly indicate an interest in becoming an administrator than are women (Feistritzer, 2005). While men indicate the importance of having control in their work environment, this is also generally true for women. However, men in elementary education are more likely to be a union representative, building representative, belong to committees, and generally participate in the life of the school more intensely, possibly due to the representational issues typical of being a minority (Smiler, 2004). The minority male elementary teacher needs to be represented, so he is asked to serve. Male teachers are often involved with coaching, whether with elementary groups or older students in the school district, making them higher profile members of the staff (NEA 2003b). The social system of the

school is perceived as female; the style of nurturing students as well as social events and teacher room conversations (arguably where the only exchanges about teaching professionalism might occur), are identifiably female in perspective and tone (Brophy & Good, 1973b; Cook, 2004). However, the representation of males as they deliver curriculum indicates a different attribution regarding their skills and contribution to the school and learning (Sergent, 2001).

***Curriculum, Disciplinary Rigor and Gender Restrictions.*** At a time of heightened national attention to improving education in the fields of science, technology, engineering, and mathematics, the development of STEM-focused schools has rapidly gained momentum across the country as a strategy to boost knowledge and interest in the subjects (Feistritzer, 2005). While STEM schools historically have tended to target the top math and science students in a state or district, the new wave appears to have a broader reach, with many of the schools aimed especially at serving populations underrepresented in the STEM fields, such as African-American, Hispanic, female, and low-income students.

Over and against the push to create more emphases on STEM teaching and learning, a belief system that science and math are exclusive and "difficult" subjects, which are not accessible to the general population, persists (Cook, 2004; Woods, 2987). Attitudes about the general abilities of elementary teachers are widely considered to be marginal at best (Congressional Commission, 2000). Evaluating performance in STEM subjects results in more negative perceptions and low confidence in the ability of teachers to improve the outlook for STEM instruction in elementary schools (Britzman, 1992; US DOE, 2008).

The perception of female teachers' distinguishing attributes, especially those who teach young children, are nurturance, kindness, acceptance and persistence(US DOE, 2008). They are not perceived as exceptional academically, especially in the areas of science and mathematics. Indeed the perception of STEM instruction in elementary schools is consistently identified as one problem in student achievement (US DOE, 2008). The connection between good instruction and achievement in STEM, based upon gender of teacher, is infrequently pursued.

There is no universal difference between girls' or boys' capacity to learn science concepts, such as the atomic structure of substances, compared to their capacity to learn language arts concepts such as the proper declension of nouns and pronouns. The only difference exists in preconceptions, both public opinion and professional convictions, about how and why it should be difficult, and in both student and teachers' comfort level with each. Language arts have been made more important in the curriculum, and it has become easy for teachers to avoid or compensate for lack of skills in STEM subjects (US DOE, 2008). In order to improve the delivery of STEM subjects, misperceptions about the constructs of the subjects and the abilities of the learners must change (US DOE 2008).

**Outcomes: Attitude Formation and Projection**

***Disciplinary Rigor and Gender Restrictions, Connection to Curriculum and Achievement***. The pernicious and ingrained belief system that science and math are exclusive subjects, not accessible to the general populace, may be the most difficult to offset with current approaches to teacher preparation and induction. Attitudes about the abilities of elementary teachers are widely considered to be marginal at best, and in order to see significant changes in student achievement, teacher skills and preparation must be seriously reevaluated. While no data support the superior

performance of male elementary teachers' students compared to female teachers' students, a more important effect may be overlooked. It is the long-term attitudes about school that make the equal representation of genders in teaching so important. Learning styles research does support that the more diverse the learning modalities in the classroom, the more likely students will be motivated to learn. Males demonstrate a wider application of a variety of learning styles than do females (Martin, 2006). Male teachers are more likely to be active with students, from playing catch and psychomotor aspects to use of tools and equipment and less rigidity about rules.

Men in the classroom are more likely to be democratic and relaxed in their approach (Smiler, 2004). They influence the environment of the school simply by being in it. There is a comfort level created for boys to participate; the classroom model needs to change to include democracy and voice for children, including boys, who often are marginalized by behavioral issues (Smiler, 2004). Elementary schools with more than 10 percent male teachers are rare, and those schools are different in professionalism and voice (Martin, 2006). Male teacher's presence is critical to improving democratic environment of elementary schools and learning.

Current curriculum research indicates that teachers, generally the women who comprise 90% of the elementary teaching force, are not proficient in STEM subjects (US DOE 2008). While increasingly encouraged and with gains being seen in recent studies of women's access to higher education and STEM disciplines, it is not at all clear that those gains are translating to the instruction of young children. Generally, those who have succeeded in STEM disciplines are those who have adopted the stance which marks these fields that they are elite of the disciplines and that not everyone is capable of understanding or pursuing the deeper understanding of its concepts. Such attitudes must come under scrutiny.

**Implications and Directions for Future Study**

This study used a conceptual approach to examine existing literature on the state of professional induction and retention of capable teachers at the elementary level, while also looking at some of the factors that influence the capacities of those professionals in curriculum and instruction specifically related to STEM subjects.

Examining the extant literature on the teaching profession and learning of science and mathematics indicates growing concern with the ability of the United States to improve student achievement in this area. At the same time, while the state of instruction in elementary education is performed almost exclusively by women, there have been few concerted efforts to examine and change the approach of teacher preparation programs to address deficiencies in STEM subject preparation.

Improvement of early instruction in STEM subjects requires an improvement in the preparation of teachers, particularly female teachers. Methodical approaches to studying and altering the delivery of It is necessary to address the stigma of elementary profession and teaching young children as not appropriate for males (Britzman, 1992). Extrapolating from the acceptable, often minimal, preparation of teachers of young children, it becomes imperative that the gender balance and the attitudes about STEM subjects are both considered.

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# CLOSING THE ACHIEVEMENT GAP: IDENTIFYING STRAND SCORE DIFFERENCES

**Kelli Blackford**
**College of Education and Health Professions**
**University of Arkansas**
**Fayetteville, AR 72701**
**kblackfo@uark.edu**

**Jam Khojasteh**
**College of Education and Health Professions**
**University of Arkansas**
**Fayetteville, AR 72701**
**jkhojast@uark.edu**

## Abstract

An achievement gap between black and white students in the United States has existed since schools were established. Movements such as desegregation and parts of the No Child Left Behind act of 2001 were initiated to close the achievement gap. However, an achievement gap persists. While research typically attempts to explain why black students and white students achievement differs, this paper attempts to identify areas where proficient and non-proficient black students differ. This study will use a repeated measures analysis of variance to see if the achievement gap between proficient and non-proficient black students is closing, as well as a logistic regression to see on which strands the students differ, 10 years after the implementation of NCLB.

**Keywords:** Differential item functioning, Achievement gap

## Introduction

Evidence of the Black-White mathematics achievement gap permeates the literature (Lubienski, 2002; Campbell, Hombo, &Mazzeo, 2000; Jencks & Phillips, 1998; Lee, 2002). Some researchers claim that demographic variables such as poverty (Meier, 2002) or parental involvement lead to the achievement gap (McLoyd, 1990; Pong, 1997) while others claim that the achievement gap is a function of poor teachers (Valencia, Valezuela, Sloan, & Foley, 2004). Whichever the reason, there still exits a gap. The No Child Left Behind act of 2001 aimed at closing achievement gaps between groups of students and increasing test scores for all students. Yet while many have acknowledge there is a gap, and NCLB is still in place, are schools really closing the achievement gap? Why do some students of a subpopulation achieve while others do not? Moreover, are researchers and educators helping schools identify on which specific strands the achievement gap exists?

This study uses three years of Arkansas assessment scores from the Arkansas end-of-year Benchmark exam to investigate if the achievement gap between proficient and non-proficient black students is closing. A secondary investigation will use logistic regression to help identify strands where students are predicted to not be proficient in an effort to narrow remediation efforts.

**Literature Review**

On May 17, 1954 the Supreme Court delivered its ruling on "Brown versus the Board of Education." Black Americans throughout the country understood that this ruling would bring about equality in education for everyone. The ruling supported that the rights for Black students and White students were equal on the grounds of educations. There appeared to be no gradations, no hierarchy, no differences. The grounds for all students were to be equal.

Prior to the Brown versus the Board of Education ruling, Plessy versus Ferguson, 1896, established "separate but equal" schools for Black and White children. This arrangement allowed for segregation of Black and White students to be permitted, but under this ruling, each student was to be provided access to the same educational opportunities.

In the 1960s the National Assessment of Educational Progress (NAEP) reviewed student data and revealed a disparity between Black and White achievement (Campbell et al, 2000). Students, in essence, were not being educated equally. Despite reformation efforts to ensure Black and White students had access to the same educational opportunities under the "separate but equal" law (Plessy v Ferguson, 1896), the students continued to be serviced differently (Cook, 2005). It was Chief Justice Earl Warren concluded "Separate educational facilities are not equal" that led to the decision in Brown versus the Board of Education and ultimately the desegregation of schools.

While the disparity in achievement between black and white students narrowed from the 1970s into the 1980s (Tate, 1997), the gap began widening again (Lee, 2002) during the 1990s. This trend has continued to present day.

This disparity in academic achievement is known to scholars as the achievement gap. An achievement gap occurs when one group of students continually disproportionately outperforms other groups of students on achievement tests (NGA Clearning house, Education Week, 2004). Achievement gaps are noticed across race and social class. The achievement gap typically describes the disparity between White students' achievement scores and Black and Hispanic students' achievement scores (Education week, 2004). The achievement gap is noticeable between students' grades, students' standardized achievement scores, and other measures of academic success.

The No Child Left Behind (NCLB) act passed in 2001 was the eighth reauthorization of the Elementary and Secondary Education Act (ESEA) giving state and local governments the flexibility to address their schools' unique struggles to bring all children to proficiency (Weaver, 2006). One facet of NCLB is that it addresses the problem of the achievement gap by holding all schools responsible for every child's education regardless of race or income level (No Child Left Behind Act of 2001: Stronger Accountability, 2004). In an attempt to hold parties responsible, policy makers decided to hold schools, teachers and students accountable through sanctions and rewards would help motivate behaviors toward the goal (Benveniste, 1985; Wise, 1979). Yet the achievement gap persists.

There are many speculations as to why an achievement gap continues to exist between Black and White students despite efforts to provide all students with equal opportunities. Some researchers claim that inferior Black student performance is a result of culture and history (Berlak, 2008) while others point their fingers toward poor teachers (Ferguson, 1998) and the economic disparity that

tends to exist between races (Jencks and Phillips, 1998). Whatever the reason, the fact remains that not all students are being educated equally.

Fryer and Levitt (2006) found that black students trail white students by .09 standard deviations on math from fall kindergarten to spring of first grade. A regression analysis revealed that if the black students continue to lose ground at this same rate, by ninth grade they will fall behind white students in mathematics by one standard deviation.

Two plausible reasons (Fryer and Levitt, 2004) that black students fall behind white students are 1) black students are attending lower quality schools, and 2) circumstances surrounding the interaction between black students and schools mitigate the learning process. We will examine each of these reasons below.

Despite efforts to educate students equally, students today are still not provided the same educational opportunities. Educational disparities exist in areas such as student to teacher ratio, teacher quality and resources available to the students (Lee, 2004). Lower quality schools have more students to one teacher, and have fewer finances to hire highly qualified teachers or provide resources to students. Studies have shown that the larger the class size, the poorer scores students perform on standardized tests (Smith & Glass, 1980; Robinson & Whittbols, 1986). This is because less individualized attention is given to each student during the time of instruction. Since the teacher's responsibility is to keep the class moving forward, if a student misses a concept, it is up to the student to seek help. This is where students start to fall through the cracks.

**Resources Available**

Resources available to students and teachers also vary from district to district. In some of the more economically disadvantaged school districts, schools can only afford to purchase a classroom set of text books so the books must remain in the classroom. In this case students would not have the opportunity to use the text book at home for additional instructional support.

Access to technological resources is another avenue where disparities exist among students. While it is most likely that every public school student in the US today has access to a computer, other technological advancements are not as accessible. One of the most basic technological tool that students should have access to and be able to use effectively is the calculator. Yet, not every school is equipped with classroom sets of calculators. Other technological advancements such as the Smartboard and learning labs available via the World Wide Web are not present or under-utilized by many schools. Absence of availability to modern technological advancements are holding students back by lack of experience alone. Not only can technology be used as a tool to teach or reinforce content, but the experience associated with the familiarity in use of technology can prove vital for future performance and jobs.

Students are not the only ones being affected by lack of available resources. As funding to the state educational agencies has been reduced, so to have the opportunities for teachers to attend workshops and conferences been reduced. These workshops and conferences are where teachers are provided opportunities to strengthen their content skills and learn new teaching techniques through collaborating with other educators. A result of not being able to attend is that teachers are using the same methods of teaching they have in years past even if results were not positive.

**Teacher Quality as the Reason**

Available school funding also impacts the quality of teachers that schools are able to place in the classroom. Low income schools are not able to offer competitive teacher salaries. As a result, the low income schools become a dumping ground of the less-qualified teachers who could not attain other jobs (Long, 2011). In addition, the low income schools have difficulty retaining teachers. When a position at a school with a higher salary and more resources opens up, teachers are quick to leave the school for a position that provides more money with less stress.

An unfortunate circumstance of schools not being able to recruit and/or retain high quality teachers is student achievement suffers. A 2008 study found teacher quality to account a large percentage of variance in student test scores (Boyd, D., Lankford, H., Loeb, S., Rockoff, J., Wyckoff, J., & Urban, I., 2008).

Students in low-income schools are also failed by the low expectations set before them by their teachers. Minority students and students of lower economic status are continuously presented with low expectations. Rote memorization and low-level exercise fill these students days with little more expected from them (Knapp, Sheilds and Turnbull, 1995). Students will try to meet expectations set before them. And if we continually only set low expectations, they won't reach much higher.

Regardless of the limitations of the schools, federal law requires that we provide our students with equal educational opportunities. NCLB requires that all states test their students to ensure that 100% of students will be proficient by 2011. Students who fail to meet the required level of proficiency are then remediated the following year in the areas they were deficient.

Rather than using data from the state assessments reactively to address students' areas of deficiency, data can be used proactively to identify subgroup areas of deficiency. Identification of specific strands of weakness will help schools better align their curriculum, instruction and remediation plans that better suit the needs of their students.

Much literature as mentioned above addresses the black-white achievement gap. But why do some black students, who are situated in the same circumstances as others, achieve while others do not. Examination into the black-black achievement gap between proficient and non-proficient black students is needed to help understand this phenomenon.

**Methods**

This study will use a Repeated Measures design to analyze if students are being appropriately remediated towards closing the achievement gap proficient and non-proficient black students on mathematics strands as measured by the Arkansas Benchmark Examination (ABE). Furthermore, Logistic Regression will be used to predict the probability that a particular student will be proficient (i.e., proficient or advanced) in each of the five math strands given their previous performance on the ABE.

**Participants**

This project will use longitudinal data on students obtained on the ABE. The data will consist of three years of ABE data on the identified students. The students' mathematics scaled scores will be used

for the purpose of this study. The scale score is calculated based on responses from questions in five content strands. The mathematics strands consist of Number and Operations, Algebra, Geometry, Measurement, and Data Analysis and Probability. Each strand consists of multiple choice and open response components.

This study uses students in the eighth grade in the spring of 2011. The study was open to all districts throughout the state. A convenience sample of the students in three districts who agreed to participate will be used for this study. A total of 559 students throughout the three districts took the eighth grade benchmark exam in the spring of 2011. For the purpose of this study, only students who are African American, have three years of data, and considered to live in poverty as measured by participation in the free/reduced lunch program will be retained for this study. This limits the sample to 333 students. Table 1 shows the breakdown of the participants by year and performance class.

Table 1

*Number and Percentages of Student Demographics by Performance Class*

| | **6th Grade** | **7th Grade** | **8th Grade** |
|---|---|---|---|
| Below Basic | 23(6.91) | 72 (21.62) | 118 (35.44) |
| Basic | 59 (17.72) | 79 (23.72) | 85 (25.53) |
| Proficient | 137 (41.14) | 132 (39.64) | 110 (33.03) |
| Advanced | 114 (34.23) | 50 (15.02) | 20 (6.01) |

*Note.* Percentages are in ().

As can be seen in Table 1, the percentage of students scoring below proficient increased from 24.63 % when the students were in sixth grade to 60.97 % by the end of the students' eighth grade year. The extreme classifications, below basic and advanced had the most marked change, where in sixth grade 23 students were below basic and 114 were advanced, in eighth grade 118 students were Below Basic and only 20 were advanced.

**Instrument**

**Arkansas Benchmark Exam**. In 1999, Arkansas implemented mandatory state assessment for elementary and middle grade students. The Arkansas Benchmark Exam (ABE) is taken yearly by students in grades 3-8. In 2008, the exam was augmented to include criterion-referenced scores (CRT) and norm-referenced scores (NRT). The mathematics CRT and NRT items are aligned with the Arkansas Mathematics Curriculum Framework. The mathematics CRT component derives items from Arkansas' CRT test bank and the NRT component includes problem solving (ADE 2008).

**Analysis**

This is a retrospective study in which three years of data for 2011 eighth grade students were analyzed using a repeated measures design. The students were classified as proficient or non-proficient in 6th, 7th, and 8th grade. Students will be divided into two groups based on their proficiency classification for each year. The first group will consist of the students measured as proficient or higher on the mathematics portion of the ABE. The second group will comprise students performing below proficient on the same measure.

The repeated measures analysis will test the equality of group means to help identify if schools are closing the educational gap between students identified as below proficient and those identified as proficient based on their proficiency class over three years. Closure of the achievement gap will be identified if the difference between proficient and non-proficient means decrease over the three year time-span.

**Results**

The results of this paper are separated into two sections. First, the multivariate repeated measures analysis to assess mathematics scaled score change over time and second, the logistic regression to predict mathematical strand score performance predicated on previous performance on the ABE. Each section is presented below to answer each of the research questions.

**Repeated Measures Analysis**

A multivariate repeated measures analysis of variance was conducted to test for differences between proficient and non-proficient black students during the three years. The assumptions for each statistical test were evaluated and all assumptions were met. The overall test for no time effect was significant Wilk's $\Lambda = .97$, $F(2, 328) = 5.65$, $p < .01$. This test means the groups did significantly change over time. However, to test if proficiency class (i.e., proficient versus not proficient) changes over time three separate interaction effects are analyzed (i.e., time*proficient09, time*proficient10, time*proficient11). Presented below in table 2 is the summary of the three interaction tests.

Table 2

*Repeated Measures Interaction Tests for the Three Proficient Categories*

| **Interaction** | **Wilk's Λ** | ***F*** | ***df*** | ***p*** |
|---|---|---|---|---|
| time*proficient09 | .75 | 55.81 | 2, 328 | < .001 |
| time*proficient10 | .76 | 50.54 | 2, 328 | < .001 |
| time*proficient11 | .83 | 33.47 | 2, 328 | < .001 |

The interactions indicate that proficiency class is changing over time which leads to the significant interactions. In other words, students are not consistently maintaining the same proficiency classification throughout the three years; their proficiency class is changing from year to year. This analysis does not contain the same number of students classified as proficient as classified as non-proficient. Therefore, the least square means, which are used for unbalanced designs, are presented in table 3 to present the average scaled score for each proficiency class by year.

Table 3

*Least Squares Means for Scaled Mathematics Score by Year and Proficiency Status*

| | 2009 Math SS | 2010 Math SS | 2011 Math SS |
|---|---|---|---|
| 2009 Not Proficient | 618.18 | 666.76 | 664.01 |
| 2009 Proficient | 715.43 | 684.26 | 695.06 |
| 2010 Not Proficient | 654.21 | 628.12 | 661.65 |
| 2010 Proficient | 679.40 | 722.90 | 697.43 |
| 2011 Not Proficient | 646.65 | 652.03 | 630.97 |
| 2011 Proficient | 686.97 | 698.99 | 728.11 |

**Logistic Regression Analysis**

To assess if prior years' math performance on the ABE is a significant predictor of strand score performance, categorized as proficient versus not proficient, a logistic regression analysis was ran on each strand score. The five mathematics strand scores consist of Number and Operations, Algebra, Geometry, Measurement, and Data Analysis and Probability. A separate logistic regression was performed for each strand score using two predictors, 2009 and 2010 mathematics scaled score, for each model to predict students' 2011 strand score performance (categorized as proficient or non-proficient). The results from each logistic regression analysis are presented below in Table 4, which includes the unstandardized regression coefficient, standard error, Wald chi-square test, Odds Ratio, and the 95% confidence interval for the odds ratio point estimate.

Table 4

*Logistic Regression Analyses Results*

| Strand | Effects | *b* | *SE* | Wald $\chi^2$ | *p* | *OR* | 95% CI |
|---|---|---|---|---|---|---|---|
| Alg | '09 Math | .005 | .003 | 2.275 | .132 | 1.005 | 0.999,1.011 |
| | '10 Math | .012 | .003 | 13.542 | <.001 | 1.012 | 1.005,1.018 |
| NO | '09 Math | .007 | .002 | 8.263 | <.01 | 1.007 | 1.002,1.012 |
| | '10 Math | .010 | .002 | 17.933 | <.001 | 1.010 | 1.006,1.015 |
| Geo | '09 Math | .004 | .002 | 3.061 | .080 | 1.004 | 0.999,1.009 |
| | '10 Math | .012 | .003 | 21.013 | <.001 | 1.012 | 1.007,1.017 |
| Mea | '09 Math | .005 | .003 | 2.210 | .137 | 1.005 | 0.999,1.011 |
| | '10 Math | .014 | .003 | 18.160 | <.001 | 1.014 | 1.007,1.020 |
| DP | '09 Math | .006 | .003 | 5.121 | .024 | 1.006 | 1.001,1.012 |
| | '10 Math | .010 | .003 | 16.121 | <.001 | 1.011 | 1.006,1.016 |

*Note: Alg = Algebra, NO = Number and Operations, Geo = Geometry, Mea = Measurement, DP = Data Analysis and Probability, *N*=333.

As shown in Table 4, students' mathematics scaled score from 2010 are significant predictors for all of their strand score performance in 2011. The unstandardized regression coefficients are small however they are significant due to the large sample size. An example of how to interpret the log odds follows using the Algebra strand score. The odds ratio can be interpreted as for a one unit increase in 2010 math scaled score, the log odds of being proficient in Algebra is 1.012, holding all other variables constant. Also presented is the 95% CI. If the confidence interval does not include "1" than the likelihood of being proficient versus non-proficient is the same.

**Discussion**

The repeated measures analysis yielded a significant overall time effect and interaction by proficiency status. Thus students' mathematics scaled scores are increasing over time, however, proficiency class is changing as well. Therefore, it is more difficult to make general statements about closing the achievement gap. For future research, a multivariate repeated measures analysis could be conducted on only students who are proficient versus not proficient throughout 2009-2011, however, that will greatly reduce sample size. The authors did investigate if the gap was closing over time with only proficient and non-proficient students, however it did not seem to answer a meaningful question due to the unique combination of proficiency status over the years. That is, consistent proficiency status over three years is only one of the nine possible combinations of proficiency status when investigating students' proficiency classification over the three time periods (3x3 = 9 conditions). Therefore, there are eight other conditions that are not evaluated and the authors were investigating achievement over time with all students (i.e., all combinations).

The 2010 mathematics scaled score unstandardized regression coefficients are significant, but small. However, given the scale of the ABE (0-1000) a one unit increase is only one point. Therefore, it is not unreasonable to expect the log odds to be slightly over one due to the nature of the ABE scaling. Nevertheless, educators should look for other methods for target intervention for mathematics strand score performance, such as formative assessments. This research project can demonstrate the need for more formative assessments in the classroom, because summative assessments (e.g., ABE) can only provide a certain amount of information and students are only tested once a year. Formative assessments measure student performance continually throughout the year and can facilitate a teachers understanding of what areas their students may need further instruction. A similar analysis performed with data from formative assessments will better help to identify strands in need of remediation.

In summary, this research provided useful information for educators. Proficiency status was examined over time as well as strand score performance on the mathematics section of the Arkansas Benchmark Examination. Future research was recommended for more specific target intervention and the use of formative assessments was also championed.

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# CHALLENGES OF THE BEGINNING PROFESSOR IN THE 21ST CENTURY

**Isaac Bonaparte**
**School of Business and Management**
**Morgan State University**
**Baltimore, MD 21251**
**Isbon2@morgan.edu**

**Augustus Abbey**
**School of Business and Management**
**Morgan State University**
**Baltimore, MD 21251**
**Augustus.abbey@morgan.edu**

**Abstract**

Pre-tenure faculty in research-oriented institutions are expected to carry demanding teaching loads, serve on numerous committees, and continue to remain on the cutting edge of research. Isolation, anxiety, and stress normally dominate the lives of these pre-tenure faculty while striving for tenure at their institutions. This exploratory study using anecdotal evidence examines the challenges of pre-tenure faculty in the 21st century in the area of teaching, research and service. Pre-tenure faculty in this paper is defined as faculty who have been teaching for less than five years and are not tenured. Results of the study show that in the area of teaching, full workload and the disproportionate demand on time and responsibilities are the major issues. In the area of research, the major problem is the inability of pre-tenure faculty to balance research with teaching load due to the absence of established mentoring programs. Anecdotal evidence suggests that emphasis should be placed on dealing with challenges pertaining to teaching. Pre-tenure faculty also perceive that the issues confronting them can be addressed through effective mentoring, reaching out to tenured professors, and having separate tracks for teaching, research, and services, to name but a few.

**Keywords:** Pre-tenure faculty, Teaching challenges, Research challenges

## Introduction

A beginning, pre-tenure faculty in research-oriented institutions is expected to carry full teaching load of fifteen credit hours, serve on numerous committees, and continue to remain on the cutting edge of research (Mills, 1994). Success usually requires reconciling and balancing competing demands among research, teaching, and service activities. In a 5-year study of one cohort of pre-tenure faculty, Olsen and Sorcinelli (1992) found that work stress increased dramatically during the first 5 years of the career of the pre-tenure faculty. The study revealed a gradual decline in satisfaction over time. Sorcinelli (1994) disclosed that key contributory factors for the gradual decline in satisfaction are time stress, lack of support from peers, lack of adequate feedback, unrealistic expectations, lack of resources, and lack of balance between work and personal life.

In teacher/student relationship, Bergmann et al (1976) noted that 57% of the beginning teachers reported that they had changed their original student-centered teaching behaviors into a more authoritarian way. In another study by Walter (1974), 94% of the beginning teachers said that they initially tried to adopt a more democratic teaching style; however, as a consequence of experiencing difficulties, 91% admitted that they had made concessions in this regard.

This anecdotal study examines the challenges of the pre-tenure faculty in the 21st century. "Pre-tenure faculty" in this paper is defined as faculty who have been teaching for less than five years. "Pre-tenure faculty" is also used interchangeably with "beginning professor." The study highlights key challenges that confront pre-tenure faculty in the universities and colleges in areas such as teaching, research, and services. A predominantly black institution in Maryland was used for this anecdotal study. This paper makes specific recommendations to help mitigate the challenges. Knowledge of the challenges and the mitigating factors may provide valuable information to leaders in universities and colleges to find lasting solution to the challenges confronting pre-tenure faculty so as to make the profession attractive to current and prospective teachers.

Pre-tenure faculty was chosen because of the isolation, anxiety, and stress that may dominate their lives while striving for tenure at their institutions (Harrison and Kelly, 1996). Latif and Grillo (2001) noted of pre-tenure faculty that "they are also most likely to be affected by dynamic changes that might influence the balance in academic role functions, such as embracing problem-based learning while increasing scholarly publication output, as their role functions are more stringently evaluated when the first tenure promotion decision is made" (p. 138). To highlight the deep-seated concerns of pre-tenure faculty, some sentiments expressed by pre-tenure faculty in the research conducted by (Verrier, 1993) are reproduced below: "A 40-year old male in a pure science department, third year noted "my own sense is that you're on very unstable ground as an assistant professor. You really are not regarded." A 35-year old male in applied technology, fourth year noted "the whole tenure and promotion process is in the front of every assistant professor's mind, bar none." Again, a 47-year old female in an applied social science, fifth year noted "…… here tenure review doesn't involve teaching that much. You could be a lousy teacher and a good researcher, and be tenured and be set upon your students forever" (p. 95)

**Literature Review**

Curricula in higher education doctoral programs cover topics relevant to faculty work within universities and colleges. It may, therefore, be assumed that pre-tenure faculty coming out of doctoral programs would know what to expect when they become new faculty members (Eddy and Gaston-Gayles, 2008). Research on challenges facing pre-tenure faculty also, indicate an expectation that they will "hit the ground running" (Whitt, 1991, p. 177) after being adequately prepared to be active researchers, effective teachers, and diligent in service to the professional and outreach community. However, the literature on pre-tenure faculty concerns (Austin, 2003; Boice, 1992, 2002; Menges, 1999; Rice, Sorcinelli, & Austin, 2000; Sorcinelli, 2000, 2002) identifies a number of major stresses facing pre-tenure faculty including but not limited to: not having enough time for research, teaching, and service, lack of recognition; unrealistic expectations about what can be accomplished in the time given; lack of collegiality; and difficulty in balancing work and life outside of work. Studies by researchers also, have revealed that pre-tenure faculty have different concerns compared to mid-

career and late career faculty (Baldwin and Blackburn, 1981). In addition, women and minority faculty, in particular, have faced additional issues with respect to their adjustment to life in the academy than their white colleagues (Aquirre, 2000; Boice, 1993; Johnsrud, 1993; Turner & Myers, 2000). Furthermore, studies have suggested that if you are a member of a specific faculty subgroup such as women (Clark and Corcoran, 1986; Hornig, 1980; Menges and Exum, 1983; McElrath, 1993; Witt and Lovrich, 1986), minorities (Blackwell, 1988; Bourguignon et al., 1987), and part-timers (Abel, 1984; Wilke, 1979), your situation is likely to be even more difficult. Within higher education, minority women describe their psychological situation as more difficult than that of minority males. Carroll (1973) sheds light on the difficulty experienced by minority women with the statement that "black women in higher education are isolated, underutilized, and often demoralized" (p. 173). Themes appear to converge around the pressures and isolation facing young academics and the impact that the process can have on their academic work and personal lives (Verrier, 1993**).** In a 5-year study of one cohort of new faculty, Olsen and Sorcinelli (1992) found that work stress increased dramatically during the first 5 years of the career of the pre-tenure faculty.

## Methodology

*Sample*

The anecdotal evidence was collected from twenty pre-tenure assistant professors from the schools of business, engineering and communications of this predominantly minority institution. The sample was made up of whites, blacks and Chinese. The typical teaching load per semester in this institution was 12-15 credit hours. The subjects used in this study have been teaching for a period of less than five years and included both single and married pre-tenure faculty members.

*Data Collection Procedure*

Data for this study was obtained using questionnaire. The questionnaire was designed to ascertain the challenges of the pre-tenure faculty in the areas of teaching, research, and services. Teaching, research and services are the three variables that universities use in determining whether or not a beginning faculty will be retained, promoted or granted tenure. The teaching dimension focused on the degree of teaching load of pre-tenure faculty based on the number of subjects taught and the number of hours spent teaching each week. This dimension also ascertained whether pre-tenure faculty face challenges in the form of interferences from superiors particularly from deans and chairpersons when dealing with students. The difficulties that pre-tenure professors face gaining respect from students and dealing with students from different racial and ethnic backgrounds were also determined. The research dimension ascertained the difficulties that pre-tenure faculty face conducting research while carrying on demanding teaching loads and serving on committees. Specifically, the questionnaire sought to ascertain whether researchers have specific limitations in terms of resources (time, financial support, library and on-line data etc.) that hinder them from publishing papers. This dimension also sought to ascertain whether pre-tenure professors have difficulties forming strategic alliances with tenured professors and exercising a high sense of discipline for research purposes. The service dimension was aimed at determining the challenges pre-tenure faculty face serving on committees. The aim was to determine whether pre-tenure faculty have issues balancing their teaching and research workload with the demands of the committees on which they serve, and whether they are able to deal with conflicts that arise while serving on the committees. General questions were also posed to ascertain the level of

departmental politics that these pre-tenure faculty face and how these departmental dynamics impact their ability to develop healthy relationships with their peers and superiors.

To develop the survey questions, literature review was first conducted to identify issues confronting pre-tenured professors. This was followed by interviews with five pre-tenure professors to further identify issues confronting them to help enhance the quality of the anecdotal study. The survey questionnaire was developed using the 5-point likert scale and distributed to five tenured and untenured professors for content analysis. The scale was based on similar studies in the area of transportation conducted by (Agrawal et al, 2000) to examine the perceptions of road users in areas pertaining to congestion, safety, and pollution. Measures to address the challenges were also proposed for respondents' feedback on their degree of importance to pre-tenure faculty.

**Results**

*Challenges Related to Teaching*

Professors in both teaching and research-oriented institutions are expected to be effective instructors. The level of instructor effectiveness is determined using teaching evaluation forms completed by students.

As shown in Table 1 below, full workload was viewed as the main problem of pre-tenure faculty in the area of teaching (mean score 3.33 and median of 3.00).

Table 1
*Challenges pertaining to Teaching*

| ***Teaching Measures*** | ***Mean*** | ***Median*** |
|---|---|---|
| Difficulty gaining respect from students | 1.78 | 1.0 |
| Difficulty dealing with students from different racial/ethnic groups | 1.33 | 1.0 |
| Full Workload | 3.33 | 3.0 |
| Interference from Deans/ Chairpersons | 1.33 | 1.0 |

Some comments pertaining to teaching captured during the interviews were: "you cannot complain because those who assign you the job are the same people who might have to vote on you to secure tenure," "you have to be careful when dealing with students because you don't want poor evaluation scores" Pre-tenure faculty members also expressed concern about the fact that they are given schedules that tenured professors find non-conducive. Some new faculty members noted that "being a pre-tenure faculty is worse than being in an abusive relationship. You often times have to keep your door open so that tenured professors would acknowledge your presence." The professors also made comments to the effect that "there is a feeling of loneliness and the job is very stressful." However, pre-tenure faculty does not appear to have problems or issues with gaining respect from students, deans, and chairpersons.

*Challenges Related to Research*

Beginning, pre-tenure faculty are expected to do well in the area of research to be considered for promotion. Tenure track professors are thus expected to have at least three published articles in reputable journals and some conference proceedings.

In the area of research, as shown in Table 2 below, balancing research with teaching load was the most perceived problem (mean of 3.56 and median score of 3.0). This was closely followed by the lack of support for conferences and professional development. Pre-tenure faculty seems to be comfortable with the library and on-line resources for research activities. Exercising self-discipline was considered a moderate challenge (mean of 2.56 and median of 3.0) and so was the forming of alliance with tenured professors (mean of 2.33 and median of 3.0). The study also revealed that beginning professors do not have difficulty developing academic papers from their dissertation papers (mean of 2.11 and median of 2.0). A female pre-tenure professor who believes she will have to leave the University for failing to meet the required number of published articles remarked, during the interview that "self-discipline, heavy or demanding workload, and finding time to conduct research are the main challenges why I have not been able to publish many articles. I know between now and next year I will not be able to have the requisite number of articles I need to be considered for tenure, but there is nothing I can do about it."

Table 2
*Challenges Pertaining to Research*

| ***Research Measures*** | ***Mean*** | ***Median*** |
|---|---|---|
| Difficulty balancing research with moderate teaching load | 3.56 | 3.0 |
| Difficulty forming alliances with other professors | 2.33 | 2.0 |
| Difficulty exercising self-discipline to make time for research | 2.56 | 3.0 |
| Difficulty developing academic papers from dissertation papers | 2.11 | 2.0 |
| Difficulty having access to library, on-line data for support | 2.67 | 2.0 |
| Lack of support for conferences and professional development | 3.0 | 3.0 |

*Challenges Related to Services*

Pre-tenure faculty are expected to render service to their university, profession and community. Pre-tenure faculty are expected to fully participate in departmental and school activities. In addition, they are expected to contribute to their profession by attending conferences, reviewing papers, and so on. Furthermore, they are expected to contribute to the welfare of their community by organizing workshops, speaking to high school students and so on.

In the area of services, as shown in Table 3, the study revealed that the major problem facing pre-tenure professors is striking a balance between research, teaching, and services. Pre-tenure professors do not believe that dealing with conflicts on committees and finding an appropriate committee fit is a major problem. They do not also think that negotiating committee relationships and dynamics as well as the inability to choose committees to serve on are major challenges. They, however, expressed concern over the fact that services do not count in tenure decisions. A female professor remarked "it is very worrying that we are asked to do services yet when it comes to tenure decisions, such services do not count."

Table 3
*Challenges Pertaining to Services*

| ***Services Measures*** | ***Mean*** | ***Median*** |
|---|---|---|
| Difficulty dealing with conflicts on committees | 2.38 | 2.0 |
| Striking a balance between research, teaching, services | 3.00 | 3.5 |
| Inability to choose which committees to serve on | 1.88 | 1.5 |
| Difficulty in negotiating committee relationships and dynamics | 2.13 | 2.0 |
| Difficulty in finding an committee appropriate fit | 2.25 | 2.0 |

*Other Challenges*

As shown in Table 4, the most important issue facing beginning professors in this area is the disproportionate demand on time and responsibilities (mean of 2.89 and median of 3.0).

Table 4
*Other Pertinent Challenges*

| ***Other Measures*** | ***Mean*** | ***Median*** |
|---|---|---|
| Existence of departmental politics | 2.33 | 2.0 |
| Difficulty building relationships with tenured professors | 1.78 | 2.0 |
| Disproportionate demand on time and responsibilities | 2.89 | 3.0 |
| Difficulty gaining respect from Chairpersons/Deans | 1.22 | 1.0 |
| Dealing with the lack of respect based on gender difference | 1.67 | 1.0 |

A pre-tenure professor noted "We have no say in terms of scheduling because our senior professors will be voting to determine whether we obtain tenure or not." Pre-tenure faculty do not perceive departmental politics to be an issue. Building healthy relationships with tenured professors, dealing with lack of respect from other professors because of gender and gaining respect from deans and chairpersons' are not issues worthy of generating concerns.

*Prioritization of Challenges*

When asked to prioritize the challenges that confront beginning professors for which attention should be devoted, there was a marginal preference for teaching over research. The mean score for teaching was 3.89 and median 3.0 while the mean for research was 3.67 and median 5.0. This finding suggests that pre-tenure professors attribute their inability to publish articles to the full workload. Dealing with the volume of work will therefore pave the way for pre-tenure faculty to enhance their research productivity and make it relatively easy for them to become tenure. There is the perception that all the categories are important in retention and tenure considerations, but in actual fact only research is considered important. Good teaching professors have been let go because of poor publication record.

Table 5
*Ranking of Challenges*

| ***Measures*** | ***Mean*** | ***Median*** |
|---|---|---|
| Teaching | 3.89 | 3.0 |
| Research | 3.67 | 5.0 |
| Services | 1.89 | 1.0 |

*Preparation from PhD Awarding Institutions*

As shown in Table 6, respondents were emphatic about their desire to stay in the teaching profession in the face of the challenges they were experiencing (mean score of 4.78 and median 5.0). The study revealed that the challenges are not restricted to certain specific disciplines. Indeed, they are common to all institutions (mean of 4.11 and median 4.0). Overall, the beginning professors noted that their institutions moderately prepared them for the challenges they are facing (mean of 3.2 and median of 3.0). Nevertheless, none of the beginning professors expressed regrets for joining the teaching profession despite the challenges, stress, and frustration that they experience.

Table 6
*Preparation by Institutions*

| ***Measures*** | ***Mean*** | ***Median*** |
|---|---|---|
| Commonality of challenges | 4.11 | 4.0 |
| Preparation by institution | 3.22 | 3.0 |
| Limitation of challenges to specific disciplines | 1.67 | 1.0 |
| Desire to stay in teaching profession | 4.78 | 5.0 |
| Regret being in teaching profession | 1.00 | 1.00 |

*Proposed Measures to mitigate challenges*

As shown in Table 7 below, pre-tenure faculty agreed strongly that having mentors, finding time to get research done, and exercising self-discipline with regards to balancing teaching, research, and service activities are crucial in mitigating the challenges they face. Reaching out to tenured professors and having separate tracks for teaching, research, and services are also important factors in finding lasting solutions to the challenges of pre-tenure faculty. In addition, providing additional support/incentive as well as having an ombudsman to resolve pertinent issues that beginning professors' face could reduce the level of stress and anxiety faced by pre-tenure faculty.

Table 7
*Proposed Measures to Mitigate Challenges*

| ***Item*** | ***Mean*** | ***Median*** |
|---|---|---|
| Mentors for beginning professors | 4.25 | 5.0 |
| Reaching out to tenured professors | 3.75 | 4.0 |
| Finding time to get research done | 4.25 | 5.0 |
| Building relationships with tenured professors | 4.0 | 4.0 |
| Having an Ombudsman in the school | 3.25 | 4.0 |
| Self-discipline to balance teaching, research, and services | 4.25 | 5.0 |
| Separate tracks for teaching, research, and services | 3.75 | 4.0 |
| Provision of additional incentives/support | 4.13 | 4.5 |

It could be inferred from the results above that most institutions do not have well-established mentoring program to assist new professors to adapt to the university environment. It is therefore

not surprising that pre-tenure faculty face difficulties balancing research with teaching load, building relationships with tenured professors, finding time to get research done. Formal mentoring systems of assigning beginning, pre-tenure faculty to tenured professors to guide them is critical and will be very effective if institutions design reward systems to recognize the efforts of these mentors.

**Discussion and Conclusions**

This anecdotal study revealed very interesting results. None of the beginning professors expressed regrets for joining the teaching profession despite the challenges, stress, and frustration that they experience. In fact, they overwhelmingly expressed their desire to stay in the profession. Some probable reasons for this result are advanced. First, the beginning professors do appreciate the fact that their experiences are neither unique to their institutions nor their disciplines. They may also latently accept and agree to the fact that they are not the first batch of pre-tenure faculty to be confronted with such challenges. Consequently, they might silently be saying to themselves "our senior and tenured colleagues experienced the same predicament, why then do we complain". They, therefore, have been compelled to resign themselves to their fate. Second, these professors do acknowledge that once they are able to wait patiently and secure tenure, they will join the club of "untouchables". They will have a very secure and stable job with little chance of probably being fired. This finding is supported by Verrier (1993) in his study on the perceptions of life on the tenure track. Verrier (1993) disclosed that a 35-year old female remarked that "it's like we (the tenured faculty) have this exclusive club, and if you can pass our initiation, you can get in. But if you don't pass it, and sometimes all the rules aren't clear, then you can't get in" (p. 95)

Third, most professors noted during the interviews that there is great deal of flexibility in teaching. Generally, teaching is not conducted throughout the week and teachers do have long vacations especially during summer. This gives professors the opportunity to make additional income as well as have time for their family. Finally, pre-tenure professors may not be sure what to expect should they leave the teaching profession.

The study also revealed that pre-tenure professors do not have difficulty gaining respect from students. The probable explanation is that the study was conducted in a predominantly African-American institution. African-Americans are noted to come from a closely knit family and have respect for authority figures (Dixon et al., 2008). In addition, studies have shown that students accord teachers the desired respect when there is mutual respect between them. Pre-tenure faculty striving to achieve tenure attach great deal of attention to student evaluations and are, therefore, very careful when dealing with students. Pre-tenure faculty, do not also have difficulties dealing with students from different racial and ethnic backgrounds because of similar reasons mentioned above. Students from such backgrounds have been found to respect for authority figures and often times do not even ask questions in class because of their cultural backgrounds ((Dixon et al., 2008, Svinicki and McKeachie, 2006). One pre-tenure professor realizing the implications of the cultural issues remarked during his interview that "there is the need to instill in students who come from subservient backgrounds that it is okay to challenge the views of the instructor" Svinicki and McKeachie (2006) confirms the respect for authority by Asians by stating that "Some cultures value modesty, not standing out in a crowd." While Westerners place a premium in "not only on knowing but on saying what you know," Asians "values knowledge but discourages verbalizing knowledge (p. 154).

The study revealed that pre-tenure professors are not subjected to any form of interference and discrimination from chairpersons and deans. This finding raised serious questions about the statement made by a female pre-tenure professor that she is being disrespected by her chairperson and dean because of her gender. The issue with striking a balance between research, teaching, and services was not surprising considering the fact that new faculty are not prepared adequately by their institutions. Well-established mentoring programs would have to be designed to guide these beginning, pre-tenure faculty. New professors should also be given some teaching orientation to help them to enhance their teaching skills.

The anecdotal study revealed that pre-tenure professors would want attention to be given to teaching rather than research. Although the difference in scores between the teaching and research ranking was marginal, the reason for this ranking appears obvious. Pre-tenure professors are very mindful that their teaching workload is very demanding and that balancing research with such demanding teaching load is a problem. Since, considerations for tenure are primarily based on publications especially in research-oriented institutions; measures that address issues pertaining to teaching will enhance their chances of publishing articles and hence become tenure. Consequently, emphasis in the area of teaching will best serve the interests of pre-tenure faculty.

The results of measures to mitigate or address these challenges show that effective mentoring will be most appreciated by pre-tenure professors. A pre-tenure professor interviewed was very concerned that she does not have both primary and secondary mentor who will guide her in her new career. Eddy and Gatson-Gayles (2008) disclosed that "one new faculty participant noted that she felt well prepared as she started her faculty career. She attributed this to her graduate mentor with whom she had conversations on how to intentionally prepare for the demands on faculty time. A major factor in creating a more balanced life for new faculty hinges on institutional support systems and systematic changes in faculty expectations" (p. 105)

The support for separate tracks is also not surprising given the fact that, in research-oriented institutions, consideration for tenure is heavily dependent on publications. The study confirmed the debate in academic circles regarding the dissatisfaction with the weight placed on research. Some institutions, such as Harvard University are making every effort to address this issue with the creation of separate tracks.

Based on the findings, it is extremely important that measures be taken to find lasting solutions to the challenges of pre-tenure faculty as the professors cannot "fight" for themselves for fear of being "punished" in the future. Institutions will have to institute effective mentoring programs and mentors adequately compensated for providing such services. Pre-tenure faculty should also be impressed upon to find time to publish articles since that is a major consideration for their success in academia. Implementing separate tracks may be a laudable idea but its implementation will take time.

**Institutional Implications**

The questions that guide this study were grounded in the belief that understanding the challenges facing pre-tenured or beginning professors is relevant to efforts to make the teaching profession attractive for existing and prospective teachers and hence help retain faculty. The findings suggest that institutions will have to play an active role in helping alleviate the anxiety and stress that pre-

tenure professor's experience in the early years of their career, because of the reluctance of the beginning professors to do so. The morale of pre-tenure faculty is dampened when they are unable to have the required publications to guarantee promotion because of heavy workload, disproportionate demand on time and responsibilities, inability to strike a balance between teaching, research, and services and so on. This could have implications on the rate of attrition and the quality of teaching.

The limitations of this study are the small sample size and the use of a single institution for the study. These limitations make it difficult for us to generalize the results of the study.

**Future Research Direction**

This is an anecdotal study and it is very important that the findings of this study be subjected to thorough testing through further research using large sample size and a couple of institutions. The findings will allow for possible generalization and will provide valuable feedback to institutions regarding the urgency with which policy makers need to tackle the challenges facing beginning professors.

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# A PRACTICAL APPLICATION OF THE TAO TE CHING TO BUSINESS ORGANIZATIONS AND HUMAN RESORCE MANNAGEMENT

**Joann H. Broderick**
**Stony Brook University**
**Stony Brook, NY**
**johintenach@yahoo.com**

**Frank T. Rizza**
**The College of New Rochelle**
**New Rochelle, NY 10805**
**frizza@cnr.edu**

## Abstract

Managing a successful business is the goal of every business person, from the sole proprietor to the CEO of a multi-national corporation. Guides and "how-to" books abound which contain advice on issues such as organizational management and change, workforce hiring and retention and diversity training. The current economic climate poses challenges and opportunities to businesses seeking reliable and knowledgeable employees, as well as to individuals attempting to gain an advantage in a shrinking and increasingly competitive job market.

Lessons can be learned from a variety of sources. The *Tao Te Ching* is an ancient Chinese text that has offered lessons in human relations for thousands of years. Best practices in business management and Human Resource management can be identified in much of the wisdom found in the *Tao Te Ching*. This paper will show that essential Taoist principles can be applied to a core of best practices for business. This can be helpful to any organization, large or small, that is attempting to implement organizational change, comply with hiring standards, or initiate greater employee involvement. It is the intent of this paper to illustrate how the use of the *Tao Te Ching* will anchor these practices in a foundation of knowledge that is at once venerable and viable.

## Introduction

"In the world of business, the people who are most successful are those who are doing what they love" (Buffett & Clark, 2009, p. 36). Being successful is the goal of business owner and employee alike. One of the functions of Human Resource Management in a business organization is to maintain successful practices of hiring, training and retaining successful employees. How Human Resource Management functions in a business organization continues to evolve. At one time, the personnel manager took care of the hiring and firing of employees. Now the role of human resource management is to "hire the right people with the right talent and then give them the opportunity to unlock their full creative potential" (Hodgetts & Hegar, 2008, p. 3). There are numerous practical guides that assist business organizations in meeting this challenge. As business organizations move into a time of economic instability and uncertain consumer demand, and as human resource management deals with diversity in the workforce and globalization, it will prove helpful to examine all avenues that might lead to success. One avenue that deserves examination is the application of

the principles found in the *Tao Te Ching* to best practices of business organization and human resource management. Autrey and Mitchell suggest that applying lessons from the Tao can "bring people together in the workplace and, through training as well as through personal encouragement, to assure that they understand how their individual jobs connect with the greater purpose of the business" (1998, p. 4).

**Evolution of Business Management and Human Resource Management**

The rise of Business management as a subject of study grew out of the Industrial Revolution and the resulting expansion of business operations. As businesses grew in scale and scope, moving from locally-based, family owned to larger, more complex organizations their operation required professional managers (DeNisi & Griffin, 2008). The evolution of business management theory has moved from a science-based model rooted in engineering principles to recognition of the human element in organization and productivity. As Burke observes, Taylor's *Scientific Management* theory was influenced by manufacturing businesses and utilized the concept of the organization as a machine (2008). As the study of human behavior advanced, business productivity became less a function of efficiency and more a function of the human element. The Hawthorne Studies conducted in the 1920s revealed that, in addition to the physical factors present in the workplace, "worker attitude was a significant factor" (Burke, 2008, p. 31). The concept of the human element as a factor in business productivity continued to be explored as Maslow advanced a theory of motivation developed in the 1940s known as Hierarchy of Needs. As business organization management moves into the 21st century, the employee has become as valuable a resource as the product the business manufactures or the service it provides. "In fact, the most successful enterprises, according to the latest research, are leaders in human relations programs, and this is as true at the top of the organization as at lower levels" (Hodgett & Hegar, 2008, p. 556). Given the current economic climate, businesses are striving to do more with less and operate more efficiently in order to remain viable. Managing the impact that this has on the workplace environment is the challenge of human resource management. Challenges are faced in the area of hiring and retention, motivation and performance, leadership and team building, effective communication, managing the diverse workplace and conflict resolution and the importance of corporate social responsibility. Certainly there are unique challenges based on the size and nature of a particular business organization, but the six areas identified previously can be of general interest to any business organization.

**Key Practices of Business Management Theory**

***Hiring and Retention***

Hiring the right people for the right job is a challenge faced by every manager. At one time, employees would take an entry level position with a company, work their way up the corporate ladder and retire from that company, having worked their entire career with one company. Currently the workforce is much more mobile and diverse. "From a human relations viewpoint, every employee is affected by the way the organization recruits, develops, appraises, and rewards its personnel" (Hodgetts & Heger, 2008, p. 378). How a business organization recruits its workforce can be the determining factor in how smoothly the organization performs. The key to recruiting is not hiring for skills, but hiring attitudes (Connor, 2007). Skills can be acquired through training and

education, but if the prospective employee is not a good fit with the organizational culture their performance will ultimately suffer (Mitchell, 2008). Recruiting can involve various strategies, among them are hiring from within the organization, or internal recruiting, and using outside methods to locate prospective employees, or external recruiting. A successful hiring strategy is crucial, as Connor points out, "avoiding a hiring mistake can save you lots of grief, wasted training time, and negative impact on other employees and customers, not to mention the possibility of a legal or financial fiasco when you need to terminate them" (Connor, 2007, p. 87). Recruiting, therefore, is the foundation in building a successful business organization.

***Performance and Motivation***

Once hired, the next challenge is to motivate your workforce. The way a business organization motivates its workforce depends on how well it understands the needs of that workforce (Hodgetts & Heger, 2008). While salary is certainly a primary motivator, it is by no means the sole motivator, nor is it necessarily the foremost. For some, recognition of a job well-done is an important motivator. "One of the best ways to ensure that your employees feel validated, worthwhile, and valuable is to take the time and energy to encourage them" (Connor, 2007, p. 146). Employee recognition programs are "one of the most effective ways to reinforce an organization's culture, support its objectives, and retain top performers" (Hodgetts & Heger, 2008, p. 73). The workplace environment is an important motivator that can influence physical and psychological health. A healthy and safe work environment is regulated by the Occupational Safety and Health Administration (OSHA). The challenge for business organizations today is creating a place to work that encourages people to be more productive, make fewer mistakes, get along with fellow employees; in short, provide a workplace that reflects the respect that the organization has for the employees (Connor, 2007). Over time various studies have been done to determine the degree to which the physical environment affects employee productivity. The Hawthorne Studies in 1924 essentially determined that the level of illumination in the workplace was not responsible for changes in productivity. That result is far removed from more recent studies showing how varying aspects of the work environment can improve not only attitude but performance (DiNisi & Griffin, 2008). From background music and the use of personal stereos to the physical layout of the office and availability of employee break areas, the physical environment affects employee performance and "seems to have the strongest effect on attitudes (DeNisi & Griffin, 2008, p. 397).

The manner in which the business organization responds to employee needs, whether work-related, home-based or educational advancement can also be a motivational factor. Business organizations are increasingly recognizing employee quality-of-life issues as important aspects of improved employee performance. Business organizations offer onsite daycare, reducing the stress of working parents juggling family and work. Organizations may have employee wellness programs in place to assist employees with issues ranging from stress management and health issues to family counseling. Flexible work schedules, compressed workweeks and alternate work sites are methods that an organization can implement in order to enhance employee performance. Mitchell describes this concept as "people-centric," observing that "people spend more time at the office than at home and want to feel *personal and professional* satisfaction from their daily work experience (2008, p. xx).

***Leadership and Team Building***

Motivation is strongly influenced by leadership. From the CEO to the department or line manager, enthusiasm, or lack thereof, is generated by those in a leadership position. Leadership is not necessarily a position within an organization but more a state of mind. "Most experts believe that effective leadership is vitally important to organizational success, yet they cannot agree on how to define, measure, or predict leadership" (DiNisi & Griffin, 2008, p. 127). Burke analyzes leadership as using persuasion and influence, serving followers and acting as role models (2008). Burke differentiates leadership and management practices, explaining that "leadership is about vision; change; using one's intuition, influence, persuasive and presentation skills; and rewarding people with personal praise and providing opportunities to learn new skills" (2008, p. 192). If leadership involves a vision, the ability to communicate that vision must also be a key leadership skill. Connor maintains that the area of communicating corporate vision clearly and consistently is a major challenge for organizational leaders (2007). Hodgetts and Heger discuss the "human skills" that an effective leader should possess, among them a "solid understanding" of "interpersonal communication" (2008, p. 335). But it is not enough for a leader to be able to communicate their vision, that vision must be implemented. Bradford and Cohen refer to it as "Internalization" (1998, p. 174). As Connor sees it "leadership appears to be the art of getting others to want to do something you are convinced should be done" (2007, p. 184). In business organizations today, leadership is being redefined and, where there was once a top-down approach to leadership and business organization, that model is giving way to a broader definition of organizational leadership. Today's organizations are more interactive, with people up and down the chain of command possessing skills and education which empower them to take on more leadership responsibilities. "The day when everyone could look upward for direction is over" (Bradford & Cohen, 1998, p. xvi).

***Effective Communication***

While an effective leader must be able to communicate organizational vision, effective communication is a necessary skill at all levels in an organization. Employees at any point in the organization's structure should be able to understand what is expected of them and provide feedback on those expectations. Effective communication is not a one-way process. One of the challenges Connor points out is the discrepancy that often exists between top-down messages and bottom-up reality. The messages employees get differ, depending on who is delivering the message (2007). Ultimately communication is not only about speaking, it is about understanding. Cloke and Goldsmith maintain that "effective communication begins with speakers taking responsibility for understanding the language, perspectives, and experiences of their listeners. Communication is not what *we* say, but what *they* understand" (2011, p. 31). Ineffective communication takes its toll on an organization's productivity and, ultimately, its profits (Connor, 2001). Organizations that foster multi-level and inter-departmental communication are able to access and utilize more talent, thereby maximizing resources. When an organization does not encourage an exchange of ideas, as Mitchell sees it, employees essentially lose their voice, either because of fear or apathy. "Thus you've silenced your greatest reservoir of ideas and information" (2008, p. 162). Communicating across organizational networks is referred to as "communities of practice" by Cross and Parker (2004, p. 146), and defined by Hodgetts and Heger as "informal collaborative networks" (2008, p. 432). In addition to effective communication within the organization, external communication is just

as important. A successful business must be able to communicate who they are to their customers, as well as maintain communications within the industry. Knowing your competition is an important aspect of maintaining business success.

***Managing the Diverse Workplace and Conflict Resolution***

The increasing diversity of the workforce gives additional importance to effective communication. Business organizations are dealing with diversity in terms of gender, ethnicity, physical and mental challenges and age, among many other diversity issues (DiNisi & Griffin, 2008). As business organizations become increasingly global, interaction across differing languages and cultures increase the need for effective communication techniques and conflict management. The benefits of a diverse workforce may be evident, including promoting creativity, innovation and invention (Hodgetts & Heger, 2008), and providing a competitive advantage in the marketplace (DiNisi & Griffin, 2008). It is equally clear that diversity, poorly managed, will often result in conflict that can cost a company in reduced productivity and resources (Bradford & Cohen, 1998). Managing organizational conflicts, therefore, is an issue for most businesses. According to Tjosvold "conflict itself does not destroy; it is avoidance and other destructive ways of handling important conflicts that undermine our well-being, confidence, and effectiveness (1993, p. 3). If avoiding conflict can be as damaging as uncontrolled conflict, then managing conflict depends on effective communication. Cloke and Goldsmith stress the importance of empathetic and responsive speaking techniques as well as active, empathetic and committed listening techniques (2011). The reality of the workplace today is that diversity should be embraced and that the presence of conflict should be acknowledged and properly managed. Denying or ignoring either does not serve to enhance the organization or improve the workplace.

***Importance of Corporate Social Responsibility***

While laws may determine much of an organization's responsibilities toward its employees and its customers, the concept of a corporation's social responsibility goes beyond legal compliance (DiNisi & Griffin, 2008). Corporate Social Responsibility, or CSR, is becoming an increasingly accepted practice of corporations wishing to enhance their image and improve their investment potential (Waring & Lever, 2004). Mitchell recognizes the role that businesses play in giving back to the community and how CSR benefits employee pride as well as community well-being (2008). The Caux Round Table, founded in 1986, provides Principles for Responsible Business to serve "as a foundation for dialogue and action by business leaders in search of business responsibility" (Caux Round Table, n.d., p. 75). In contrast to Freidman's (1970) contention that the responsibility of business is to increase profits (within legal and accepted limits), the Caux Principles state that business does have a moral responsibility, in addition to consideration of profit and loss. A clear connection between ethical business practices and a company's profitability has yet to be made. While most businesses maintain a standard of ethics, it has long been thought that ethical behavior does not necessarily translate to financial success. Waring and Lewer analyze the impact of socially responsible investment on human resource management concluding that results are unclear and measurement methods need to be refined (2004). It is clear that businesses recognize the impact their organizations can have on the larger community. Human resource management has moved beyond personnel management and now involves managing the work environment and how

employees and management interact within that environment. Business organizations, due to instant communication and globalization, recognize that they play a larger role in local and global communities. Organizations and human resource managers are searching for ways to address the challenges that have been discussed. One way that may prove helpful is to examine the philosophy of the *Tao Te Ching.*

***Background of Taoist Philosophy***

The *Tao Te Ching* is an ancient book of Chinese wisdom, believed to have its origins in the 6th century B.C.E., its authorship attributed to a contemporary of Confucius known as Lao Tzu (Chung, 2000). The word *tao* literally translates as "the Way," not as much a path as a way of being, "the source or essence or basic principle of the universe" (Autrey & Mitchell, 1998, p. xvi). The *Tao Te Ching* has been translated into English since the late 1800s (Tzu, L., 2001 trans.). "Taoism advocates nonaggressive, nonviolent, peaceful coexistence of states" (Chung, 2000, p. 106). In recent years Taoist philosophy has been applied to various aspects of business management, most popularly to leadership and conflict resolution. According to Chung's analysis proponents of Taoism seek to apply Taoist philosophy to solving problems harmoniously rather than in conflict. Faced with "problems of environmental pollution, fragmentation, competition, and dehumanization" (Chung, 2000, p. 107), Taoist philosophy appears ideally suited to address the "way" in which such problems can be addressed. "What Taoism is above all else is the glue that holds things together, a broad, coherent and holistic strategic perspective" (Gerstner, 2009, p. 4).

**Taoist Values Applied to Key Practices of Business Management Theory**

***Flexibility and Fluidity***

Bradford and Cohen deal with leadership in terms of "heroic" and "post-heroic" leadership, concluding that "it is too narrow a definition of leadership to focus only on managing down. Everyone will have to manage sideways and upward" (1998, p. 317). Malone outlines a revolution in business organization, defining "decentralization as the *participation of people in making the decisions that matter to them*" (2004, p. 5). The traditional business organization is a top-down management model that is being transformed due to "changes in global competition, technology, philosophy, and leadership" (DiNisi & Griffin, 2008, p. 432). When management is viewed as an art, rather than a science, the command and control model gives way to a new concept. As business needs and the workforce change it is necessary to adapt quickly and respond to changes while maintaining a foundation of core values (Autry & Mitchell, 1998). Fluidity and flexibility is a concept that is found throughout the *Tao Te Ching*. "One who lives in accordance with nature does not go against the way of things. He moves in harmony with the present moment, always knowing the truth of just what to do" (Tzu, 2001 trans., verse 8). The ability to remain flexible and respond to situations as they present themselves can be useful in terms of hiring and retention. As Gerstner points out, agility is necessary for success in our globalized workplace. What may work in one country or culture may not work in another; what was effective in the past may require rethinking or restructuring (2009). Thus, hiring and retention practices that worked for a certain demographic may require restructuring to attract a more diverse talent pool. Flexibility is also an asset in performance evaluation and motivation. As previously noted, motivation is not always or solely contingent on

compensation. The ability to adapt employee recognition programs, incentives, or the physical environment can be crucial to continued success. Flexibility can be maintained with something as simple as a feedback process that reflects a genuine interest in making meaningful changes. Mitchell stresses being "consistent and genuine" in making the "human connection" (2008, p. 40). In their analysis of social networks in organizations Cross and Parker rely on a two-part feedback process that involve the network participants in workshops which focus on ways to improve effectiveness rather than on questioning why a group is operating ineffectively (1998).

In addition, Cross and Parker also point out that while it is important to be goal-oriented, it is equally important that the process be open and flexible. Bradford and Cohen's "heroic" leader focuses too much on control, thereby inhibiting initiative (1998). "The wise leader knows that it is absurd to believe he can plan for every contingency, and that there are great opportunities if he remains flexible and makes use of whatever happens" (Autry & Mitchell, 1998, p. 12). Effective business organization requires capable leadership and the *Tao Te Ching* teaches that an effective leader who understands Tao "know(s) this Primal Power that guides without forcing, that serves without seeking, that brings forth and sustains life yet does not own or posses it" (Tzu, 2001 trans., verse 10). It is the essence of this Taoist philosophy that Malone sees as cultivating an organization. "Rather than just trying to impose your will on the system, you try to balance the right kinds of control with the right kinds of letting go" (2004, p. 154). As previously stated, effective communication is not only a key leadership skill it is an essential element of an effective business organization. Fluidity in communication allows the flow of ideas not only *from* leadership but *to* leadership. Autry and Mitchell refer to it as "a culture in which honest criticism is welcome, is not thought of as condemnation, and is valued as a means of improvement" (1998, p. 114). Gerstner realizes that "collective intelligence," or multi-directional information flow, allows an organization to be more flexible (2009). Malone's concept of decentralized organizational structure calls for "cultivating innovation and creativity…by creating the right kinds of infrastructures and incentives for information exchange" (2004, p. 158).

There is perhaps no greater need for flexibility than in managing the diverse workplace and resolving conflicts in the workplace. The *Tao Te Ching* states "the hard and stiff will be broken. The soft and supple will prevail" (Tzu, 1988 trans., verse 76). Gerstner observes the futility of the "win-lose" mentality that by definition creates losers. By adopting a "win-win" mindset the opportunity exists for all parties to profit (2009). Fluidity, yielding and suppleness are important qualities of Taoist philosophy. Softness, far from being weak, can be deceptively forceful. "Nothing in the world is as soft and yielding as water. Yet for dissolving the hard and inflexible, nothing can surpass it" (Tzu, 1988 trans., verse 78). If Malone's decentralized business organization and Bradford and Cohen's post-heroic leadership model can be realized, applying the Taoist principles of flexibility and fluidity would certainly benefit the process.

***Understanding Strengths and Limitations***

The ability to recognize and capitalize on strengths while acknowledging and minimizing limitations is valuable not only in hiring but in performance evaluations and motivation. As previously stated, the business organization benefits when its hiring strategy successfully matches applicants with the organizational culture. Additionally, proper training and coaching make performance evaluation

more meaningful and productive. "Effective coaching should build on existing strengths while attempting to change inappropriate actions" (Connor, 2007, p. 158). Mitchell also recognizes the need for positive reinforcement while incorporating constructive criticism (2008). Taoist philosophy recognized that "all of life is a movement toward perfection. Sometimes you're ahead and other times behind; sometimes you're strong and other times weak" (Tzu, 2001 trans., verse 29). This philosophy enables leaders to "set goals and standards of performance individually, with each person participating fully" (Autry & Mitchell, 1998, p. 66). When leadership is encouraging and supportive, giving all members of the team the opportunity to make use of their individual abilities, then diversity has been efficiently utilized (Gerstner, 2009). Open and positive communication is essential to this process. Gerstner advises against being "too categorical in stating your opinions," rather "leave open the possibility for other points of view to be expressed" (2009, p. 98). This kind of positive communication not only encourages more productive teamwork, it is also useful in conflict resolution. It is this kind of open and positive interaction that Tjosvold (1993) describes as Cooperative Conflict Theory. "People in cooperation share information, see each other's point of view, communicate and influence effectively, exchange resources, assist and support each other, discuss opposing ideas openly, and use higher-quality reasoning" (Tjosvold, 1993, p. 44).

The *Tao Te Ching* advises that "the best warrior leads without haste, fights without anger, overcomes without confrontation" (Tzu, 2001 trans., verse 68). This concept is echoed by Cloke and Goldsmith in discussing the dynamics of conflict. "By acting with integrity in conflict, we increase our awareness and stimulate self-improvement in others (2011, p. 10). Bradford and Cohen's post-heroic leader perfectly illustrates the Taoist philosophy of working with your strengths and understanding your limitations. "The leader who asks for help receives it. Those who admit their humanness get the support they need" (1998, p. 108). Bradford and Cohen also point out that this attitude is only effective if the leader is basically competent, even though humanly flawed. Ultimately greater strength comes when the team or organization can acknowledge inadequacies and build on strengths in an open, positive way.

> It is the letting go of the ego needs of authority and control in favor of humility and service that will deliver you from the old competitive hero leader game and allow you to be effective by being fully available to everyone, above and below, leading and following (Autry & Mitchell, 1998, p. 76).

***Trusting Instincts and Intuition***

The idea that business organizations can be managed with a certain measure of intuition and instinct may seem somewhat counter-intuitive. After all, organizations are managed according to rules, regulations and guidelines. While there may be instances of corporations being led by presidents and CEOs with good 'business instincts,' encouraging managers or even employees to trust their instincts might seem to lead to chaos. Gerstner points out that some may consider instinct and intuition to be primitive and unreliable, but decisions are made when the information is gathered and then absorbed, the issues considered, then you "trust yourself and take a leap of faith on the wings of instinct and reason" (2009, p. 21). Being able to effectively follow instincts involves a high level of self-knowledge; knowing what you know and what you do not know and being able to act on that knowledge. The *Tao Te Ching* tells us that "one who knows others is intelligent, one who knows himself is enlightened" (Tzu, 2001 trans., verse 33). In Bradford and Cohen's discussion on building a

shared-responsibility team they observe that occasionally a team member or leader has an understanding of an issue that may not fit with existing analysis. "Even the most thorough market and technical analysis is incapable of providing a total answer about the future (1998, p. 141). Intuition involves what cannot be measured, calculated or visualized. While structure is important to a business organization, what happens within the structure is what drives the organization. More importantly, the leader should "not become enslaved by these things and not hold her employees hostage to form. She must instead understand the power of what she doesn't do, and value the things she can't see" (Autry & Mitchell, 1998, p. 181). The ability to tap into intuitive knowledge is based on trust. "If one doesn't trust himself how can he trust anyone else (Tzu, 2001 trans., verse 17)? The Taoist principle of trusting your own knowledge and acting on intuition, when properly cultivated, can be applied to hiring situations as well as performance expectations. Hiring attitudes, not skills, as Connor suggests (2007), involves awareness of an intangible (attitude) rather than strict adherence to defined skills. Connor also sees delegating results as a show of trust and positive reinforcement to employees. When leadership is encouraged to reach out and trust that those around them have contributions to make, rather than rely solely on their own resources, everyone benefits. "When you want someone to do something, stop thinking in terms of what you want and think in terms of what they want" (Buffett & Clark, 2009, p. 79).

The *Tao Te Ching* advises "the Sage rules over the people but he does not weigh them down. He leads the people but he does not block their way (Tzu, 2001 trans., verse 66). This philosophy can also be helpful in conflict resolution and overall effective communication. Cloke and Goldsmith recommend going beyond empathetic or responsive listening, instead listening with the heart and finding the speaker's truth inside yourself (2011). In addition to what is being said, Cloke and Goldsmith offer a list of elements to 'listen' for, such as intentions, prejudices, stereotypes and emotions, suggesting that we try to "hear them more accurately by listening with an open heart, and with empathy and intuition" (2011, p. 62). While this may seem like 'touchy-feely,' New Age philosophy, Malone thinks that "if you really want to take advantage of a decentralized organization's ability to harness people's deep motivation and creativity, you need to appeal to what truly matters to those people" (2004, p. 170). Examining Taoist philosophy illustrates the value of being aware of what is within us and how that leads to a better understanding, not only of ourselves, but of what is happening around us.

> Become totally empty. Quiet the restlessness of the mind. Only then will you witness everything unfolding from emptiness, see all things flourish and dance in endless variation and once again merge back into perfect emptiness – their true repose, their true nature. Emerging, flourishing, dissolving back again. This is the eternal process of return. (Tzu, 2001 trans., verse 16)

***Long Term Perspective and Making Full Use of Potential***

> Short-term focus almost kills any long-term planning on the part of management. Managers are driven to make the short-term numbers at the cost of long-term planning; they often have no plans to exploit future opportunities, nor do they plan ahead for a potential recession (Buffett, & Clark, 2009, p. 49).

Taoist philosophy provides guidance on attaining our highest potential. This is certainly helpful in all the key practices that have been previously stated. Any organization wants to employ a talented, motivated workforce. Good performance is rewarded and some organizations implement programs to encourage and assist employees to do their best, "investing in people on the premise that a highly motivated and skilled workforce is a powerful competitive advantage (Bolman, & Deal, 2008, p. 138). Bradford and Cohen's post-heroic leaders are charged with building a system "in which shared responsibility can occur. For the manager accustomed to rushing in to solve every problem, this new role is not easily adopted" (2008, p. 51). Malik suggests that communication is not an end in itself, it is a "medium through which tasks are executed" (2010, p. 75). Realizing the full potential of the communication network serves to enhance overall efficiency.

As previously discussed, conflict is not something to be avoided but managed. It is in the best interest of the organization to ensure that its diverse workforce is fully utilized and the potential conflicts are identified and addressed. There is a growing trend on the part of business organizations, large and small, toward sustainability and corporate social responsibility (Hitchcock, & Willard, 2006). It benefits the organization to be able to make informed choices and plan for the future; to focus on short-term results and immediate profit or take into consideration that policies enacted today will affect both the present and the future (Gerstner, 2009). The *Tao Te Ching* advises "so the Sage stays with his daily task and accomplishes the greatest thing. Beware of those who promise a quick and easy way, for much ease brings many difficulties" (Tzu, 2001 trans., verse 63). Taoist philosophy is one of paring-down, of simplification, of reduction. Malik expresses this as *concentration*. "You can busy yourself with hundreds of things, but you can only achieve excellent results in a few. The principle of concentration almost automatically leads to the right priorities and to professionalism" (2010, p. 84). The *Tao Te Ching* explains that

> In the pursuit of knowledge, every day something is added. In the practice of Tao, every day something is dropped. Less and less do you need to force things, until finally you arrive at non-action. When nothing is done, nothing is undone. (Tzu, 1988 trans., verse 48)

Autry and Mitchell explain that, while this concept may be confusing to some, 'busywork' does not necessarily mean a person is accomplishing anything. "Not-doing isn't the same as idleness or passivity" (1998, p. 122). When the mind is stilled and the clutter is cleared it becomes easier to see what is important. This, in turn, leads to greater use of potential and a clearer sense of where one is going.

***Promoting Diversity, Creating and Maintaining Harmony***

The entire organization benefits when the workforce is operating at full potential. The philosophy of the *Tao Te Ching* encourages understanding; of self and of what surrounds us. "It means being in touch with yourself and the environment, knowing how to get along with people and situations, in order to get things done in a positive and lasting way" (Gerstner, 2009, p. 47). This is not a state of being, it is a process. The key to Taoist philosophy is an understanding of the natural order of things, enabling people to live in harmony (Wong, 1997). The harmony of Tao translates to the workplace "as good morale, productivity, and business results" (Autry & Mitchell, 1988, p. 155). Taoist philosophy is about "creating without possessing, acting without expecting, guiding without

interfering" (Tzu, 1988 trans., verse 51). Malone expresses this Taoist concept as *cultivation*. "Sometimes you need to give people direct commands; other times, you just need to help them develop their own natural strengths. Good cultivation involves finding the right balance between centralized and decentralized management, between controlling and letting go" (2004, p. 12). Finding balance is a key principle of Taoist philosophy. This principle of balance can be applied, not only to managing workplace diversity and conflict resolution, but to leadership skills and team building. By seeking balance, Taoism embraces diversity. "Taoist non-competitive competitiveness is about inclusiveness and openness" (Gerstner, 2009, p. 41). Conflict resolution can benefit from the balanced Taoist approach by encouraging open and active participation of all employees involved in the various organizational structures and social networks (Cloke & Goldsmith, 2011). Building an effective team requires skilled leadership and balance or, as Malik states, "the art of balancing, weighing, and integrating" (2010, p. 84). "The Tao doesn't take sides; it gives birth to both good and evil. The Master doesn't take sides; she welcomes both saints and sinners" (Tzu, 1988 trans., verse 5). Rather than thinking of business as a competition, Taoist philosophy helps to frame business as an interplay of the work and ideas of all the people involved; employees, customers, stockholders and suppliers (Autry & Mitchell, 1988).

***Providing Benefit rather than Doing Harm***

Business organizations today have "assumed a growing role in helping to solve social challenges related to employment, health, safety, education, culture, and the environment" (Lakin & Scheubel, 2010, p. 3). The *Tao Te Ching* provides a solid philosophical foundation for supporting business organizations' efforts in the area of corporate social responsibility. "The best way to live is to be like water, for water benefits all things and goes against none of them. It provides for all people and even cleanses those places a man is loath to go" (Tzu, 2001 trans., verse 8). Business organizations should give back to employees, communities and society within their capabilities. In order for a company to survive, it needs to be profitable and any social responsibility must be carried out within that context. "But it makes a difference whether, besides the profitable management of your business, you also recognize wider responsibilities within a local and global socio-political context" (Gerstner, 2009, p. 29). Within that context, a business organization has a number of options to fulfill its role in social responsibility. A business organization can choose sustainability as a business strategy. It is a way to see the relationships that exist among social, environmental and economic needs (Hitchcock & Willard, 2006). A business organization can become involved in community projects and charity events. Mitchell believes that when the company sets the tone, it expands to the employees, giving them a pride in their workplace and an example to follow. "This is not some small side strategy, but a bone-deep belief situated at the core of our business" (Mitchell, 2008, p. 132). This is completely in line with Taoist philosophy. "When the greatness of Tao is present action arises from one's own heart. When the greatness of Tao is absent action comes from the rules of 'kindness' and 'justice'" (Tzu, 2001 trans., verse 18).

Malone acknowledges that some businesses will use social responsibility as a marketing tool. "The world of business has always included people who are good at cynically manipulating others to achieve their own ends" (2004, p. 177). Malone's answer to this is transparency, or accurate information for consumers. The *Tao Te Ching* says "to the self-serving, nothing shines forth. To the self-promoting, nothing is distinguished. To the self-appointing, nothing bears fruit. To the self-

righteous, nothing endures" (Tzu, 2001 trans., verse 24). Malone believes that expanding communication technologies, like the Internet, will enable people to connect with others to support the businesses that reflect social responsibility. In addition, that same technology will make it easier to track corporate behavior (2004). It appears that business organizations are developing 'soul' and "there is growing evidence that spirituality is a critical element in long-run success" (Bolman & Deal, 2008, p. 400). If this is the case business organizations can look to the *Tao Te Ching* for guidance.

**Conclusion**

The way that business is conducted is changing. Technology has affected communication, globalization has affected economies, and diminishing resources along with global climate change have affected the use and re-use of resources. Business as usual has given way to the new normal. As businesses and the workforce attempt to adjust to an uncertain economic climate, strategies abound that offer assistance in the process. The *Tao Te Ching* is not new to the world of business. Its lessons have been applied most prominently to leadership as well as conflict resolution. After identifying key business organization and human resource management practices and relating them to Taoist philosophy, it is possible to expand the application of these principles beyond the limits of leadership skills. Taoist philosophy provides insights into the way people interact, and guidelines to promote healthier, more meaningful interaction. The *Tao Te Ching* can also provide a roadmap that can be helpful in bringing business organization and human resource management out of the current financial crisis. The behavior of executives and the dubious corporate strategies exhibited by many financial institutions, along with the United States auto industry, seem to bear out Gerstners' assessment:

> Risk evaluation models were out of wack with reality, too much confidence was placed in risky strategies and too much focus on short-term profits. The perspective on long-range economic trends was unrealistic, bonus systems did not adequately reward commitment to long-term performance. There was arrogance, ignorance, self-deception and a lack of integrity (2009, p. 134).

Moving forward, business organizations are faced with a globalized workforce, limited resources, global climate change, expanding communication in an ever-shrinking world, all of which pose challenges to our abilities as well as opportunities for new businesses. The *Tao Te Ching* offers the observation that "a strong wind does not blow all morning, a cloudburst does not last all day. The wind and rain are from Heaven and Earth and even these do not last long (Tzu, 2001 trans., verse 23). As the business landscape changes, it is possible that the *Tao Te Ching* can be a resource for business organizations seeking to maintain balance and perspective and to remain flexible and fully realize their potential.

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# LOST OPPORTUNITIES FOR DEVELOPING STUDENTS' IMAGES OF SCIENCE

**Tammy C. Brown**
**College of Education**
**University of West Alabama**
**Livingston, AL 35470**
**tbrown@uwa.edu**

**Abstract**

Understanding the process skills elementary students use in science has been researched for over 25 years. This researcher sought to understand how the way science is presented in school influences elementary students' use of basic process skills and ultimately their image of science. The study's questions included: 1. What process skills do second and fourth grade students reveal as they experience science through informational texts? 2. What process skills do second and fourth grade students reveal as they experience science through inquiry with manipulative objects? Drawing upon symbolic interaction within a sociocultural framework, this qualitative study began while students were enrolled in a summer program at their school and continued into the fall. Primary data included transcripts of students' dialogue during sessions, interviews, observations, field notes, demographic data, and assessment data. The researcher conducted 3 sessions with each of 4 groups of 3 students, spending 30 minutes observing, listening, and taping students in each session. All 12 students were interviewed after each of the 3 sessions on the same day resulting in approximately eighteen hours of audiotapes. The researcher met with reading coaches, parents, and the selected students' teachers. Observations of the students and teachers in the context of their school environment were also made throughout the regular school year. One emergent theme suggests that students used basic process skills in both the informational book and manipulative sessions.

**Keywords:** Science, Process skills, Manipulative, Student voice

## Introduction

Unarguably, reform is an historic part of the educational system in the United States and especially in the poorer southeastern states. More specifically, this is true of science education (American Association for the Advancement of Science, Project 2061, 1993; National Science Education Standards, 1996; National Science Foundation, 2006, pp. 1-8; U.S. Government, 2006).

Currently, reform movements sweeping across the southeastern states in response to the *No Child Left Behind Act 2001* Legislation, are various reading initiatives to target populations of students that are seemingly being left behind. To try to address the needs of these identified populations more emphasis during the school day has been placed on reading. Time demands on the classroom schedule are being affected by reading legislation passed in response to *No Child Left Behind Act 2001* (U.S. Government, 2006). A 2006 article published in the *The New York Times* stated:

that since *No Child Left Behind* legislation was passed, 71% of the nation's 15,000 school districts had reduced the hours of instructional time spent on science and other subjects to allow more time for reading and math. (Dillion, 2006)

Shocking, given that Weiss, Pasley, Smith, Banilower, and Heck (2003) national survey (data collected prior to NCLB) reported that nationally elementary teachers on average taught science for only 17 minutes per day.

Seen through the wider socio-cultural framework, there are other influences that compound the problems mentioned above—among these are federal, state, and local mandates (Carter, 2005; Popkewitz, 1992), that make daily demands on the classroom schedule such as the current reading initiatives (Popkewitz, 1992). Popkewitz (1997) says that schooling is really about social regulation and power. On the one hand, powers want increased student achievement and on the surface it looks as if they are truly implementing standards to see that this comes to fruition. However, as pointed out by Carter (2005), the reforms actually stifle the progress of student achievement. According to McLaren (1986) "what must be critically uncovered are the latent connections between educational rituals and the ways in which inequality is maintained in school settings" (p. 60).

To apply these ideas to relevant happenings in education, look at current state initiatives designed to have all students reading on grade level. Thus, students have been bombarded with explicit reading instruction during the school day to help them so that they may in turn be able to do better in all areas of school and work. However, this reform movement is decreasing the time they are exposed to science, social studies, and art (Dillion, 2006). Therefore, the reform is limiting student opportunities to learn content and to think critically in the areas of science, social studies, and art, and last, to learn to question the world around them.

Popkewitz states, "We need to understand how social goals, articulated through state policies, become reconstituted as they are realized in the institutional practices" (1992, p. 290). Framed in the broader socio-cultural theory, human interactions with and within the physical, social, and abstract objects of the culture make symbolic interactionism appropriate for exploring this study's questions: 1. What process skills do second and fourth grade students reveal as they experience science through informational texts? 2. What process skills do second and fourth grade students reveal as they experience science through inquiry with manipulative objects? It was hoped through examining and understanding students' use of process skills while being read informational texts and while handling manipulative objects more informed curricular choices for teaching science in the classroom could be supported.

**Methodology**

This case study is framed by symbolic interaction between students and informational books or manipulative objects and the dialogue and actions students construct while in small groups. A small, rural, southeastern, Title I elementary school was the setting for this exploration. The study explores the process skills second and fourth grade students portray and voice before, during, and after participating in informational book and manipulative science sessions. The data were collected while

students were enrolled in a summer program at their school and continued into the fall of the regular academic school year.

Data collection included informational book and manipulative sessions' transcripts of students' dialogue and actions, interviews, observations, field notes, demographic data, and assessment data. The researcher conducted six sessions with each of four student groups, spending thirty minutes observing, listening and taping students in each session. Each student was interviewed later in the day after participating in the informational book or manipulative sessions. The researcher also met with reading coaches at the school, parents, school faculty, and the selected students' teachers. Observations of the students and teachers in the context of the school environment were also made throughout the regular school year. The results showed all students utilized basic process skills in both the informational book and manipulative object sessions throughout the course of the study while inquiring about the object(s) in each session. Specifically, the students used the basic process skills of observing, classifying, analyzing, drawing conclusions, and inferring.

**Results**

*Use of Basic Process Skills in Informational Book and Manipulative Object Sessions*

As dialogue was analyzed across the sessions' transcripts, videotapes, researcher's field notes, observations, and interviews it became evident that in the absence of teacher direction, the use of basic process skills were employed during the exploration of the symbolic objects: informational books or manipulatives. Martin, Colleen, Franklin, and Gerlovich (2005) point out that children "construct important ideas and discover much for themselves when they use science process skills" (p. 21). Blumer (1969) said:

> By virtue of self-interaction the human being becomes an acting organism coping with situations in place of being and organism merely responding to the play of factors. And his action becomes something he constructs and directs to meet the situations in place of an unrolling of reactions evoked from him. (p. 73)

The students did not just sit and wait around during the informational book and manipulative sessions. Even without specific directions or input from the teacher/researcher, the students constructed and discovered ideas which can be seen throughout the students' dialogue and will be discussed in detail throughout this section of the chapter. They constructed and discovered information by using basic process skills.

Data analysis reveals that the use of process skills was predominant throughout the informational book and manipulative sessions. Students used basic process skills to discover and learn together. These same process skills are employed by scientists in the real world, yet the students in the informational book session were uncertain as to whether they were being scientists when asked during interviews. This uncertainty prompted the researcher to examine the students' use of process skills and background experiences in both sessions seeking insights into the groups differing views. Thus, the dialogue from each session was analyzed line by line for basic process skills that ultimately reveal patterns of basic process skill use among the students' in both types of sessions.

*Narratives of Parallel Use of Basic Process Skills in Informational Book and Manipulative Sessions*

The dialogue chosen here presents the students' use of a particular basic process skill throughout the sessions and is only one sample of the skills being illustrated within the sample dialogue. The selections represent the predominant patterns seen in the students' language related to the process skill being discussed. This is not to say that the skill chosen and represented by these sections of transcripts is the only basic process skill one can identify when reading through the sample.

The findings drawn from within, between, and across the sessions, interviews, researcher's field notes, and observations illustrate the use of basic process skills through the joint action of the group members. The data reveal how students (a) observed, (b) classified, (c) analyze, (d) drew conclusions, and (e) inferred throughout both types of sessions.

Observation is the most basic science process (Martin et al., 2005). Although Martin et al. use the term *science process skills*, the fact one observes throughout the day in all areas of life, not just when studying science topics, cannot be ignored (pp. 16-21). Similarly, one uses the basic process skills of classifying, analyzing, drawing conclusions, and inferring to function from day to day. This is important because the skills are only referred to as science process skills when talking about science and reading process skills when talking in the context of reading. Otherwise, the basic process skills are just that, basic process skills. Therefore, throughout this section when discussing both the disciplines of reading and science the term *basic process skill* will be used. For example, the dialogue in the section labeled *Observing* documents student-made observations in both the informational book and manipulative sessions.

*Observing*

One powerful way evidence is gathered by humans is by observing. Harlen (1985) says "observation involves the use of the senses to gather information" for investigations of the world around us (p. 26). In the early stage of developing this skill, students use only one of the senses to make observations and identify the obvious features of an object or event. As the ability level increases, students' observations incorporate several senses noting relevant details, identifying similarities and differences, discerning the order of events, and making measurements using appropriate instruments (Harlen, 1985). According to the National Science Education Standards (1996) observing is the first in a series of steps scientists use to make informed decisions about scientific objects and events.

*Informational Book Sessions: Observing*

The following transcript chosen from the second grade session centers around *Who Lives Here?* and illustrates how the students used the basic process skill of observation during the ritual of being read-aloud a science trade book. This lift-the-flap book about animal homes encourages students to infer what animal lives in the habitat as determined by the text and by observing the details in the illustrations. The student observations of the book, both auditory and visual, stimulate their discussion and inferences. The book, *Who Lives Here?*, uncovers students' inferences as the flap is lifted to reveal what animal is being depicted as seen in the following:

T: Who lives in this safe, warm den?
Kaylen: A cat
Keivon: A cat
Theron: A dog too.
Keivon: [laughing]
Kaylen: [laughing]
Theron: It [the book] said it.
Kaylen: Cats and dogs . . . cats and dogs don't live together.
Keivon: Ooh, a fox, a fox.
Theron: A fox.
Kaylen: A fox, fox, fox.
T: What makes you think that?
Keivon: Because I just seen it.
Kaylen: Because I seen a fox's ears.
Keivon: Told you. You opened it a little [the flap], and I seen the color of it.
Kaylen: Yeah, but when it [the flap] is closed, you can see it right there [pointing].
Keivon: But I wasn't looking at that
Theron: But I wasn't I seen a dog's tail and stuff right there and you did this [motioning as if pulling up the flap a little] and I seen something orange and black.

The second graders discussion of *Who Lives Here?* illustrated their dependence on the sense of sight as children interact with the text and illustrations in the informational book. Making visual observations about the illustrations in the books was coded in every transcript of student dialogue throughout the second and fourth grade informational book sessions. Data analysis revealed that nearly all students made visual observations about each page being read. For instance, Kaylen's statement about the fox on the page is typical. She points out that you see part of the fox in the picture by saying, "Because I seen a fox's ears." Her observation was about an obvious feature of the picture that could be seen by careful observation of the illustration. Keivon says, "But I wasn't looking at that." Upon examination of the videotape, it is evident that Keivon was listening to the descriptive language of the text and the animal being described and not looking at the picture carefully enough to see the fox's ears. Earlier in this same transcript, Keivon says it is a fox. After being read another sentence or two he stays with his prediction and says it is a fox again. Theron and Kaylen are saying it is a dog and cat. After it is revealed as a fox Keivon says, "Told you," portraying the need to be correct and have others know it. On the other hand, Theron refers to seeing a dog's tail in the picture. Specifically the text states, "This quick and clever cousin of the dog has a reddish-brown coat and a long, bushy tail" (Silver, 1995, p. 4). Theron is relying on his observations, and perhaps the words of the text, though maybe not exactly as suggested by the text. Did he hear what he wanted to hear? He sees the bushy tails. Theron never mentions whether he has seen a fox and his experiences may be limited. He struggles with comprehension in the area of reading and has difficulty predicting, as well as decoding the illustrations and text. He does not attend to the discrepancy between what the text and illustrations present and what he knows about dogs and how they look to try and make sense of what the text/illustrations describe.

The students actively made observations while engaged with the informational book which were central to the dialogue. The dialogue that emerged related to the illustrations, versus the text,

appears to place the second graders in the early stage of developing observations skills according to Harlen (1985). It is even more evident they are highly dependent on their sense of sight emphasized by phrases such as "I see," and "I wasn't looking at that." The sense of sight and hearing were utilized regularly during the informational book session read alouds.

*Manipulative Sessions: Observing*

The following transcript from the second grade animal homes manipulative group session illustrates how the students make multisensory observations and engaged in interactions with each other and the manipulative objects. The session involved manipulates of different animal homes that parallel the informational book. The manipulative objects encourage students to predict who lives in the habitat by observing the details of the homes. The objects give students the opportunity to make observations and predictions about the animal homes. The animal homes included a bird's nest with eggs, a dirt dauber's nest with larvae, a wasp's nest, a section of a beehive honeycomb with honey, a hermit crab shell, and tree bark. The following represents dialogue among the children as they discuss and explore the manipulatives.

Logan: Something ate this one. [referring to the bird egg he was holding] It looks like something ate this one. It has a crack in it and it is yellow right there.
Keirra: Cracked? [asking Logan]

Later on the following dialogue took place.

Logan: Can I touch it? [referring to the gel inside the egg]
T: What are you doing Clay?
Clay: I'm trying to hear the ocean in this shell.
Keirra: I don't think you can hear the ocean. Maybe . . .
Clay: Don't worry [interrupting Keirra]; I can hear it; I can hear it.

Making multisensory observations about the objects occurred throughout both second and fourth grade manipulative sessions. When working in the three manipulative sessions, the researcher noted that the students make observations immediately about each object while often quickly making inferences and predictions. They do not have ready made answers and seem satisfied with their ideas, despite many of them being more imaginative than accurate.

For example, Logan says, "It looks like something ate this one [referring to a bird's egg]. It has a crack in it and it is yellow right there." He points out a crack and that it was yellow inside the crack. His observation was about an obvious feature of the object that could be seen by careful observation. Logan seemed obsessed with the bird's nest with eggs in it. This was evident by his statements, observations, and feeling of wanting them for his very own. He says, "Can I touch it"? It was noted that he was referring to what was inside the cracked egg. After he was told he could touch it, the videotape supports that he did just that. Clay uses an object differently, and his action suggests the shell holds meaning to him and that it makes sounds. He says, "I'm trying to hear the ocean in this shell." Watching the video, it is evident Clay is trying to do just that as he has the shell up to his ear as if he is listening to hear the sounds inside.

*Classifying*

Harlen (1985) states, "Ordering objects or events is also a way of focusing attention on particular features of difference between one and another" (p. 27). This type of activity, classifying, could be coded throughout the informational book and manipulative sessions.

*Informational Book Session: Classifying*

The following excerpt of student dialogue taken from an informational book group presents students comparing and contrasting bugs and insects based on repeated observations. The following transcript refers to organisms one might find in the students' backyards. The text posed the question, Are they insects? Much of the students' dialogue appears based on what they are seeing and hearing in the moment and is illustrated in the following:

T: What about everything else?
Keivon: These are the ones that don't have [six legs], this one don't, this one don't go there.
Kaylen: How about one part [the creatures on one page] doesn't have six legs and one part does.
T: Which ones?
Keivon: This one don't have.
T: Talk about the book [saying to Theron to get him back on track].
Keivon: That one don't, that one don't, that one don't. I think that part has six legs. This part doesn't. Oh, I know. This part doesn't have six legs, and the other part does [as he motions from one page to the other with his finger].
Theron: No see. This one got six legs [pointing to the wasp].
Kaylen: That's four, one, two, three, four. One, two, three, four, five, six.

Students intuitively compared and contrasted the organisms in the illustrations to see which they think depicts insects. Keivon and Kaylen are having difficulty, but they are working to create an explanation for what they are seeing. Theron passively observing as they talk. They just about have it until Theron says this one has six legs. This sends them back to comparing and contrasting again in light of the realization they are incorrect. All of the students demonstrate they are able to use observations to compare and contrast. They continually revisit the object and make more observations while strengthening their evidences to determine which ones are insects and which ones are not. However, they are not using the data from the book to support their findings. Harlen (1985) cautions teachers:

> The ability to interpret observations and select relevant information is indeed an important and advanced feature of observation. But at the same time as encouraging it in children it is essential to help them to be conscious of the selection they are making and to be aware that there is other information to be used. (p. 28)

They are not comparing and contrasting at this advanced level during this session. They are not making an attempt to use the information from the text. They appear unable to apply all the characteristics of insects against every creature on the page to test if it is actually an insect.

*Manipulative Sessions: Classifying*

During the manipulative session with insects, students were able to make observations and find patterns in the observations as they interact with the objects.
Clay: I have to see if they [dead insects and bugs] are real. [touches and looks closely at two of them] Okay, they are real.
Keirra: That's a butterfly [looking at the moth Logan is holding].
Logan: Looks like a moth.

During this segment of the manipulative session transcript, Clay is attempting to figure out which insects on the table are indeed dead and not alive. After he says, "I have to see if they real," he is observed touching several of the bugs to see if they are real, but dead. He convinces himself to classify them as all real but dead. Logan, in the next few utterances of dialogue tells Keirra that what she is calling a butterfly "looks like a moth." He appears to classify one as a moth and one as butterfly.

The data reveal that throughout the study students utilized the skills to analyze, draw conclusions, and infer throughout both types of sessions similar to the above transcripts with observing and classifying. The use of basic process skills were mirrored between the informational book sessions and the manipulative sessions. Yet, the students' perceptions about being a scientist while participating in the two different sessions were in contrast with one another.

*Students' Voices Informational Book and Manipulative Session Interviews:*
*Effects of Informational Book Sessions on Students' Images of Science*

All six students were interviewed about whether or not they were being a scientist during the informational book sessions. As indicated in Table 1, a majority of the students were unsure as to whether or not they were being a scientist. It was also interesting to note that there were no differences in the second and fourth graders' answers to the question of whether or not they were being a scientist.

Table 1.
*Informational Book Participants' Responses to: Were You Being a Scientist Today?*

| | | Yes I Was | | | No I Was Not | | |
|---|---|---|---|---|---|---|---|
| Student | Grade | I | II | III | I | II | III |
| Therone | 2 | | | | U | Ab | No |
| Keivon | 2 | | | | No | U | No |
| Kaylen | 2 | Yes | U | U | | | |
| Blake | 4 | U | Yes | Yes | | | |
| Quinterria | 4 | U | Yes | Yes | | | |
| Bryan | 4 | | | | No | No | No |

*Note*: Ab stands for absent. U stands for unsure. I, II, III stands for the session number.

*Interviews: Effects of Manipulative Sessions on Students' Images of Science*

All six students were interviewed about whether or not they were being a scientist during the manipulative sessions as well. The responses are indicated in Table 2.

Table 2.
*Manipulative Session Participants' Responses to: Were You Being a Scientist Today?*

| | | Yes I Was | | | No I Was Not | | |
|---|---|---|---|---|---|---|---|
| Student | Grade | I | II | III | I | II | III |
| Clay | 2 | Yes | Yes* | Yes | | | |
| Logan | 2 | Yes | Yes | Yes | | | |
| Keirra | 2 | Yes | Yes | Yes | | | |
| James | 4 | Yes | Yes | Yes | | | |
| Xavier | 4 | Yes | Yes | Yes | | | |
| Peyton | 4 | Yes | Yes | Ab | | | |

*Note*: Ab stands for absent. *This answer is inferred based on the student's entire interview.

**Discussion of the Results**

Students use basic process skills intuitively if not with expertise, when working in the informational book and manipulative sessions. Even though the students used many of the same process skills in both types of sessions their responses to the question asking if they were being a scientist found in Tables 1 and 2 were distinctly different.

Students in the informational book sessions were uncertain about whether they had been a scientist, saying "I don't know if I was a scientist or not." Some students could provide evidence of having been a scientist during the session, but seemed as though they where hesitant to say they had been a scientist in the context of reading. For example, Blake said she was looking at things closely, but was unsure if this was being a scientist. Others showed no uncertainty and simply reported they were not being a scientist during the informational sessions. These responses were simply the word *no* for example. In the interviews following each session the students who said the word *no* did not provided any support for having been a scientist. This is in contrast to the students in the manipulative sessions who all said with certainty they had been a scientist. The students in the manipulative session show certainty about having been a scientist. For example, James stated he had been a scientist because he was looking at objects closely and using a magnifying glass while working with group members.

When analyzing the transcript data presented throughout this chapter and taking note of the similarities between the support offered in favor of having been a scientist, in both the uncertain students of the informational book sessions and the manipulative session students who were positive they had been a scientist; the support from the sessions was very similar among all of the students. For example, students from both the informational book and manipulative sessions made reference to looking at objects closely, observing. In light of this, the researcher began to wonder what was influencing their ideas about being a scientist. Why did students in the context of reading

state they were not being a scientist and in the context of handling some manipulatives they were being a scientist? Reviewing the transcripts again, the researcher noticed the students stated information they had obtained about science prior to talking with one another in the sessions. For example, in an informational book session, Blake states that she has seen a beaver dam on a trip she took to the zoo with a family member. In a manipulative session, Keirra talks about her father lighting some paper and putting it up in her porch to smoke out some wasps. Therefore, the researcher began to question how the sociocultural experiences outside of school may influence their views on what is and what is not science.

**Conclusion**

This qualitative study framed by symbolic interaction gave the researcher a small glimpse of students' use of basic process skills and to some degree how those process skills were implemented within a sociocultural environment. This study seems to suggest that the students use similar process skills when they are being read aloud to and when they are working with manipulative objects. The use of process skills embedded within the context of being read to at school interfere with images students are constructing about science. Subtly, curricula choices made by teachers, principals, and local educational agencies for teaching reading are limiting the time devoted to science in the elementary school classroom. More time is spent on having students practice the use of process skills in reading about science, which is only one part of what scientists do in the real world (and one students don't associate with science), and less time on having them practice the use of process skills in conducting investigations which students associate with science. It is important to be aware that only reading informational books to students in the name of science is not enough to equip them with the skills they need to develop images of science and scientists that might encourage them to consider being a scientist in the future. Our goal as educators is to choose science curricula that give students the opportunity to make their own sense of the world utilizing process skills and to give guidance when needed and where needed.

Therefore, one questions if through the promotion of reading improvement, policies are keeping the status quo by oppressing students in the area of science by limiting their access to varied opportunities to learn about science throughout the school day. *No Child Left Behind* was put in place to help *all* students succeed in all areas. However, this reform movement is making it very difficult for students to be successful in science and want to choose it as a career path because of the attention given during the school day to reading and math. Critical theorists, such as McLaren (1986), would say that keeping those poor struggling readers from becoming scientists is the intent. Under the guise of rituals and reform circumstances remain the same for students who have the greatest need. The current reform movements keep administrators, teachers, and other agencies focused on creating good readers. This focus on the ritual of reading and producing good readers leaves little room for questioning what education should really be about for students. Through reform and the ritual of reading, educators keep the social order as it is for those who are best served--namely the reform makers. The implication then is to break the cycle of keeping the status quo by being aware of rituals and reform movements and seeing them for what they are, mis-educative.

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# PERFORMANCE SUPPORT FOR ADVANCED LEARNING TECHNOLOGIES SELECTION AND INTEGRATION

**Nada Dabbagh**
**College of Education**
**George Mason University**
**Fairfax, VA 22030**
**ndabbagh@gmu.edu**

## Background

The pace from invention to production to maturity of new technologies is shortening dramatically (Oehlert, 2009). Hence keeping current with the capabilities and impact of these technologies as potential tools for education and training is a challenge. The Defense Acquisition University (DAU), a corporate university that delivers training to over 130,000 Acquisitions, Technology, and Logistics (AT&L) workforce recognizes this challenge and wants to conduct comprehensive research on Advanced Learning Technologies (ALT) in order to determine how best to integrate such technologies into its learning assets (Anderson, Hardy, & Lee, 2008). DAU also recognizes the generational change in the AT&L workforce. An estimated 76% of this workforce was classified as baby-boomers, the majority of which are approaching retirement (Department of Defense, 2007). Waiting in the wings is the gamer generation with new expectations regarding educational technologies. Given these challenges, DAU partnered with George Mason University's instructional design and technology program to identify processes and methods for utilizing innovative learning technology designs. This paper summarizes the instructional design process and research used to conceptualize and develop a performance support system called LATIST (Learning Asset Technology Integration Support Tool) that facilitates the understanding, selection, and application of ALT into DAU's learning assets.

## Theoretical Framework

The overarching framework guiding this research was the Integrative Learning Design Framework (ILDF) for E-Learning (Dabbagh & Bannan-Ritland, 2005). The ILDF is a comprehensive and flexible instructional design model that draws heavily from the iterative nature of traditional systematic processes of instructional design and design research principles. It provides a framework for the development of learning assets, products, and systems based on sound pedagogy, iterative design, and the socio-cultural context of the learning organization (Figure 1).

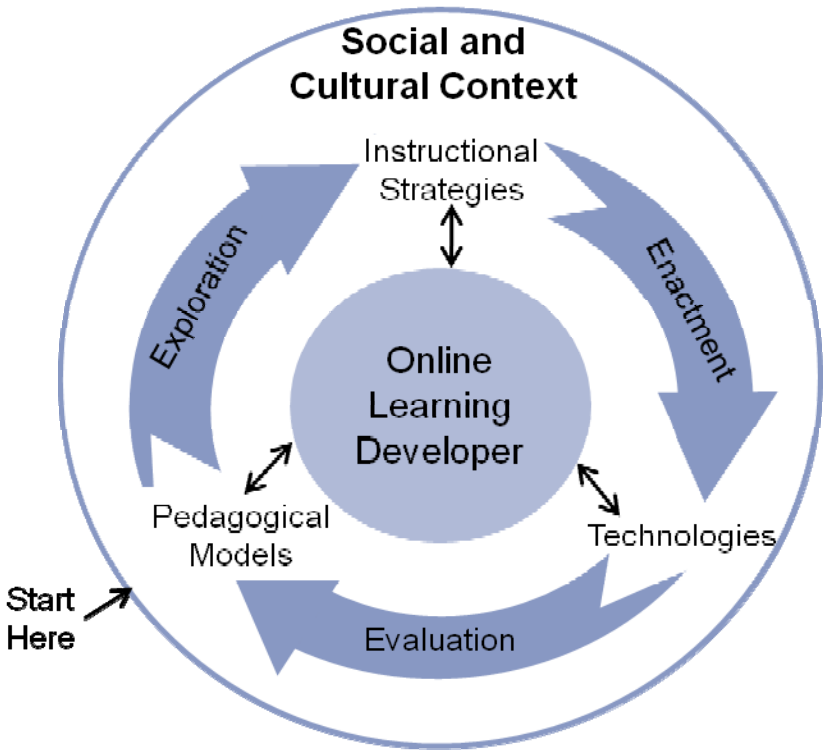


Figure 1.

*Integrative Learning Design Framework for E-Learning*

Specifically, the ILDF consists of three phases:

- Exploration – includes investigating and documenting relevant information related to the instructional or training setting considering stakeholders' individual and collective beliefs on learning and solicited information from all involved in the instructional or training situation.

- Enactment – involves mapping information gathered in the exploration phase about learning processes, content, and context to existing pedagogical models, and considering the characteristics of the selected model(s) to identify and implement effective instructional strategies using technology.

- Evaluation – includes determining the purpose, desired results, and methods of evaluation of a technology supported learning design and incorporating formative evaluation and revision cycles that result in effective implementation and informative results.

Additionally, this effort was guided by a distinct instructional approach known as the immersion program (see http://immersion.gmu.edu). The immersion program is a team-based learning experience designed to support learning instructional design by doing instructional design (Bannan-Ritland, Castellani, & Behrmann, 2001; Lombardi & Oblinger, 2007). This goal is achieved through grants that engage student teams and faculty in real world instructional design projects. These grants enable the integration of research, theory, and practice in an authentic problem-solving context (Dabbagh & Williams-Blijd, 2010).

**Methods**

Multiple methods of inquiry were applied within the ILDF phases to address the research problem (Figure 2). Specifically, the exploration phase consisted of conducting a Performance Analysis (PA) of DAU's current processes for integrating ALT. Through formal and informal data gathering techniques, the immersion team implemented a three-step PA process to (a) identify relevant roles, responsibilities, and processes, (b) define factors for successful performance, and (c) propose possible solutions for effective instructional design. In the enactment phase, a usage-centered design method was used to identify the tasks and content necessary to support the integration of ALT into DAU's learning assets which resulted in the conceptualization and development of the LATIST prototype. In the evaluation phase, the prototype was refined and improved through iterative levels of usability testing.

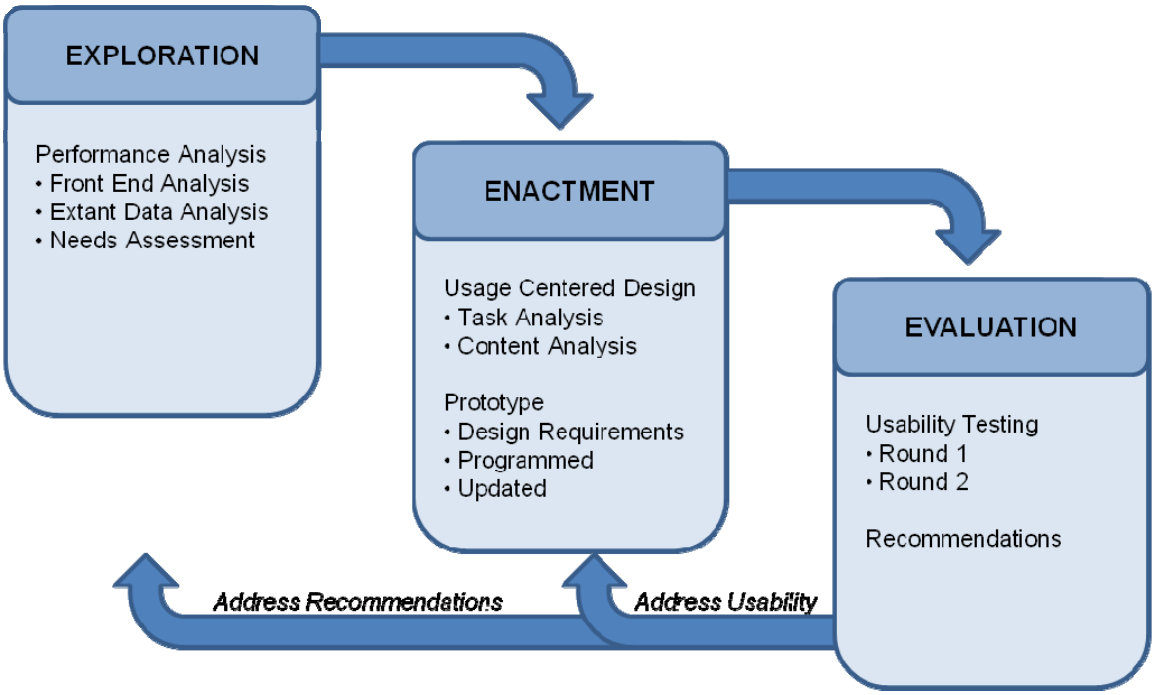


Figure 2.

*ILDF Applied to Current Study*

**Data and Analysis**

**Exploration Phase: Performance Analysis (PA)**

The PA was broken into three steps, a front end analysis, an extant data analysis, and a needs assessment in order to iteratively refine our understanding of how DAU processes and learning assets impact the integration of ALT. In the front end analysis, informal data gathering techniques such as examining relevant documents and conducting key stakeholder meetings indicated DAU offers many types of learning assets that can employ ALT and that DAU faces several challenges and constraints regarding the integration of ALT.

The extant data analysis revealed DAU relies on multiple roles and responsibilities, internal and external to the organization, to develop learning assets. Specifically, DAU uses an Integrated Product Team (IPT) approach to develop its learning assets (DAU, 2008). Commonly, a learning asset IPT is composed of subject matter experts, a technology representative, an instructional systems designer, and a Performance Learning Director. The extant data analysis also revealed DAU does not currently have a formal process to effectively share how to select and integrate pedagogically appropriate ALT into a learning asset, or a sandbox to practice and become familiar with ALT. Based on these findings, a potential strategy, namely a conceptual framework was developed to address these needs (Figure 3).

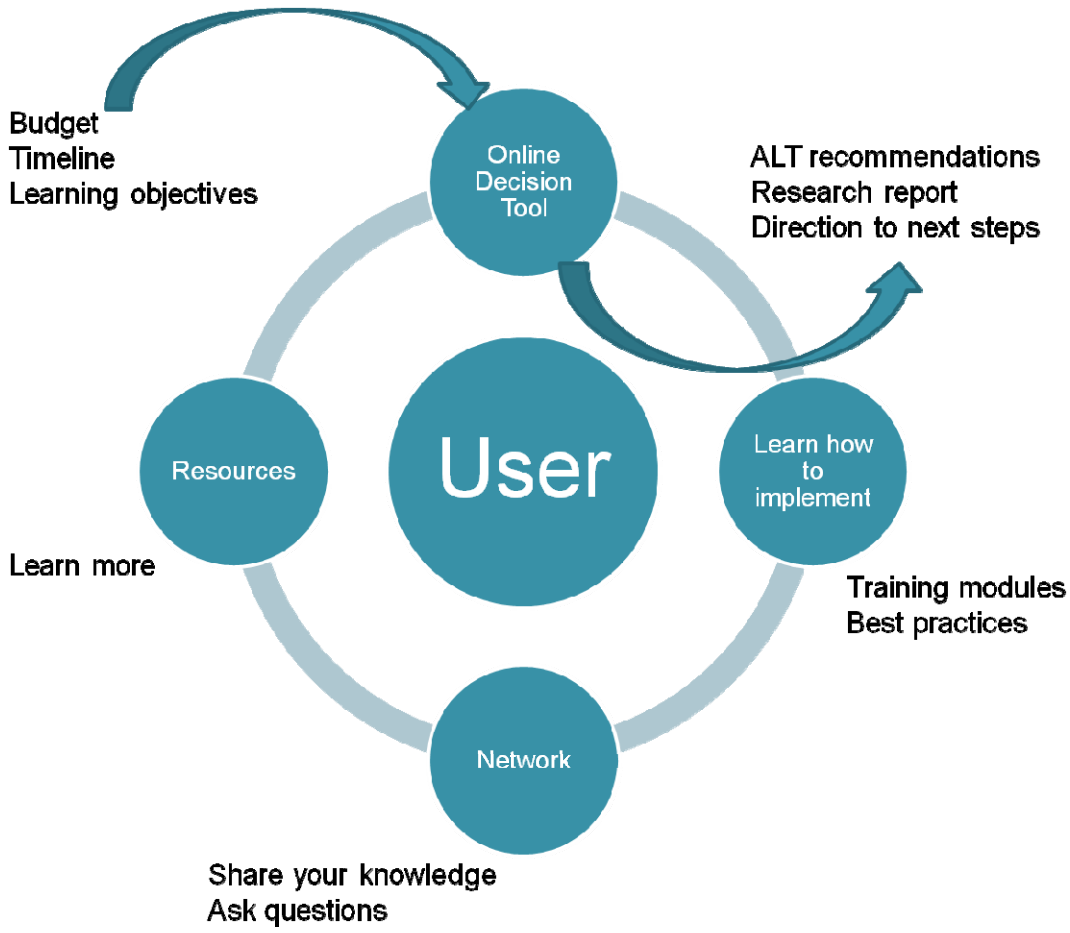


Figure 3.

*Conceptual Framework*

The final step of the PA process, the needs assessment, relied on primary or more formal data collection techniques including structured interviews and an online survey. The structured interviews consisted of nine sequential questions posed to each of 12 DAU participants representing different roles and responsibilities to further understand the learning asset development process, the factors that influence ALT selection and adoption, and the perceived usefulness of the

conceptual framework. The interview results informed the online survey which queried for demographic data, familiarity with ALT, and likelihood to use the conceptual framework.

The interviews revealed that DAU personnel consider and provide recommendations regarding ALT selection and integration at various points in the learning asset development process. Additionally, 20 factors influencing the selection and integration of ALT were identified and later rank ordered in the online survey. Both interview and survey data indicated that (a) decisions regarding ALT integration are made across all roles and job titles, reflective of the IPT approach and (b) participants favored the conceptual framework. In summary, the PA revealed that DAU would greatly benefit from a formal tool or system to support the selection and integration of ALT into learning assets independent of individual role and responsibility. As a result, the conceptual framework was named Learning Asset Technology Integration Support Tool (LATIST) in collaboration with DAU stakeholders and refined to include the following three components:

1. an area where users can explore the latest research on ALT
2. a decision tool to guide the selection of ALT based on users' instructional needs and contextual factors
3. an application area or sandbox where users could practice implementing ALT

**Enactment Phase: Usage-Centered Design Process and Design Requirements**

In order to develop LATIST, a usage-centered design process was used to focus on user needs and develop a tool that allows users to fulfill their needs in an easy, effective, and efficient way (Constantine & Lockwood, 1999). Through content and task analysis, user needs were determined, tasks necessary to obtain optimal benefit from LATIST were identified, and content requirements were established based on projected user scenarios and use cases. As a result, the specifics of the content and functionality of the three LATIST components were determined. Additionally, it was determined that LATIST would be best utilized as an electronic performance support system (EPSS). An EPSS is an easily accessible, integrated electronic environment that provides immediate, individualized support so an employee can perform their duties with minimal intervention by others (Dickelman, 2004). Hence, LATIST would be browser-based, quickly accessible from the internet, and mobile compatible. LATIST capabilities would allow users to print, save, search, rate, upload, and share content and intuitively navigate across the components based on a selected technology. Given these characteristics, a Content Management System was used to develop LATIST.

**Evaluation Phase: Usability Testing**

Two rounds of usability testing were conducted to iteratively improve the LATIST prototype based on expert and user feedback. Both rounds were intended to determine design inconsistencies and usability problems to establish user performance and user satisfaction levels. Both rounds consisted of two phases; Phase I relied on the immersion team and proxy participant feedback while Phase II relied on end-user (DAU) participant feedback. In Round 1, expert and stakeholder-users provided generally positive comments in regards to the layout, navigation, and overall functionality of the LATIST prototype. Improvements were accomplished based on comments. In Round 2, Phase II testing took place at DAU's Fort Belvoir campus to capture representative user performance and user satisfaction under controlled testing conditions. Nine participants were given six task based

scenarios to complete and were encouraged to think-aloud to capture their thinking process. Results indicated the majority of participants felt LATIST would be helpful in raising awareness of technology options and that with further development LATIST would be an effective resource.

**Discussion**

The ILDF process that engaged the instructional design team in examining DAU's learning assets and identifying processes for advanced learning technology integration (ALT) revealed that DAU could benefit from an EPSS that summarizes research on ALT, guides selection of ALT, and supports implementation of ALT. As a result, the LATIST prototype was developed to include three components: Explore Research, Select Best Technology, and Apply Technology (see http://latist1.gmu.edu/ for a full demonstration of the tool). These components work hand-in-hand to facilitate the understanding, selection, and integration of ALT. The Explore Research component is a research-based body of knowledge on ALT organized into three broad categories providing users with a summary of the technology as well as an opportunity to pursue more in-depth literature reviews. The Select Best Technology component guides users in making informed decisions about which technologies to integrate into learning assets. In the Decision Aide, the user selects a learning objective level based on Bloom's taxonomy and is then provided with a list of potential instructional strategies. After selecting an instructional strategy, the Decision Aide returns a "best technology." In the Factors Grid, a list of recommended technologies is provided based on user selected criteria such as bandwidth and content stability. The Apply Technology component enables users to learn how to apply a specific technology by providing options to learn how to implement it; view real world examples; and gain hands-on practice. A full demonstration of the tool and its potential will be provided at the conference.

**Significance and Educational Implications**

Although it was envisioned that any support for ALT integration would need to be role-specific, the data indicated a role-independent tool in the form of an EPSS could meet DAU needs. Once developed, usability testing results revealed that overall, LATIST was perceived by DAU as a highly valued performance support system for ALT selection and integration. Additionally, in October 2010, LATIST won the SLOAN-C Effective Practice Award and it is currently patent-pending. This type of tool could be extended to other educational contexts including all types of higher education institutions, K-12 schools, and corporate training organizations. In fact any educational or training setting could benefit from a tool like LATIST. For example, LATIST could support K-12 teachers looking to accommodate gamer generation students; corporate leadership looking to grasp the options and implications of new technologies; subject matter experts seeking a good technology fit for their content; or instructional designers wanting to understand the pedagogical affordances of learning technologies. LATIST is adaptive, scalable, extensible, and interoperable. With further build-out and additional usability testing, LATIST could have significant impact on the selection and integration of ALT in learning assets.

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# A STRATEGY FOR DESIGNING A SUCCESSFUL EXPATRIATION PROGRAM FROM THE US TO THE UK

**Susan K. Dennett**
**College of Education**
**Florida Atlantic University**
**Boca Raton, Florida**
**sdennett@my.fau.edu**

**Valerie Bryan**
**College of Education**
**Florida Atlantic University**
**Boca Raton, Florida**
**bryan@fau.edu**

**Abstract**

This article discusses the importance of organizations having expatriate programs. An expatriate program is a process of sending employees to the organization's overseas locations for a period of time. To be competitive and successful, organizations must have a detailed expatriate strategy. Often organizations send their employees to other countries without having provided them with cultural training of what to expect in the country. Different countries have different cultural values and expectations. Often employees return early and do not finish the assignment. A successful strategy for overseas assignments can be rewarding for the employee, his/her family and the organization. The research study consists of five (5) subjects participating in IRB approved research. They answered questions regarding their transition from the United States to their overseas assignment to the United Kingdom. Questions reviewed the elements that helped the subjects during their stay and also upon their return (if the person had finished their assignment) to the United States. The literature, as well as this limited study, supports the need for organizations to prepare their employees for overseas assignments. Furthermore the literature reviewed confirms that organizations should understand the importance of preparing employees before the overseas assignment. By understanding this, expatriate programs should be more successful, meaning employees will remain the full length of the program thus reducing costs for the organization and a more successful experience for the expatriate.

**Keywords:** Expatriate programs, Cultural, Differences

## Introduction

Global organizations have operations in different areas of the world. Often, it is necessary to send home country managers to other overseas locations (these employees are called expatriates). This is a process that is increasing between multinational organizations and it can cost the organization approximately one-and-a-half to two times their salaries (Downes & Hemmasi, 2001). To be competitive and successful, organizations must have a detailed expatriate strategy. Often

organizations send their employees to other countries without having provided them with cultural training of what to expect in the country. Subsequently, employees return early and do not finish the assignment. Different countries have different cultural values and expectations that the employees and their families may not be prepared to accept or understand. A successful strategy for overseas assignments can be rewarding for the employee, his/her family and the organization. If an organization has an expatriate training program, it may reduce the rate of failure.

The purpose of this paper is to help organizations prepare their employees for a successful expatriate assignment. Brewster and Pickard (1994) state that most organizations do not provide an organized training program for their expatriates prior to leaving for an overseas assignment. The employee and his or her family are left to determine both process and procedures to follow in their new assignments.

The purpose of this study was to learn what contributing factors help expatriates transition to their overseas assignment to the United Kingdom. It clarified which factors assisted them during their stay and upon their return for those that completed their assignments. Avril (2007) identified that adaptability was an important characteristic for a successful expatriate; therefore each subject in this study was required to evaluate himself/herself on adaptability. Black and Porter (1991) also concluded that cultural training can reduce management concerns and problems affecting the business. This factor was also explored in this study.

**Literature Review**

A review of the literature discusses the cost of a failed expatriate program being over $100,000 per person (Naumann, 1993). Costs might include having to return the expatriate back to their home country and then having to replace the expatriate in the overseas assignment. There are indirect costs associated with the failure that are difficult to measure. These include dissatisfaction resulting in increased absenteeism and lower productivity resulting in lower profits, or a poor company image (Naumann, 1993). Magnini and Honeycutt, (2003) and Yu and Huat, (1995) describe failure as being when the expatriate does not remain in their overseas assignment for the full length of the assignment, or they resign from the company.

During the overseas assignment, the expatriate is busy focusing on work and this may bring a feeling of community and a sense of belonging at work. However, the spouse often feels left out and lonely because the spouse is not included at work and does not have a sense of belonging (Flynn, 1996; Harvey, 1985; Stone, 1991; Takeuchi et al. 2002; Tung, 1987). Bohlander and Snell (2010) state it is important for the spouse to be content or the risk is that family unit may want to return home and the expatriate assignment will not be successful. Companies should incorporate into the expatriate program a section on how to create a sense of community.

An organization can prepare the employee for the assignment through training to contribute to the success of the expatriate program. Much of this training may occur prior to the assignment, but some of the training may also occur during and even after the assignment.

Avril (2007) recommends measuring the potential expatriate's level of adaptability prior to the assignment to determine whether the employee has the level of adaptability expected to succeed on the overseas assignment. Tye and Chen, (2005) also recommend that the organization includes a section in the training program to include adaptability strategies in order to develop ways for the employee and other potential family members to adapt to the different situation. There are evaluative tools in the field that could be used to determine adaptability for example: the Cross-Cultural Adaptability Study (http://ccaiassess.com/CCAI_Tools.html ). Organizations can purchase an adaptability instrument or they could create their own. Downes & Hemmasi, (2001) agreed that flexibility was related to the success of the expatriate assignment. Magnini and Honeycutt, (2003) also stress the importance of training the employee prior to going on the overseas assignment. They suggest including the following topics in the program: business and personal etiquette, culture, interpersonal communication. They strongly recommend training for the family so that they know what to expect and to be prepared. The literature also suggests that social support is an important contributor to the expatriate's success aboard (Shaffer, Harrison, Gilley, 1999). To support that, Black and Gregersen (1991) agreed with social support being helpful for adjustment. Finally, Stahl, Miller, and Tung, (2002), reported that expatriates require planning for repatriation when they return to their home country. If careful preparation does not occur to assist the expatriate with their return home, it may increase their feeling of confusion and a sense of loss (Dennett, 2011). A solution to this may be to set up a website to assist the expatriates or to create a group in Linked-In specifically to strengthen the linkages in this closed network.

**Research**

**Methodology**

The study was a qualitative study. The research was IRB (Institutional Review Board) approved. The subjects in this research study were expatriates who were from the US and either currently working on an overseas assignment in the United Kingdom (UK) or former expatriates. The subjects were selected through networking with personal business colleagues and by targeting global companies. The social media site, Linked-In, was used. Eight (8) subjects were contacted via email and asked to participate. Five (5) responded positively, three (3) did not respond. The respondees were asked to either be interviewed face to face or via Skype electronically. Skype is a software package that allows the user to call another person via the internet and have a face-to-face conversation via the computer. The interviews were not recorded and they lasted between forty (40) and sixty (60) minutes. An interview protocol (or questionnaire) consisting of twenty three (23) questions was used with probes to elicit rich, thick responses. The questionnaires were emailed to the subjects prior to the interview to allow the subjects to address the questions prior to the interview and then a follow up face to face interview was conducted. There were twenty three (23) questions asked. Table 1 outlines the questions asked.

Table 1
*Interview Questions Asked During the Interview*

**Questions**

1. What is your level of flexibility on a range from 1-5 with 5 being the most flexible?
2. What is your level of adapting to change on a range from 1-5 with 5 being the most flexible?
3. Prior to going on an assignment to the UK, how many hours would you be willing to contribute into learning about the culture?
4. How many hours did you **actually** contribute to learning prior to going on the overseas assignment?
5. How did you learn about the culture prior to your assignment?
6. What were your expectations of the assignment?
7. Did your assignment meet all your expectations with 5 being met all of them?
8. How long was your overseas assignment?
9. Did you remain in the assignment for the full term?
10. If no to question 9, how long did you stay?
11. Did you have prior experience spending time in the UK prior to the assignment?
12. What was your prior level of knowledge about the role with 5 being the most knowledgeable?
13. How accurate was this knowledge looking back on the assignment with 5 being most accurate?
14. How did you acquire the **prior** knowledge about the role? Job description, discussion, mentor, meeting with the manager, training.
15. How did you acquire **actual** knowledge about the role? On the job training, mentor, just did it with no help, discussion, meeting with the manager, other, training.
16. How would you rate your level of readiness for the assignment with 5 being the most ready?
17. What helped you to achieve this level of readiness? Mentoring, training, interest, other.
18. If answered training to previous question, what specifically did the training cover? Culture, specific cultural differences between UK and USA, language, meeting and business etiquette, UK management style, communication, gestures and body language, food, dress code, currency, transportation, local business (banking, post office), education, other.
19. What did you do to prepare for your assignment? Read books on the UK, visit the library, watch videos/movies about the UK, talk to expatriates, visit the UK, research the UK on the internet, other.
20. **Prior** to the assignment, what did you consider to be the advantages and disadvantages of the assignment?
21. **After** the assignment, what do you consider to be the advantages and disadvantages of the assignment?
22. How did your family learn about what to expect from the assignment? Mentor, company, previous experience, former expatriate, packets of information, company training, simply from own family once there, other.
23. What support was helpful to you prior to your assignment? Knowledge about living arrangements, mentoring, relocation package, information package about the country, compensation differences information, language and cultural information, other .

**Findings**

The findings indicated that the majority of subjects considered they were high in flexibility. On a likert scale with a rating scale of one (1) to five (5). Out of five (5) responses, one (1) rated himself/herself a rating five (5), three (3) rated himself/herself a four (4) and one (1) rated himself/herself as a three (3). For adaptability, three (3) rated himself/herself a three (3). Two (2) rated himself/herself as a four (4). Two (2) spent more than twenty (20) hours learning about the culture prior to going on the assignment. Three (3) spent eleven (11) to twenty (20) hours. When questioned how they learned about culture prior to their overseas assignment; their answers included: met with other people, researched schools, placed children in a British school rather than international so the children would learn about the British culture. In addition, the subjects said they researched England on the internet, talked to other employees; one had a friend in England and also had a mentor. When asked about their expectations, one said his brother had a positive expatriate experience and therefore he thought he may have a good experience also.

Other expectations included; a) to travel, b) to learn international business, c) to understand the international growth strategy of the company, d) more family time, e) new adventures, f) change, g) a learning experience, and h) promotion. Five (5) subjects rated their expectations as being met, a number four (4) on the scale. Three (3) stayed the full term, two (2) were still working but expected to stay for the full term of the assignment. Two (2) had prior experience either by working in the country on a prior work trip or by spending time visiting friends. When asked about their prior level of knowledge regarding their new role, two (2) rated himself/herself as a four (4), two (2) rated himself/herself as a two (2) and one (1) rated himself/herself as a one (1) on the scale. Subjects were asked how accurate was the knowledge, and two (2) rated himself/herself as a four (4), one (1) rated himself/herself as a three (3) and one (1) rated himself/herself as a two (2) on the scale. Subjects were asked how they acquired prior knowledge about their new role. Answers included that they discussed the position with friends who were in a similar role. One (1) had a meeting with their future manager. One (1) answered that the role was similar to the General Manager in the U.S. They reviewed job descriptions and met with the UK Directors. One (1) said he already had some background because he had worked on a short term assignment in England on business.

When asked how they acquired the actual knowledge about the role, one (2) said that he acquired knowledge by actually doing the job upon arrival in the United Kingdom, two (2) said they attended a training course and they also met with their manager about the job and they acquired knowledge by talking to work colleagues in the United Kingdom. One (1) said he had travelled to England and worked with the development team and he had spent the first eight (8) months of his career supporting England. He knew the players and knew what type of assignment he would be involved with. When rating their level of readiness for the assignment, three (3) rated themselves a four (4), one (1) rated himself a three (3). When asked what they did to prepare themselves for the assignment, answers included: research on internet, prior experience, met with manager, visited the country, talked to others who had visited the country and talking to their mentor. “The CEO was my mentor. He was patient, he stretched me, and he supported me. He helped me with company politics. He was so valuable. If it wasn’t for him, the experience may have been completely different.” (Interviewee 1.)

When asked about advantages and disadvantages, advantages included: a) the opportunity for change, b) travel, c) to meet new people, d) to experience a new culture, e) to gain an international experience, f) the potential to drive the global growth of the organization, g) to spend more time with the family, h) new challenges, i) a great experience for the family, and personal development. Disadvantages included: a) a long way from family and friends, b) might be difficult to meet people, c) a break in spouse's career, and d) the commitment level would be high. After the assignment the subjects discussed disadvantages as being a) tax implications, b) a spouse gave up three (3) years of work experience, and c) tax equalization to support the high cost of living. The training prior to the assignment covered compensation differences, relocation, language and cultural information, and living arrangements information.

Recommendations made by the subjects included that organizations need to include in the information about what is not covered through the relocation packet. Suggestions were made to include a question and answer session early in order to get questions answered and to clarify information. They suggested offering the expatriates the opportunity to review schools and housing prior to leaving for the assignment using virtual web tours. They suggested the value of establishing relationships prior to the assignment to aid with the transition process "I had already established relationships which made my transition easy." (Interviewee 2.)

Also repatriation was a concern. The subjects recommended having a repatriation process. One subject indicated that the organization did not know where to place him when he returned.

> I was disappointed. I easily could have left the company within the first six (6) months of returning to the United States. The company did not seem to know where to put me. I returned to a lower level position with much less responsibility. My new role was not challenging. I was never asked for feedback about my overseas experience. (Interviewee 3.)

There is a positive relationship between successful expatriate programs and being prepared for the expatriate's return to their home country.

**Conclusion**

The study confirms that organizations need to provide clear and detailed training programs when designing an expatriate training program. Information regarding what was covered in the relocation package needs to be included. It is important to prepare the expatriates and their family early, prior to the assignment; especially regarding schools and housing. The spouse and family are very important for expatriate programs to be successful. By including the employees in the preparation training, many more employees receive a more positive experience. Bohlander and Snell (2010) stated that often expatriate assignments fail because the spouse is unhappy. Efforts need to be exerted by the company to address this concern as well.

The research suggests that expatriates are successful if they are adaptable. Helping the employee to identify for himself/herself, his or her level of adaptability may be a first step. A training program that addresses adaptability prior to the overseas assignment may be of value. Therefore training programs may improve adaptability if they provide adaptability strategies to use once on the overseas assignment. The study demonstrates that expatriates in this study took ownership of their

need to prepare for the assignment; they researched the country, they made contact with their mentors even when no formal mentoring program existed, and they made sure to understand the requirements of the job prior to the assignment. Organizations can build upon this by providing the expatriates with tools to expand their personal ownership of the assignment. Requiring employees set up a learning contract or an action plan for transitioning prior to the experience may prove to be invaluable. Having employees do self-testing on skills and traits such as adaptability and flexibility may also assist the employee in being more self-informed.

The literature supports the need for organizations to prepare the expatriates and their families for overseas assignments. It also suggests that if an organization provides a training program prior to the expatriate assignment, it may improve the success rate of expatriate programs. Failed expatriate assignments cost the organizations money when having to replace the expatriates when they return early and in lost hours and lower productivity.

Future research should be conducted on reviewing failed expatriate programs. There may be other reasons for the failure such as the employee may have performed a good job during their assignment and they resigned to work with another company or even that the employee may not have performed his/her job at the same level prior to assignment for various factors not related to the assignment being in a different country. Future research needs to be conducted on more subjects to determine what contributes to a successful expatriate assignment. Interviews from human resource personnel as to their suspected reasons for success or failure in expatriate programs also need to be investigated to provide a more in-depth view of the expatriate program.

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# HISTORY AND DEVELOPMENT OF COST ACCOUNTING IN THE U.S.: FROM ITS EARLY BEGINNINGS TO RECOGNIZED PROFESSION

**Ian D. Duncan**
**Division of Business Studies**
**Clearwater Christian College**
**Clearwater, FL 33759**
**IanDuncan@clearwater.edu**

**Abstract**

Academics, who currently teach accounting, wouldn't think of a student graduating without some exposure to the subject of cost accounting and in this regard requiring the student to work through a variety of long, involved and often complex cost problems. But why do we teach this material? This paper examines the early beginnings of cost accounting up to the point of the founding of the National Association of Cost Accountants in 1919. Why did cost accounting begin? Who were the individuals involved in the early years? When did it all start? What was the nature of early cost accounting? Cost accounting today is concerned with measuring various pieces of financial information in order to establish the cost of producing an individual product, or perhaps more commonly today, a specific service. At the most general level it can be stated that cost accounting is a consequence of the industrial revolution. But what was so unique about the industrial revolution that it necessitated the collection and internal reporting of cost information, and eventually led Major J. Lee Nicholson to the form the National Association of Cost Accountants?

**Keywords:** Cost accounting, Accounting History

## Introduction

Today cost accounting is an integral part of every college and university business program. Sometimes the course is called Cost and Managerial Accounting and includes an examination of managerial accounting topics along with a discussion of the traditional cost accounting issues. Academics wouldn't think of graduating a student without some exposure to the subject of cost accounting and requiring the student to work through various long and involved cost problems. But why do we teach this material?

Cost accounting is relatively new, however, in the overall context of the practice of accounting and its history is an interesting one. This paper examines the early beginnings of cost accounting up to the point of the founding of the National Association of Cost Accountants in 1919. Why did it begin? Who were the individuals involved in the early years? When did it all start? What was the nature of early cost accounting? These are all interesting questions, the answers to which are discussed in the following pages.

The paper first addresses the concept of accounting and differentiates cost accounting, as we understand it today, from other areas of accounting. With the nature and scope of cost accounting

identified, this establishes the framework for the discussion with respect to the roots and chronology of the discipline. This historical development of cost accounting is considered in light of the derivative art hypothesis (Rabidoux, 2003) and shown to further validate this hypothesis with respect to the historical development of accounting. The state of affairs at the end of the 19th century is summarized and the developments of the early 20th century reviewed. This includes a discussion of founding of the National Association of Cost Accountants in 1919.

**The Nature and Scope of Cost Accounting**

While all accounting is concerned with measurement, depending upon the need different things are measured and even in different ways. Perhaps this makes accounting appear somewhat subjective and closer to an art than a science. Well, this is indeed what accounting is, a combination of art and science. Accountants often refer to the "art" aspect of accounting as professional judgment, and while Sarbanes Oxley has limited dramatically the degree of judgment in external financial reporting (AICPA, 2005), internally the information need of the user determines the nature and scope of the accounting measurement. In the following paragraphs the various purposes or objectives of accounting are briefly discussed with cost accounting being the first as it is the subject of this paper. The explanations of the other branches of accounting are compared to that of cost accounting.

*Cost Accounting*

Cost accounting today is concerned with measuring various pieces of financial information in order to establish the cost of producing an individual product, or perhaps more commonly today, a specific service. The cost of production typically includes the cost of the raw materials required for the production of the finished product, along with the payroll cost of those individuals who perform the conversion of the raw materials to finished product, called direct labor. In addition to these two directly identifiable cost components the various overhead costs associated with the elements necessary for the conversion of raw materials into finished products such as supervision, supplies, and property taxes on the factory, some of which are fixed and some of which vary with the level of production, are usually included in the cost calculation to arrive at what is referred to as the 'full' cost of production. Since factory overhead is a conglomeration of costs it cannot be directly traced to the finished product as can raw materials and direct labor. As a result overhead costs must be allocated to the finished product using some arbitrary, yet defensible and logical, cost allocation formula determined by the manufacturing company. This may be a single cost allocation formula for all overhead costs, as is traditionally the case, or a multiple of cost allocation formulas each associated with a certain class of costs, as is the case with activity based costing. While activity based costing is beyond the scope of this paper it is mentioned at this point as it is included in current practice, and can be found in any modern cost accounting text.

Further, and it goes without saying, the cost accounting systems of businesses today are fully integrated with the financial accounting, or external reporting system. In other words, businesses have an accounting system that is capable of generating information for financial accounting purposes as well as cost and managerial accounting purposes. Advances in the development of accounting software together with technological advances in computer hardware with respect to significant increases in computer memory and speed facilitate the generation of such special

purpose accounting information today. It is often, however, the financial accounting system, and its need to value inventories and establish a cost of goods sold figure based upon Generally Accepted Accounting Principles (GAAP) for external reporting purposes, which influences the calculation of cost! As will be addressed in this paper such was not always the case.

It is important to mention at this point that even within the subject of cost accounting, however, there are different measures of product or service 'cost', depending upon the purpose of the cost information. As has already been mentioned there is the full cost of the product that includes raw materials, direct labor, and an allocated portion of both variable and fixed overhead. This is the cost that is typically used for inventory valuation purposes, cost of goods sold calculation and financial accounting net income determination. This is the common ground or link between cost accounting and financial accounting. On the other hand, specific cost information may be needed for control purposes or decision making such as dropping a product or processing a product further. Cost information may be needed for pricing decisions. Depending whether or not these pricing decisions are long term or short term in nature the cost information may even differ. In short cost is often defined by the objective of the related cost decision. There is no one single measure of cost!

*Managerial Accounting*

Managerial accounting differs from cost accounting in that it is concerned with the activities of managers rather than the cost of products. While cost information is clearly an important element of managerial accounting, the issue of motivation is the prime concern. Rather than focus on the determination of the 'best' or 'most accurate' cost the concern is with the reaction or behaviors of individuals to certain types of cost information. The most desirable cost information is the information that motivates individuals to behave in a manner that management desires.

Central to managerial accounting is the concept of 'responsibility centers.' Each responsibility center would have an annual operating budget for its activities. Companies were to be organized by these responsibility centers, rather than by products or product lines. Each responsibility center is to be headed by a manager responsible for the activities of the center and charged with meeting specific budgeted goals and objectives. The specific individual responsibility of the manager could be the accountability for meeting either a cost target, a focus on costs alone; a profit target, a focus on revenues, costs and their net difference; or an investment target, a focus on revenues as a percentage of investment.

The transition to managerial accounting started in the 1930's (Anthony, 2003) and grew during the Second World War. The first managerial accounting text was published in 1956 and was entitled, *Management Accounting: Text and Cases*, by Robert Anthony (now Anthony and Reece) of the Harvard Business School (Anthony, 2003). In 1959 a similar text was published entitled, *Accounting: A Managerial Approach*, by Hill and Gordon of the Massachusetts Institute of Technology (Anthony, 2003).

*Financial Accounting*

Financial Accounting is perhaps the oldest form of accounting and its beginnings date back to ancient times, long before those of the United States. Financial accounting is of course concerned with accumulating the results of various historical financial transactions, classifying them by type and recording them according to their type in the chart of accounts. From the balances in these accounts it is possible to prepare general purpose financial statements that summarize the financial results of the organization's operations over a period of time, an income statement, give an account of the assets and liabilities at a point in time, a balance sheet, and also provide an explanation of the change in cash flow over the period, a statement of cash flows. These statements provide owners and managers with a complete report of the organizations historical financial performance.

As mentioned earlier, Generally Accepted Accounting Principles (GAAP) govern financial accounting, and all companies that sell their securities to the public must adhere to GAAP in the preparation of their external financial statements. This adherence must be verified by an annual audit and certified by the audit firm.

External in its orientation and highly regulated, financial accounting is clearly quite different from cost accounting. It is briefly discussed here to indicate this difference and also to draw attention to the fact that by virtue of its regulation by GAAP the determination of an inventory valuation and also cost of goods sold is also governed by GAAP. For this reason it has been argued that cost accounting has lost some of its originally intended value for cost control and decision making (Johnson & Kaplan, 1987).

*Tax Accounting*

Tax accounting has little to do with accounting and much to do with the government raising revenues through the tax system. Tax accounting involves completing a mandatory filing with the Internal Revenue Service, with the measurement of revenues and expenses according to the established rules included in the tax code, in order to determines the tax that is payable to the government. It has little to do with costing except to the extent that the code specifies how cost is to be calculated for tax purposes.

**The Rise of Cost Accounting**

What took place in history that gave rise to the development of cost accounting? Why was there a need to determine the cost of products? These are interesting and thought provoking questions yet they are rarely addressed in an undergraduate accounting or business program. Most often the program follows a very pragmatic approach covering what needs to be covered in order for students to be able to qualify and pass the Uniform CPA examination after graduation. Knowing the historical roots of any discipline, and specifically accounting, enables the student to put into perspective current practice and also have a better understanding of the development and growth of the discipline. Indeed, to omit the history of a discipline creates a significant academic void.

In this section of the paper the reasons for the development of cost accounting are examined in some detail. In this regard, the historical events are discussed and the 'new' need for cost information explored. Also, the derivative art hypothesis is discussed (Rabidoux, 2003) and the events of cost accounting history are considered in light of this hypothesis. This discussion of history demonstrates that the development of cost accounting in the United States is consistent with the derivative art hypothesis, and provides additional evidence and validation of this hypothesis.

*The Need for Cost Information*

At the most general level it can be stated that cost accounting is a consequence of the industrial revolution (Littleton, 1933). This impact on cost accounting of the industrial revolution is further supported by Garner, who stated that it was not until the late eighteenth century that cost accounting came into existence even though many of the procedures were in existence long before 1800 (Garner, 1954). Therefore it was the industrial revolution brought into use cost accounting procedures. But what was unique about the industrial revolution?

There are two reasons suggested in the literature for the development and implementation of cost accounting procedures in American business. These are the new methods of organizing economic activity brought about by the industrial revolution that replaced the former artisan structure with its associated market forces, and also the newly required significant capital investment in plant and equipment that was a consequence of the administrative organization of economic activity (Johnson, 1981).

Traditionally it has been suggested that the latter, the required capital investment in plant equipment that accompanied the industrial revolution, was the primary, if not only, driving force behind the introduction of cost accounting (Garner, 1954). In other words with the advent of the industrial revolution companies now had to make investments in assets that lasted for more than one accounting period, and therefore some method of allocating these costs had to be developed. It is suggested that it was the need to allocate these fixed asset costs to products that stimulated the development of cost accounting.

Johnson's research suggests that it was "not only…the need to account for fixed costs, but also the need to evaluate and control internally-administered production processes" (Johnson, 1981, p.511) that prompted the introduction of internal cost accounting. Therefore the need to control production costs, which was a new phenomenon associated with the industrial revolution, together with the related need to evaluate the efficiency of production is perhaps the primary motivation for the introduction of cost accounting procedures.

Why did the industrial revolution bring with it this need to control production cost? What about cost control before the industrial revolution? D. R. Scott provides the following observation in his book *The Cultural Significance of Accounts*:

> Before the industrial revolution, accounting was mainly a record of the external relations of one business unit with other business units, a record of relations determined in the market. But with the advent of large scale productive operations…necessity arose for more emphasis upon the accounting for interests

> within the competitive unit and upon the use of accounting records as a means of administrative control over the enterprise…. The appearance of cost accounts in manufacturing…is [an] example (Scott, 1931, p. 143).

In other words, what the market forces previously controlled now had to be controlled within the walls of the factory. Before the industrial revolution the firm's double-entry accounting system was used by the merchandising firm to record the effects of market transactions. It was therefore the competitive free market that exercised control over costs and also managed efficiency. In this regard production time and waste was absorbed by individual artisans prior to the industrial revolution as the price of their finished products was set by the market, and did not vary with respect to the quantity or valuation of their inputs of production.

The first modern businesses to require internal accounting information for decision-making and control were the cotton textile factories that started to appear in the United States around 1800. Specific examples of the earliest factory cost records include those maintained in the 1820's by the Boston Manufacturing Company (Porter, 1980), and those maintained around 1850 by the Lyman Mills Company (Johnson, 1972). The textile factories were in the business of converting raw cotton into finished yarn and fabric and needed to account for the direct labor and overhead costs of the conversion process. These double-entry cost accounts are the earliest discovered (Johnson, 1981).

With the establishment of the textile factories the conversion process was brought together in centralized locations where the manufacturing process was coordinated and administered by the new industrial entrepreneurs. In these factories it became necessary to keep an accurate account of the conversion costs necessary to transform raw materials into finished products, which included primarily wages paid to employees together with various other internal conversion, or production, costs, such as bleach, fuel and maintenance. The main focus in these early factories was, however, on the direct labor component of conversion cost and determining the direct labor cost per unit of processed output. This cost information was used by plant managers for decision-making and control purposes in the absence of market forces. Further, it sometimes became necessary to compare total conversion costs with production output in order to evaluate productivity and establish the cost of the output produced. These new and unique accounting needs associated with the organized production process of the early textile factories forced the development of internal cost accounting systems based on information that came from the existing traditional double-entry accounting system.

By the late 1800's the industrial revolution saw the development of various capital-intensive industries including iron and steel, chemicals, petroleum, and machinery manufacturing. Characteristic of these later manufacturing businesses, as compared with the early textile mills, was their increased size and complexity of operations. With respect to the nature and use of the accounting information that was integral to the management of these new capital-intensive firms, it is interesting to consider Andrew Carnegie, the steel entrepreneur. In this regard, Carnegie relied on cost statements that reported only on the direct costs of the manufacturing processes to manage his operations (Johnson, 1981). There does not appear to be any accommodation or inclusion of fixed costs with respect his accounting system or management decision making (Johnson, 1981). It is further noted that the accounting records of these large capital intensive organizations often failed

to adequately address accounting for asset depreciation and full absorption product costing (Brief, 1965). Therefore, decision making and cost control appear to be the main use of cost information rather than full absorption product costing, which would have had to include an allocation of fixed costs as well as the direct costs that could be traced to production.

*Cost Accounting: A Further Validation of The Derivative Art Hypothesis*

With respect to the development of cost accounting in the United States from the early 1800's as described in the previous paragraphs, it is interesting to consider this empirical historical development in the context of accounting's historical roots and overall development throughout the ages from ancient times. In this regard Robert Rabidoux (Rabidoux, 2003) presents a comprehensive review and evaluation of accounting history based on the premise that while a study of accounting history is an interesting academic exercise in itself, it reveals "that a strong relationship exists between the development of accounting, cultural progress and the evolution of organizational structure with their unique behavior" (Rabidoux, 2003, p. 18).

Indeed, the purpose of the study "was to support the premise that accounting is a derivative art and developed as a response to changes in culture and commerce" (Rabidoux, 2003, p. 10), and "to validate the hypothesis that the evolution of accounting was and continues to be a derivative process from culture and organizational behavior" (Rabidoux, 2003, p. 18). Therefore, the premise is that certain cultural events that have occurred throughout history have had a major impact on the nature of the conduct of commerce. This impact has included changes in the structure of the business firm, the behavior of the organization, and the development of the profession of accounting, in part to meet the changing and evolving needs for financial information. In short, historically accounting has been, and continues to be today, a reactive response to the changes in culture and the business firm– a derivative art.

So what were the findings of this research? Through an examination of historical patterns the study demonstrated that there is indeed a "causal relationship between the development of accounting, the movement in culture and the behavior of organizations" (Rabidoux, 2003, p. 87). An important implication of the results of this study is that accounting is in fact a derivative art! It has grown, developed, and expanded to meet the needs of a changing culture, together with those demands of changing organizational behaviors and structures.

The industrial revolution is an excellent example of a major cultural change that has had a significant and profound effect on the conduct of commerce. The industrial revolution changed the structure of the American economy and led to the creation of the manufacturing organization. An organization that now internally coordinated in one location the production process and replaced the activities previously performed by numerous individual artisans scattered throughout the countryside. As has been already discussed, this structural change in the economy mandated a change in the accounting system so that the new cost information required for internal decision making and control would be available to management. As can be seen, the historical development of cost accounting is consistent with, and provides additional validation of the derivative art hypothesis.

**Developments up to the End of the 19th Century**

During the 19th century the American economy was transformed by the industrial revolution. As the influence and impact of the industrial revolution changed first the textile industry and then gave stimulus to the steel and other capital-intensive industries the economy was transformed from a merchandising economy to one based on manufacturing. As discussed, this change caused a transition in accounting from that of accounting for merchandising concerns to that of accounting for manufacturing. It is interesting to note that the records developed to provide the needed cost information were for the most part in addition to, or outside of, the traditional financial records (Garner, 1954).

Even up to the early 1880's the factory accounts, as crude or as sophisticated as they may have been, were not consolidated into the general accounts. The cost records of the time typically included amounts for direct labor and raw materials – the prime costs of manufacturing. The nature and scope of the cost information was not really an attempt at costing the products manufactured but rather simply a record of the manufacturing expenditures incurred. As has been discussed, the initial need of managers was to control costs and make decisions. Any attempt at product costing was at best an estimate as perpetual inventories did not exist and the periodic measuring of inventory was often stretched out a year or more. Further, while the components of overhead cost had been identified and even classified with respect to their behavior, fixed or variable, many organizations lacked an adequate method of collecting these so called burden costs and allocating them to manufactured products (Garner, 1954).

Much was written in the latter years of the 19th century concerning the integration of cost accounts and so called general commercial accounts. To integrate or not to integrate that was the question! In 1897, Frank Broaker, president of the American Association of Public Accountants, addressed the Association on the subject of cost account organization and described a procedure for coordinating the cost accounts and financial accounts (Garner, 1954). His comments were general and while he did support double entry accounting that would tie together the two types of accounts he provided few details and did not pursue his comments further. It is noted that the common practice at the time was to keep the financial records separate from the cost records. Indeed this was the accepted position by both manufacturing organizations and prescriptive accounting authors. While there was some desire to be able to reconcile the two sets of records how to do this remained a problem.

**Cost Accounting in the Early 20th Century**

By 1925, American industrial firms had developed virtually every management accounting procedure known today. The procedures were developed in just over one hundred years by managers seeking information about opportunities for gain in hierarchies. From the first hierarchies ever used to manage economic affairs – in American, the integrated textile mills of the early 1800s – to the complex multidivisional hierarchies of the 1920s, managers developed accounting measurement and control procedures to meet a demand for information about efficiency and profitability of internally administered economic activity (Johnson & Kaplan, 1987, p. 125).

Many of today's cost accounting practices in America, as quoted above, can be traced back to those early years of the 20th century. It was just before the First World War when professional opinion started to shift with respect to the integration of cost accounts into the general ledger. In 1913, J. Lee Nicholson, later to form the National Association of Cost Accountants, described in some detail, in his book *Cost Accounting*, a procedure for maintaining and coordinating separate cost and financial ledgers (Garner, 1954). According to his model the records would be separate in a physical sense but tied together with so called reciprocal accounts. It is interesting to note that Nicholson recommended that the factory ledger include accounts for raw materials and supplies, labor, indirect expenses, work in process and finished 'stock' or goods. He also illustrated the flow of costs and the transfer of finished goods to cost of goods sold in his publication (Garner, 1954). These recommendations could have equally appeared in a current cost accounting text and presented as current thinking and practice!

*A Profession is Born: Founding of the NACA (IMA)*

A milestone in the development and growth of cost accounting in the United States was the formation of the National Association of Cost Accountants. At the end of a two-day meeting held at the Statler Hotel in Buffalo, New York, the National Association of Cost Accountants, the original name of the Institute of Management Accountants, was established. The date of the historical event was October 14, 1919. Those in attendance at the meeting numbered 37, accountants, lawyers and academics, and had responded to an invitation given by the now, 'Major' J. Lee Nicholson (Meyers & Koval, 1994).

Major Nicholson, called the "father of cost accounting," was an influential professional and headed his own public accounting and industrial engineering firm, which had offices in New York, Chicago, Hartford, Connecticut and Washington, D.C. Prior to starting his own accounting and consulting firm in 1889, he worked for the Keystone Bridge Company and the Pennsylvania Railroad, where it was his job to calculate the cost of supplying water to the locomotives. From his interest and experience he saw cost accounting as uniquely different from that of auditing (Meyers & Koval, 1994).

Major Nicholson considered cost accounting a "science" and stated that the fundamental purpose of the National Association of Cost Accountants is to advance the development of this science through research, discussion, acquisition, and diffusion of cost accounting knowledge. Those who practiced cost accounting were considered professionals whose needs and interests were not being met by the American Institute of Accountants. The cost accountant was not only an accountant, but also someone who had mastered a specific industrial application of accounting – railroads, insurance, banking, etc. (Meyers & Koval, 1994).

Major Nicholson viewed the work of cost accountants as a creative endeavor in contrast to auditing which is simply reviewing the work of others! The cost accountant also must have a knowledge of the business for which they work and a clear understanding of the manufacturing process employed by the business. With the importance and growth of manufacturing at the time, and the critical need for manufacturers to know the cost of the products they sold, together with the fact that many of the original founders were well known members of the accounting profession, the National

Association of Cost Accountants was successful from the start and saw significant growth in its membership (Meyers & Koval, 1994).

**Summary**

In the previous pages an interesting, and too often untold, account of the history of cost accounting has been presented. This is by design a limited account and discusses the early development of the profession up to the point in time when becomes recognized as important enough to have its own professional organization apart from other professional accounting bodies. With a clear and differentiated description of cost accounting as a foundation, the early years of the industrial revolution in America were explored from the perspective of the new cost information needs by management.

It was pointed out that prior to the industrial revolution cost information was not required as the market system took care of the issues of cost control and efficiency of production. All this changed when large factories administered the processes once handled by a network of individual artisans. The production process had changed and this created a need for new information in order for management to control costs and make decisions.

It was noted that the development of cost accounting is consistent with the derivative art hypothesis and provides further validation of this hypothesis. Put forth as an explanation for the evolution of accounting throughout history, the validity of this hypothesis has been previously documented in the accounting literature. The state of cost accounting in American as of the end of the 19th century is summarized together with a discussion of current practice as at the beginning of the 20th century. The drive, dedication, and influence of the so called "father of cost accounting" in America, in the person of Major J. Lee Nicholson, was illustrated and revealed in the discussion of the founding of the National Association of Cost Accountants in 1919.

**Conclusions**

The development of cost accounting in America was need driven. It is interesting to note that the information that was generated was essential for cost control and management decision making. In deed these were the primary objectives of cost accounting – cost control and decision making. Further, it was not the domain of the CPA, but rather that of unique, creative individuals who understood accounting, but also understood the industrial application of accounting. The industrial revolution changed the business and accounting environments and mandated that cost accountants, in order to be effective, must understand not only accounting but also its context of application. The early proponents of cost accounting included accountants, lawyers, engineers and managers.

It is interesting also to observe that at the end of the 19th century and early part of the 20th century practice was driving the profession of cost accounting not a prescriptive academic environment. The profession at this time, therefore, could be said to be empirically based. Tools and techniques were developed and implemented because of the direct and tangible benefits they provided to management, which in turn resulted in improved financial performance of the firm.

Such is not, however, the end of the story. While beyond the scope of this paper, it is interesting to take a brief glimpse of the years between World War I and World War II, a period in history where once again the landscape changes, and the emphasis shifts to the audited financial statement. In this regard, the following quote is from *Relevance Lost:*

> …Indeed, a subject known as cost accounting flourished after World War I. But cost accounting did not attempt to trace each product's consumption of resources for cost management purposes; instead, it valued inventory for financial reporting purposes. And the demand for financial reporting after 1900 burgeoned because of new pressures placed on corporate enterprises by capital markets, regulatory bodies, and federal taxation of income. But of all the new demands for corporate financial disclosure after 1900, the demand for financial reports audited by independent public accountants probably had the most profound and lasting influence on managerial cost accounting.
> … [The] rise of the professional public accountant was a powerful new force on the accounting scene after 1900.
> The inventory costing procedures adopted by public accountants after the turn of the century had a profound effect on management accounting (Johnson & Kaplan, 1987, p. 129-130).

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# DLOPI (DIFFERENT LEVELS OF PARENTAL INVOLVEMENT): A RESPONSE TO PUBLIC LAW 107-110, NO CHILD LEFT BEHIND

**Rufus Ellis, Jr.**
**Secondary Education**
**Florida Agricultural and Mechanical University**
**Tallahassee, FL 32307**
**rufus.ellis@famu.edu**

**Audrey Lewis**
**Gadsden County Schools**
**Family Information Resource Center**
**35 Martin Luther King, Jr. Blvd.**
**Quincy, FL 32351**
**pottera@mail.gcps.k12.fl.us**

**Y. H. Vance**
**JV Educational Consultants Firm**
**Owings Mills, MD 21117**
**vancealpha@aol.com**

**Abstract**

Research on student success indicates that parental involvement plays a decisive role in student learning outcomes and has a positive impact on the school environment. The *No Child Left Behind Act of 2001*, signed into law in 2002, imposed new guidelines for student performance as well as educational accountability on the nation's school systems. During an era of globalization, declining tax revenues and ever present technological change, many school systems face challenges in "measuring up" to the mandate of *No Child Left Behind*. Too often educators and lawmakers are pitted against one another in the battle over student performance in our nation's schools. Parental involvement is mentioned on the periphery of discussions concerning education policy. DLOPI is designed to shift the paradigm of *No Child Left Behind* to *No Parent Left Behind*. Here you will find research based methods and strategies to engage parents and community leaders in successfully educating our children. The DLOPI (Different Levels of Parent Involvement) program provides meaningful and fun ways to guarantee academic success for children and schools.

**Keywords:** Parent, Involvement, Impact, School, Accountability, Student

## Introduction

Different Levels of Parent Involvement (DLOPI) program was conceived during a summer of developing plans for the coming school term. It was originally an attempt to organize a parent program to help parents recognize their roles and a way to assist schools to involve parents, but more importantly, to take a serious look at how educators view parents and their involvement. Therefore, DLOPI evolved into a creative strategy for schools to use in a more comprehensive district-wide parent involvement program. Since its inception, extensive research and the inclusion

of a data base accountability system creation measures parent participation in relationship to student performance.

Parent and family involvement has been a priority since the founding of the National PTA. Nevertheless, more than forty years of research on parent involvement has constantly maintained the importance, the need, and the positive effects on student behavior, grades, morale, and student achievement. In 1996, the State of Florida along with many other states recognized Family and Community Involvement as Goal 8. Departments of Education in many states charged individual school districts to include this goal in their school improvement plans for student achievement. This was a monumental step forward to acknowledge parents in the success of schools and the students they serve.

The PTA is one of the most organized associations that advocate for students, parents and educators. Recognition is given to the PTA as one of the driving forces of this new legislation for family and community involvement. In addition, it also assisted with supporting statutes to develop and include school advisory councils. To this day, this reform represents the cutting edge of what was the tip of the iceberg for parental choice, vouchers and leaving no child behind. Joyce Epstein (2005) nationally recognized as a pioneer in the area of parent involvement, created the six standards for National PTA while DLOPI was conceived.

**Overview**

Different Levels of Parent Involvement (DLOPI, pronounced *de-low-pee*) is a parent program with five modules designed to encourage parents to become and stay involved in their child's education, whether at school or at home. This program provides teachers with a simple computerized formal for determining different levels of parental involvement by assessing the student's classroom performance and behaviors as measured by the parent or guardian's participation and interaction in their child's education.

It further emphasizes literacy skills, leadership skills, mentoring, and volunteering. The character education component stresses the importance of students graduating from school and not becoming a drop out. Faith-based and community organizations are encouraged to "adopt a school, family or a child." In addition, DLOPI program trainers offer incentives, such as DLOPI t-shirts, mugs, caps, and other rewards for parents and teachers to receive during trainings as promotional items. This serves as an awareness tool and a creative venue to generate conversation for future partnerships, increased parent involvement, and more parent participation.

While DLOPI is a program to increase parental awareness and participation, the creation of *an all-inclusive district-wide model for parent involvement is the most effective approach to providing systemic structure and collaboration of all programs.* Therefore, DLOPI offers a more comprehensive training on how to structure a district-wide framework for parent involvement and then, how to incorporate the DLOPI program as training modules.

**District's Commitment**

*Providing the vision, leadership and commitment to DLOPI will increase your overall parental participation for the district and ultimately, student success.*

School boards, superintendent's and the entire administrative leadership team of a school district play a pivotal role in making parent and family involvement a reality. Staff, teachers and parents will sense the level of priority administrators give to involving parents. The climate in schools is created largely by the tone set at the district level and in the office of the head administration of the school. If district administrators, directors of targeted programs and school principals take the stance of making "collaborating with parents" important, other educators will join in.

The first standard of effective leadership is for the superintendent of schools to incorporate parent involvement into the district's strategic plan. It is based not only on mandated policies, guidelines and procedures by federal and state legislative requirements for parent involvement, but it shows each school's community the importance of the district's involvement and partnership with parents and the community. With all of the new and changing requirements, accountability, academic standards of excellence, parental choice, educators and future teachers prerequisite to student success will be to view parent involvement differently.

Therefore, it is logical, and makes common sense to begin with designing a successful District-wide Parent and Community Engagement Program; an inclusive plan on how to interact and positively communicate with stakeholders and the parents of the students we teach.

**The Instructional Leader—The Principal**

*Administrative support is the key to the success of any parent organization, school advisory council or parent booster program.*

Principals can assist in charting the course of designing a successful plan by immediately creating an environment and philosophy of shifting the paradigm (way of thinking) of how their teachers view parental involvement. Even university professors at the college level are encouraging their students who are potential teachers to have a realistic plan in mind for parents. Parent involvement is becoming more and more, integral in the "educational arena." Therefore, continuous professional development to increase parent involvement and participation will always be necessary, especially at the school level.

Principals are strong legendary leaders who begin with the end in mind—an organized plan for school success. They include all stakeholders, community members, businesses, and parents and their participation. They encourage their commitment and involvement in the decision-making process of their school. Additionally, principals set the tone and should model the attitude for teachers and other staff members to treat their clients with dignity and respect.

**Principal's Commitment**

*A principal's commitment is the driving force for buy-in from teachers and staff.*

Initially, a principal's commitment to parent involvement must be conveyed to their employees before staff and teachers are asked to join in the development of a school's parent involvement plan. Even before teachers can become more knowledgeable of the DLOPI program, it is suggested that school principals communicate in a forum or at a faculty meeting their commitment to the DLOPI parent program and why. Principals may want to express to them that the challenges might be great, but the benefits are even greater when encouraging parents to participate will increase student achievement. In this way, teachers and parents will know and feel the principal is serious and sincere. Principals may promote and offer teachers incentives for their commitment to implementing the program with in-service points, monetary awards, gift certificates, and flex or compensation time.

*Integrate the DLOPI components for teachers and strategies for parents into the school's improvement plan.* The Different Levels of Parent Involvement program is a parent program with five modules designed with parenting tips and training opportunities to encourage parents to become and stay involved in their child's education at different levels, whether at school or home. For teachers, the DLOPI program provides teachers with professional development training, strategies for schools, and a simple computerized format for determining parents' levels of participation and involvement with data results.

**Direction, Time and Funding**

The principal can provide:

- information and direction for targeted areas needing improvement and special attention; and
- information for contacting parents of minority and low performing (level one students) with relevant data (academic scores, discipline, climate surveys, and school performance areas).

Principals can identify:

- funding sources to support the implementation of the DLOPI program into the parent involvement plan and provide facility accommodations for scheduled parent and community meetings on nights and weekends;
- a staff member to coordinate this initiative for parent involvement, allow the coordinator (a parent liaison, teacher or facilitator) compensation time for their efforts and flexible time to execute home visits, business partnerships and community outreach activities when needed; and

- encourage teachers to provide the designated parent liaison with supplemental academic information, resources, workshop dates, assessment resources, and benchmarks, practice materials for reading, mathematics, science and writing materials to distribute to parents.

**A Guide for Schools to Implement a Parent Involvement Program Using the DLOPI Model**

The Principal will:

- select a **parent liaison—**a person on staff as chairperson for the parent involvement program goals for your school improvement plan *(remember this person will coordinate the committee for parent involvement activities and report to the principal)*;

- provide the parent liaison their specific role, duties and responsibilities;

- introduce the parent liaison to the faculty and staff;

- establish a **parent care/parent committee** as one of your school's leadership teams (include all program representatives from each grade level and specific programs, such as Title I, Exceptional Student Education, Migrant, English Speakers of Other Languages), Pre-K, School Advisory Council Chairperson, and PTA;

- encourage faculty members to volunteer to be on the parent involvement leadership commitment and the DLOPI program initiative;

- provide opportunities for professional development training for teachers and staff on the DLOPI program's concept and components (train the trainer, data base training, and work shop trainings for parents);

- explore needed materials and supplies for parent involvement (computer, cameras, workshop materials, and incentives);

- identify funding sources to support parental accountability areas (Title I-2% involvement; SAC, ESE, ESOL, Migrant, school improvement, special grants for literacy, technology, PTA and businesses.) NOTE: All grants usually have a line item specified for parent activities. Explore 21st CCLC and career academies, after school programs that have a line item budgeted specifically for parents.

**The DLOPI Curriculum**

*Utilizing the Different Components of the Curriculum*

Each of the five levels of the DLOPI program is exciting and fun filled. It provides parents the opportunity to assess their level of involvement. One component of the program assists educators with the skills needed through professional development and a data tracking system for measuring the correlation between parent involvement and student achievement. For others, the curriculum

opens up the opportunity for communities and faith-based organizations to engage in training and critical conversations.

The entire DLOPI curriculum and each workshop session for each level is interactive. It allows for an exchange of ideas and strategies for communicating with teachers, school administrators, universities, parents, faith-based community and peers. The first step and most efficient usages of the curriculum are to identify and decide the main priority or needs toward meeting your parental involvement goals. Remember, a parent's participation level is a measure for comparison to student achievement results.

One component of DLOPI developed for teachers is to track the percentage and/or number of parents involved at some level in their child's education. Principals should ask teachers to rate the levels in which parents are involved throughout the school year using the DLOPI chart of parent activities. This rubric provides teachers with a system for measuring true parent participation by the student's classroom performance and behaviors as determined by their parents' participation.

At the end of each grading period or semester, request teachers to identify their students' parent's levels of involvement under each category by using the DLOPI software system. This will yield calculated parent participation levels for each selected reporting period.

By teachers and staff working together, implementing the DLOPI program, the entire school will accomplish success. Increased parent involvement can then be assessed based on data results. Solutions to address pertinent parental issues will be focused directly on parents' levels of participation. Finally, using the results will reveal concrete data information regarding parent's participation and their impact on increased student achievement. Your school can use this data and plan toward focusing on areas of weaknesses and build on areas of strength for success.

**Literature Review**

Hawley and Rosenholtz (1984) indicate that children have an advantage in school when their parents continuously support and encourage their school activities. Williams and Stallworth's (1984) research at the Southwest Educational Development Laboratory, Texas, involving parents, teachers, principals, superintendents, and school board members showed total agreement that parental involvement is vital to a child's success in school and that parents and teachers should communicate and cooperate frequently. He found that parents are eager to play a variety of roles at school, ranging from tutoring children or helping in the classroom, to sitting on committees that decide such matters as disciplinary policies or changes in curriculum. Generally, there is an aggregate effect on the performance of students and teachers when schools collaborate with parents.

White (1982) says that parent participation in school generally brings about improvement in social development, effective management and teaching and learning outcomes. White believes that school and parent relationship allows government to preserve funds for more development projects, as competent people are involved in planning and decision-making.

Musaazi (1982) holds the view that the school, through the principal, staff and pupils could harmonize parents, school and community interests, resources, agencies, materials, and institutions for the benefit of both the pupil and the community. He further adds that education is an activity, which involves the cooperation of teachers, parents, children and the community as a whole. Parents are naturally interested in the education of their children and would want to know who is doing the teaching, what is being taught and how well it is being taught.

Epstein (1986) surveyed parents of an elementary school located in Baltimore, Maryland where over 85 percent of parents spent a quarter hour each day helping their children with assignments, which resulted in increased parent participation and student improvement.

From kindergarten through High/Secondary School, children's contact with teachers amounts to about 8 percent of their time. Parents have access to their children for much of the 92 percent when children are not in school. It is therefore imperative that this 92 percent of the children's time is judiciously used in helping them succeed at school.

John Hopkins University Center for Research on Elementary and Middle Schools (1989) study on effective schools, found that students whose parents help them with homework do better in school and have a positive attitude towards education than students who do not receive such assistance. According to these studies, the "data are clear that the school's practices to inform and to involve parents are more important than parent education, family size, marital status and even grade levels in determining whether inner-city parents get involved with their children's education in elementary school and stay involved through middle school" (John Hopkins, 1989, p. 10). Researcher Clark (1983) states that parent behavior influence the success of children in school when they:

- Establish frequent and initiate contact with the school;
- Expect to play a major role in their children's schooling;
- Demonstrate that they value education;
- Provide regular instructions and coaching;
- Monitor school work on a firm and consistent basis;
- Give positive reinforcement of school work and other interests; and
- Have regular routines, mealtime and encourage effective use of time and space.

This study also strongly suggests that parent support and involvement is critical at the secondary level. It further states that students whose parents closely monitor their academic progress and general whereabouts perform significantly better in school.

Becher (1984) reviewed literature on parent involvement in education and shared examples of programs in which low-income parents have been trained to work with their children. The outcome for students showed dramatic improvement in language skills, test performance and school behavior. Parents also developed better attitudes toward schools, became more active in community affairs and sought more education for them.

Henderson (1987) asserts that parents should not be left on the periphery of the educational enterprise, that their involvement in the educational enterprise is neither a quick fix nor a luxury. It is absolutely fundamental to a health system of public education.

Shaeffer (1991) points out that parents and school personnel need to stay in harmony in order to improve organizational and human relations between the school and parents, offer general advice to the school and concern themselves with teachers' welfare in the teaching-learning processes as well as teaching activities. In this way, parents input directly leads to an improved learning environment, more proper or intensive teaching and improved quality.

Fuller and Olsen (1998) state when parents, community members and teachers work together, children's lives are improved. Children will see a variety of adults working to help them improve their school performance and respond positively, leading to increased achievement.

Several prominent sources to consider are the National Standards for Parent/Family Involvement Programs endorsed by nearly 100 education organizations and universities and are built around the PTA's six types of parent involvement identified by Joyce L. Epstein, Ph.D., at Johns Hopkins University. In addition, Dr. John H. Wherry, President of The Parent Institute, published many researched-based materials, which are relevant to educators' needs and is of the highest priority of interest (Wherry, 1996; Wherry, 1996; Wherry, 1996; Wherry, 2003; Wherry, 2003; Wherry, 2003; Wherry, 2007). In 2002, Anne Henderson and Karen Mapp published *A New Wave of Evidence: The Impact of School, Family and Community Connections on School Achievement*.

Other authors include: Larry Bell (2005), *12 Powerful Words That Increase Test Scores and Help Close the Achievement Gap;* John R. Ban (2000), *Parents Assuring Student Success* (2nd ed.), and Neil A. Glasgow and Paula J. Whitney (2009), *What Successful Schools Do to Involve Families.* These are just a few of the most up-to-date, but powerful suggested practices for parental involvement.

**Methodology**

*Parental Involvement = Student Success*

As profound as the studies on parental involvement have shown, years of research continues to indicate, that when parents are involved, students are successful. Now that the research is beyond dispute, and the results reveal this great truth, we must ask ourselves, have we really involved all parents from every lifestyle, race, culture, economic level or intellect, as it relates to student achievement? If we are to benefit from all students being successful, and we know that if their parents are involved, they will be successful. Let us take full advantage of this knowledge to encourage more parental involvement and participation. The question remains. Where do we as educators begin to ensure we give every parent an opportunity to assist and take responsibility for the education of our children? We balance the scales of education when both educators and parents share in the accountability.

During the past several decades, the benefits of parents' and other family members' involvement in the children's education have been well documented. Although it is not the only factor in improving student learning, decades of research has consistently linked family involvement to high student achievement, better attitudes toward school, lower dropout rates, increased attendance and many other positive outcomes for students, families and schools. Educational researchers, practitioners and policy makers consistently rank parent involvement in the education of their children high among the components of effective schools. The following data compiled by major researchers on parent involvement exhibits how important it is for parents to become and stay involved in the child's education.

**DLOPI: Data Base and Tracking**

Initially, DLOPI was designed for parents to self-reflect on where they were within the stages of the different levels of involvement and where they would like to be. Consequently, after realizing that this tool could be helpful to school staff in understanding and tracking how parents help their children at home and in their schools, technical support was given to create an online DLOPI data tracking system. Any district staff can access the online system from the district's website and access student listings for each class within each school. The School District Information Systems and Technology staff loads the names of all students into each school page under each teacher's name so that the information is easy accessible for school staff.

To ensure that teachers and staff understand how to use the tracking system, train all administrators, district and school staff, and new hires on how to recognize parent participation levels. The training session should include how to use the DLOPI program and instructions on how to use the data. Teachers should look for correlations between parent participation levels and student achievement levels. All levels of parent involvement are beneficial, keeping in mind that parents participate at different levels and for a variety of reasons. Nevertheless, these different types of involvement can be fostered and enhanced within their child's school.

- The DLOPI for Educators program provides a concept and tool for teachers to address specific areas in which parents are most active and those areas where parents are least likely to become involved. To increase the likelihood that the parent or guardian of each student is evaluated, local school administrators are asked to select a single class period for which all teachers at the school would conduct the DLOPI assessment. A middle school or high school may select on specific class period for consistency throughout the school and/or the district.

- The assessment tool identifies a common set of categories (program outcomes) for which every parent is assessed. Each category has a set of activities (program deliverables) of which parents will be graded and assigned a parent participation level (program output). There are a total of twenty (20) activities among the five categories. Parents are given one deliverable point for each activity achieved. The degree of parent participation is rated from Level 1 to Level 5 and determined by the total number of deliverable points achieved.

The rating scale is described below:

1-4 Points = Level 1
5-7 Points = Level 2
8-12 Points = Level 3
13-16 Points = Level 4
17-20 Points = Level 5

The DLOPI database development purpose is to identify the parent's participation levels for each teacher, each school and each school district. The data allows for developing improvement strategies and verifying the impact of parental involvement on student achievement. The data provides for the legitimacy for the DLOPI concept.

| **Categories and Activities** | | | | |
|---|---|---|---|---|
| **Responsibilities & Attendance** | **Communication & Support** | **Literacy & Tutorial Assistance** | **Volunteering & Mentoring** | **Leadership & Partnership** |
| Student attends school regularly and on time | Met parent(s) at least once | Student completes homework assignments | Parent volunteers for classroom or school functions | Parent attends open house, Parent Expo or PTA/PTSO meetings |
| Student is equipped with necessary school supplies | Communicated with parent via phone, open house, notes, home visit or teacher/parent conference | Student has a public library card and/or access to a computer | Parent provides materials or supplies for class or school function/activities | Parent participates on the school advisory council |
| Student displays good behavior during class and is respectful of others | Parent visits classroom | Student attends an after-school program | Parent attends parent-teacher conferences and/or PTA parent meetings | Parent is an officer of the PTSO/PTA/SAC or attends district advisory committee meetings as a school's representative |
| Parent-Teacher-Student Compact is signed | Parent is supportive of class discipline policies | Student has a tutor, mentor or other significant adult involved with their education | | |
| Student attends school appropriately dressed | Parent signs and returns all necessary forms and papers | | | |

*Teachers Assign Points.* Teachers allocate parent participation points based on observations of their students' performance in class; the direct interaction with their students' parents or knowledge of a parent's involvement in other school activities, such as serving as a volunteer, member of the PTA or a member on the school advisory committee.

**Designing the Database**

*Uniformity.* The data elements aligned with the five DLOPI categories for parents are defined and allocated by giving specific point values to ensure consistently in reporting among all teachers. The uniformity of data categories guarantees the quality and integrity of how parents, teachers, and schools are evaluated and compared to others.

**Conclusion: Paving the Way for Implementation**

*Administrators Benefits.* Administrative support is paramount to the implementation of the DLOPI program. Once the results of the data is compiled and revealed to administrators, the integration of the DLOPI model in the school's improvement plan then becomes a reality. Administrators can then see the benefits of using the results in a variety of ways, such as supporting data for the school accreditation process. Administrators can use the data for distributing quarterly school incentives to teachers and/or parents for the highest parent participant levels, highest percentage of teacher participation and the most improved classroom for the reporting period.

*Teacher Support.* Continuous learning is for the teacher as well as for the student. Teachers should be involved in a DLOPI staff development training; offered individual and/or group technical assistance with the DLOPI training modules, the rubric and tabulation of assessing parent participation levels. Teachers will need to have some basic computer knowledge, although the DLOPI software will tabulate the data entered by the teacher. The teacher enters a point value for each activity with a 1 or 0 for each child at each level. The DLOPI data base will calculate several reports.

Ongoing support and assistance from a trained parent liaison or parent coordinator on DLOPI as vital. Parent coordinators can serve as the conduit between the parent and the teacher, especially when teachers are teaching. This way a parent liaison can support the teacher in collecting the data and reporting the data to the school's parent committee or school advisory council for integration in the school's improvement plan.

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# THE DETRIMENTAL, LONG-TERM EFFECTS OF BLACK MALES AND THE ACHIEVEMENT GAP IN FLORIDA PUBLIC SCHOOLS

**Rufus Ellis, Jr.**
**Secondary Education**
**Florida Agricultural and Mechanical University**
**Tallahassee, FL 32307**
**rufus.ellis@famu.edu**

**Edward Tolliver**
**Black Male College Explorers Program**
**Florida Agricultural and Mechanical University**
**Tallahassee, FL 32307**
**edward.tolliver@famu.edu**

**Ghazwan Lutfi**
**Educational Leadership**
**Florida Agricultural and Mechanical University**
**Tallahassee, FL 32307**
**ghazwan.lutfi@famu.edu**

## Abstract

Black males enrolled in Florida schools will less likely complete a post-secondary degree if they enter college. This paper investigates the detrimental, long-term effects of disparate school system practices that target Black male students and systematically deny them access to a comprehensive education, and subsequently inhibit their opportunities for academic achievement. Further, this paper examines the empirical implication that in Florida's K-12th grade public education system most Black males experience extremely high academic failure and are inclined to drop out of school at an astounding rate compared to their White male and female counterparts and Black females.

**Keywords:** Achievement gap

## Introduction

The persistence of a multi-dimensional Black-White achievement gap in the United States has been widely acknowledged as a major social problem, a controversial public policy issue, and a subject that demands the continued attention of academic theorists and researchers working from a variety of disciplinary perspectives. Although Black-White differences in academic attainment and its primary socioeconomic correlates have shown some decline since the era of the Civil Rights Movement, they have remained large (Hanushek & Rivkin, 2008, p.2). The long-term trend data clearly indicate that the pace of progress in closing racial achievement gaps has slowed of late and may have actually undergone a reversal among young males. There is no doubt that an unconscionably large proportion of African American males is currently suffering a prolonged crisis that is distinguished by the severity of its manifest consequences and the likelihood that it will yield

downward socioeconomic mobility within current and future generations. The nature of this opportunity crisis has been captured in the Schott Foundation's recent statement that:

> Over the last 25 years, the social, educational and economic outcomes for Black males have been more systemically devastating than the outcomes for any other racial or ethnic group or gender. Black males have consistently low educational attainment levels, are more chronically unemployed and underemployed, are less healthy and have access to fewer health care resources, die much younger, and are many times more likely to be sent to jail for periods significantly longer than males of other racial/ethnic groups (2008, p.3).

Although these inter-penetrating disparities can be discerned among Black males of all ages, the impact is most acutely apparent among adolescents and young men. Since the mid-1980s several scholarly observers have characterized Black male youth as an "endangered species" that is at inordinately high risk for failure across virtually all life domains (Jordan & Cooper, 2003, p.200).

The Black-White achievement gap is acutely apparent within the societal institution that has traditionally performed the function of equalizing opportunities among ethnic-racial and class groups, the nation's public education system. At present, African American male students display the poorest educational outcomes of all major demographic groups in the United States (Levin, Belfield, and Muennig, & Rouse, 2006, p.2). National statistics show that African American males are much less likely to graduate from high school, to attend college and to achieve a post-secondary degree than their White counterparts. They also reveal that Black males under-perform both White students and Black females on standardized tests administered at elementary, middle and high school levels. Throughout their public school careers Black males are heavily over-represented among students assigned to special education, placed within the lowest ability groups, retained for one or more grades, and subjected to exclusionary discipline (Uwah, McMahon & Furlow, 2008, p.296). For many within their ranks the customary pattern of school completion leading to gainful employment has been replaced by school failure preceding or accompanied by incarceration. As several of the attendees at a research conference sponsored by the Civil Rights Project and Northeastern University's Institute on Race and Justice in 2003 remarked, a large percentage of Black male adolescents is now part of or about to enter a "school-to-prison pipeline"(Fenning & Rose, 2007, p.538).

Given the obvious importance of obtaining a high school degree for socioeconomic status, secondary school graduation and dropout rates have been a focal point of investigations into the extent and the causes of the Black-White educational achievement gap. As will be discussed at greater length in the next section of this chapter, the most commonly used indicators of high school completion that appear within nationwide figures from official sources are highly suspect. Using what is arguably a more valid definition of high school completion, the Schott Foundation has calculated that during the 2005-2006 school year less than half of all Black males received a regular high school diploma with members of their modal age cohort (2008, p.2). There are marked disparities between and within the nation's fifty states. The Schott Foundation has projected that only one third of the one million Black male students who are currently enrolled in the public school systems of New York, Florida, and Georgia will graduate high school on a timely basis (p.2).

The Black-White educational achievement gap has adversely affected African American youths in general, but recent data indicate that Black males significantly underperform Black females and that this gender gap has widened substantially during the past two decades. (Holzman, 2006, p.3). As Saunders and her colleagues have observed, "Black males are falling behind their female peers educationally as African American females are graduating from high schools at higher rates and are going on to college and graduate school in greater numbers" (Saunders, Davis, Williams & Williams, 2004, p.81). Educational attainment gender gaps are presents among all of the major ethnic/racial groups living in the United States, and generally, favor females. But the African American gender gap is the widest among all student groups, it is increasing at the fastest pace and it is most apparent at the post-secondary level where it reflects the cumulative effects of achievement differences in elementary and secondary schools (Brun & Kao, 2008; Saunders, et al. 2004; Uwah, et al. 2008).

School failure has a calculable depressive impact upon the individual lifetime earnings of African American males. But as economists who have investigated this phenomenon have found, low levels of educational attainment among members of this demographic group entail substantial public losses. Levin and his associates have argued educational inequality for Black males leads "to large social costs in the form of lower societal income and economic growth, lower tax revenues, and higher costs of such public services as health, criminal justice, and public assistance" (p.2). In their estimation, the lifetime public benefits of an African American male graduating from high school amount to $256,700 per new graduate; if Black males completed high school at the same rate as White males, the net public savings would be roughly $3.98 billion each year (p.2).

The magnitude of the Black-White educational achievement gap, its increasing concentration among males, and evidence of a break from the constructive trends posted between 1970 and the late 1980s has evoked an exceedingly large body of research (Lewis, James, Hancock, & Hill-Jackson, 2008, p.127). This corpus of work has increased dramatically during the past few years. Scholars from the fields of education, sociology, psychology, political science/policy and economics have sought to measure the gap and, even more importantly, to identify its antecedents for the purpose of formulating effective remedial policies and intervention practices. Yet there is no unified model of the Black-White educational achievement gap and/or the processes that contribute to school success/failure among African American males. Instead, the use of competing theories based upon radically different assumptions has generated a huge but unwieldy, and often contradictory, body of findings. The current Black-White school achievement literature embodies studies that have tested hypotheses that collectively encompass a very large number and broad range of study variables. At the same time, scholars who have investigated identical sets of variables using the same data bases or similar study samples have reported diverse results as a consequence of methodological differences. In some instances, they have transformed similar results into findings that are incompatible with those of their fellow researchers due to both methodological and ideological differences.

Several investigations of the Black-White public school achievement gap have been conducted within the state of Florida while several others have examined the influence of statewide and district policies upon that gap and upon the experience of African American males. This is understandable. More African Americans are enrolled in Florida's public schools than in any other state (Holzman, 2006, p.24). Despite some modestly encouraging signs in the 2007-2008 school year, Florida's Black-

White high school completion gap remains larger than the national average. According to the Schott Foundation, on the basis of Black-White high school completion rates in 2006-2007, Florida ranked 46th among all states (Schott, 2008, p.5). Using more stringent indicators, definitions, and computational methods than those employed by the Florida Department of Education, the Foundation's researchers estimated that in 2006-2007 less than a third of Florida's Black male high school students graduated "on schedule" (Schott, 2008, p.2). There are additional aspects of Florida's case, notably those found in the state's public school performance assessment and accountability regime that are of considerable interest to both policy-makers and scholars. At bottom, Florida's Black male high school crisis exemplifies the nation-wide problem while its relatively poor record highlights the problem's complexity and the constraints of addressing it.

The next section of this paper will present descriptive data relevant to the Black-White public school achievement gap in the United States and in Florida, including available information concerning gender differences among African American students. Some of the "facts" presented have been garnered from official sources, including the National Center for Educational Statistics (NCES) and the Florida Department of Education. But owing to a number of methodological shortcomings, much of the data presented in this section is derived from the work of the Schott Foundation, an independent research and advocacy organization dedicated to Black males. The official statistics do not furnish a complete picture of the Black-White school achievement gap. Thus, for example, there are no central repositories of national or statewide information about such significant facets of the Black-White gap as racial differences in grade retention or ability group/curriculum track assignments. Consequently, the researcher will rely upon secondary sources of information and, in some instances, descriptions and analyses of student derived from works that have used geographically circumscribed sampling universes along with illustrative examples drawn from multiple or even single case studies. While there is no theoretical consensus about the causes of the Black-White school achievement gap or the plight of the Black male students, the next section of the chapter will examine competing theoretical perspectives that have been brought to bear upon the subject. The chapter divides these perspectives under three broad headings: (1) structural/systemic, (2) individual/family, and (3) interpersonal interaction/cultural discontinuity. This is admittedly a makeshift typology but the section presents concepts that are essential for the interpretation of empirical studies that are presented in a subsequent portion of the review.

There are two broad generalizations that can be educed from an analysis of data about the Black-White public school achievement gap in the United States. First, there is at present a statistically significant gap in the educational attainment and the academic performance of African American and White students in all fifty states and this gap overlaps with gender differences to the disadvantage of Black male students. Second, the salient indicators---high school completion/dropout rates and scores on national standardized tests---reveal that the overall Black-White gap narrowed substantially between 1970 and the late 1980s but has remained constant or even widened since that time (Lee, 2002, p.3).

According to one of the measures used by the NCES, in 1971 82 percent of the nation's White students completed high school as compared with 59 percent of Black students, yielding a gap of 23 percentage points (Planty, Hussar, Snyder, Provasnik, Kena, Dinkes, Kewal-Ramani, & Kemp 2008, p.40)

During the next eleven years, however, the racial gap on this indicator narrowed by 15 percentage points, to just 8 percent. Between 1970, when the National Assessment of Education Progress (NAEP) standardized tests were first administered, and 1988, the Black-White gap in the average reading achievement scores of 13-year-olds public students fell by half (Page, Murnane & Willett, 2008, p.1). Over this same period, the mathematics achievement gap showed a similar decline of 48 percent among 8th-grade students, while 4th grade assessments showed reductions in the Black-White learning differences of similar magnitude. Subsequent research demonstrated that changes in the characteristics of Black families, notably increases in the educational attainments of Black parents, contributed to the closing of the Black-White gap in average achievement during the 1970s and 1980s (Berends, Lucas & Penaloza, 2008). These trends were especially heartening given that the performance of White students remained relatively constant while that of Black students increased rapidly.

Thereafter however the Black-White achievement gap displayed no consistent trend. The Black-White high school completion rate gap (as measured by the NCES) has fluctuated between 4 to 10 percentage points since 1982; in 2007, the high school completion rate for Blacks (88 percent) was still below that of Whites (93 percent) (Planty et al., 2007, p.40). In the late 1980s, progress in narrowing the NAEP test score gaps also came to a halt among 9-year old 4th grade students. Moreover, the trend actually reversed for 13- and 17-year-olds, with racial gaps in the reading and math scores of 8th and 12th grade students increasing (Page, Murnane & Willett, 2008, p.1). Since then, the size of the gap has stabilized at all grade levels tested. A similar long-term trend pattern has been observed in Black-White scores on SAT and ACT college entrance tests (Harris & Harrington, 2006, p.210). However we look at the raw data, it is evident that the momentum that Black students gained in the 1970s and maintained in the 1980s has dissipated.

Before proceeding any further, it is important to understand the nature of the indicators that official sources use in reporting high school completion data. As noted in passing above, the latest NCES figures suggest that 88 percent of all Black students “completed” high school as compared with 93 percent of their White peers. Factoring in data for other major racial/ethnic groups, notably Hispanics and Asians, the high school graduation rate in the United States was reported to be 88 percent. But as Heckman and LaFontaine (2008) have argued, the official statistics inflate total high school graduation rate and concurrently mask the actual divide between Whites and Blacks. “Depending on the data, definitions, and methods used,” they wrote, “the U.S. graduation rate has been estimated to be anywhere from 66 to 88 percent in recent years---an astonishingly wide range for such a basic statistic. The range of estimated minority rates is even greater---from 50 to 85 percent” (2008, p.2). According to their independent analysis, the actual U.S. high school graduation rate peaked in the late 1960s at around 80 percent and then declined (p.3). Moreover, between 1972 and the present there was no convergence in majority-minority high school graduation rates and, at present, 65 percent of Blacks and Hispanics leave high school without a regular diploma (Heckman & LaFontaine, 2008, p.3).

The explanation for the enormous disparities reported for the high school graduation rate and its disaggregation into Black-White rates stems from three issues. First and foremost, the official rate of 88 percent is the high school completion status rate. It is a measure of the percentage of 25-to-29 year old Americans within the general population who have received a high school diploma or an

equivalent certificate (generically a General Education Diploma or GED). As such, it does not measure continuous promotion and so includes individuals who do not graduate high school in four-years with their age cohorts or "classmates." Secondly, it also counts individuals who have received GEDs rather than "regular diplomas. Lastly, depending on the methods used by various states, it excludes at least some institutionalized 25-to-29 year olds such as youth in reformatories, jails, prisons, rehabilitation centers, and inpatient psychiatric facilities. Through a combination of these factors, especially the first two, the overall all high school completion rate is grossly inflated. Because Blacks in general and Black males in particular are over-represented among grade-retained students, among GED holders, and within the institutionalized populace, the national high school completion data inflate rates for these subgroups to an even greater extent than they do for the summary completion rate.

In computing nationwide high school completion rates, the U.S. Department of Education relies upon data sets submitted by state departments of education. In March of 2008, the *New York Times* published an article under the title of "State Data Obscure How Few Finish High School" (Dillon, 2008). The piece focused on the disparities between the graduation figures furnished by the states to Washington under the mandates of the No Child Left Behind Act (NCLB). The author noted that while the "official" graduation rate reported by Mississippi under the NCLB in 2007 was 87 percent, while the state itself estimated a rate of 63 percent. Similarly, although California reported an 83 percent high school completion, the state's internal figure was 67 percent. In both instances, the states used a high school completion status rate rather than a continuous promotion rate in the figures submitted to the federal government and included the reception of a GED as the equivalent of earning a regular high school diploma. There have been even more egregious distortions, but the point is that national data embodies inflated numbers that also tend to show much lower Black-White differences in high school completion. At present as state educational agencies develop the capacity to track data on individual students and thus directly compute a "continuous promotion" rate, states are moving toward a uniform system of reporting as mandated by the U.S. Department of Education. Currently however, because the states have used "loose" definitions and methods, the NCES data is, at best, vulnerable to objection and the most reliable indicator is the high school completion status rate based on responses from 25-to-29 year olds.

There is one final problem. Owing to the pressures that states and districts experience as a consequence of federal and state school accountability regimes, there is substantial evidence that public school personnel "game" the system. As Darling-Hammond (2007) has complained, "schools' responses to the incentives created by high-stakes tests can cause gaming that produces higher scores at the expense of vulnerable students' education. Studies in New York, Texas and Massachusetts have showed how schools have raised their test scores while 'losing' large numbers of low-scoring students" (p.253). Gaming occurs through several different methods. They include retaining low-performing students in 3rd, 7th and/or 11th grades thereby excluding them from the next scheduled NAEP assessment, the assignment of low-performing students to special education (thereby removing them from the tested populace), and "encouraging" students to accept a GED in lieu of continuing their high school education (p.253ff).

With these provisos in mind, in 2007, the NCES reported a "high school completion" rate of 87 percent. As Planty and his colleagues at the NCES noted, this indicator has ranged between 85

percent and 88 percent over the last 30 years (Planty, et al., 2008, p.40). The total figures show a gender gap favoring females over males (89.1 percent versus 84.9 percent). The completion rate for all Whites in 2007 was reported at 93.5 percent, with a modest edge for females (94.2 percent) over males (92.7 percent). The total completion rate for Blacks according to this indicator was 87.7 percent, with virtually no gender difference (Black females at 87.9 percent as compared to 87.4 percent for males) (Planty, et al., 2008, p.143). The entire profile was depressed by non-Black Hispanics, who had a high school completion rate of 65.0 percent (60.5 percent for males and 70.7 percent for females). It is likely that many of the Hispanics included in this survey of 25-to-29 year olds are first generation immigrants who came to the United States as older adolescents or young adults and never attended a U.S. high school.

The NCES also computes a status dropout rate. It is based on the percentage of 16 to 24 year-olds who have withdrawn from public school prior to graduation and without receiving a GED. In 2006, the status dropout rate for Whites was 6 percent while the rate for Blacks was 11 percent. According to Planty et al. (2008), the Black-White high school dropout status gap narrowed during the 1980s but showed no significant change during the 1970s or during the period between 1990 and 2006 (p.38). Both of these indicators stand in marked contrast to the figures calculated by the Schott Foundation which are based on continuous promotion and exclude GEDs. Consequently, the Foundation's researchers have estimated that during the 2005-2006 school year, more than half of all Black males in the modal age range for high school graduation did not receive a regular diploma (p.2).

The NAEP measures achievement levels of 4th, 8th and 12th grade students in various subjects; each of its tests are scored on a scale of 0 to 500. The NAEP also reports composite results for all student and for racial/gender subgroups as the percentage of students within defined categories that are designated as "below basic," "at basic," "at proficient" and "above proficient" levels. In 2007, at the fourth grade reading level Black students had a mean test score that was 27 points lower than that of White students (Planty, et al., 2008, p.24). We get a much firmer grasp of the meaning of this figure in the composite data. For 2005, the most recent year for which data is available in this form, 72 percent of White male students scored at or above the basic level on the NAEP's 4th grade reading assessment as compared to just 36 percent of Black male 4th-graders (Holzman, 2006, p.10). The distributions for both groups of males improved over those recorded in 1992, with Black males showing somewhat greater progress than their White counterparts. White females outperformed both of these males groups, with 77 percent reading at or above the basic level in the 2005 4th grade assessment, while Black females came in at 44 percent. A gender gap appeared within both racial categories, but it was slightly larger among Blacks. A very similar pattern emerged in the 2007 NAEP 4th grade mathematics assessment, with Black students positing a mean score 26 points below Whites.

On the NAEP's 2007 8th reading test, Black students scored an average of 27 points lower than White students (Planty, et al., 2008, p.26). Among White males taking the 8th grade reading test in 2005, 76 percent were rated as performing at or above basic level, as compared to 43 percent of Black males. Again, the distributions for White and Black males improved over those reported in 1992, with Black males showing slightly greater gains. White females enjoyed the best distribution of all the gender/ethnic-racial categories reported; 86 percent of these students were reading at or above the

basic level in 2005. Black females performed better than their male counterparts (58 percent at basic or above levels), but well below Whites of both genders (Holzman, 2006, p.10). On the 2007 8th grade math test, the gap between middle school Blacks and Whites (32 points) was substantially higher than the gap registered among 4th grade students (Planty et.al, 2008, p.26). The 2007 battery also included a measure of writing proficiency, with 8th grade White students scoring above Blacks (164 versus 141), and Blacks about to enter high school showing lower English language writing ability than Hispanics (Planty, et al., 2008, p.112).

On the 12th grade writing test administered in 2007, White students had mean grade of 159, while their Black peers had an average grade of 137, basically replicating the racial gap in writing among middle school students (Planty, et al., 2008, p.112). For the NAEP's high school math assessment in 2005, the average grade for Whites came in at 157, compared with 127 for Blacks (Planty, et al., 2008, p.108). Space does not permit a finer grained presentation, but it is apparent that the Black-White learning gap as measured by mean scores on NAEP tests is substantial. It is also clear that the full purport of the differences in scores is more evident when the results are broken down into percentages of students within racial/gender groups at hierarchical proficiency levels.

Mean achievement gap indicators and average test scores of White and Black public school students across the United States do not adequately capture the nature of the racial achievement gap. As the test distribution data implies, while many Black students (male and female alike) are performing at levels comparable to their White peers, a substantial number are at much higher risk of educational failure. Three inter-related sets of variables distinguish those at highest risk. The first is socioeconomic status (SES) which can be measured at the level of the individual student's household, the composite of the school and, closely related to that, the composite for the neighborhood in which the student resides. According to Rumberger (2007), in 2005 roughly 34 percent of all Blacks under the age of 18 years old were living in households with annual incomes below the federal poverty level as opposed to 14 percent of their White peers (p.1295). Moreover, not only are Blacks of school age much more likely to be poor, "they are also more likely to attend schools with other poor children" (p.1295). For the purpose of measuring school SES, educational researchers have used the percentage of students eligible for the free or reduced-price lunch program as a proxy measure for the concentration of low-income students within a school. "High-poverty" schools are defined as public in which more than 75 percent of the students are eligible for free or reduced price lunch; "low-poverty schools" are those in which 10 percent or less of students eligible for free or reduced-price lunch. In general, Black students are heavily over-represented within "high poverty" schools and under-represented in "low poverty" schools. Nationally, 15 percent of all public school students attended "high poverty" schools; in 2007, 32 percent of all Black students but only 4 percent of White students were enrolled in poor schools. In that same year, 19 percent of White students as compared to 4 percent of Black students attended "low poverty" schools (Planty et al., 2008, p.48) As will be documented in a subsequent section of this chapter, household SES and school SES are robust correlates of student performance and educational attainment, with the school (or neighborhood) measures showing the strongest relationships to both outcome variables.

Under the public education funding system that prevails within the United States, local property taxes account for a substantial share of school district revenues. As a consequence, poor school

districts would appear to be heavily disadvantaged. But the raw figures for 2004-2005 indicate that "high poverty" districts actually spent more per pupil ($9,892) than did the "low poverty" districts ($9,263) (Planty, et al., 2008, p.57). Yet schools in poor districts have larger class sizes, fewer teachers and counselors, fewer and lower-quality academic courses, extracurricular activities, books, materials, supplies and computers, libraries and special services (Darling-Hammond, 2007, p.248). Part of the explanation for this seeming anomaly is that poor districts must offer substantially higher salaries to attract and retain qualified teachers and staff members. They have substantially higher expenditures per pupil for safety and security provisions, and are frequently located within urban centers that display elevated costs for a wide range of product and service offerings. As a consequence, students who live in high poverty districts are more likely to attend schools in which core educational resources are in limited while the physical condition of the school building well below common standards. .

In the United States, poverty is strongly concentrated within residential communities in which a preponderance of residents are members of minority groups, and residential location virtually determines the public school that a child attends. For the purpose of measuring the impact of attending a racially segregated school researchers use aggregated enrollment data. In most widely-used classification, schools in which 75 percent or more of the students are self-identified as Black, Hispanic, Asian/Pacific Islander, or American Indian/Alaska Native) are categorized as "high minority" schools. Conversely, those in which 25 percent or less of the students as belong to one of these four racial/ethnic groups are characterized in the research literature as "low minority" schools. In the 2005-2006 school year, 23 percent of all public elementary and secondary students were taught in high minority schools, but 50 percent of the nation's Black students attended a "high minority" school. Schools in which more than 75 percent of the students identified their race as Black accounted for 31 percent of all Black students (Planty, et al., 2008, p.50). Using 2000 U.S. Census data, Rumberger and Palardy calculated that more than 70 percent of all Black students in the United States attended "predominantly minority" schools (defined by the authors as having a study body that is 50 percent or more non-white), a higher percentage than in 1970 (2005, p.2000).
Lastly, the nation's urban centers contain neighborhoods with very strong concentrations of poor, minority group families. Common Core data show that the highest rates of student dropout occur within large cities such as New York, Detroit, Baltimore, Chicago, and Philadelphia (Neild, Stoner-Eby & Furstenberg 2008, p.543). Within the 11 large urban centers in the NAEP's database, 89 percent of Black 8th graders were not proficient in reading on the 2005-2006 assessments (Lewis et al., 2008, p.135). The available research indicates that low SES Black students who attend racially segregated urban schools are at extraordinarily high risk of school failure.

Nationally, the percentage of African-American students enrolled in special education classes is disproportionately high while the percentage of Black students admitted to Gifted/Talented programs is disproportionately low. According to a Schott Foundation researcher, across the United States Black students are placed in programs for Gifted and Talented students at about half the rate that would be expected on the basis of their enrollments. Male Black students are much less likely to participate in these programs than female Black students (Holzman, 2006, p.12).

While African Americans comprise roughly 14.8 percent of all students in public schools, they represent approximately 20 percent of all students covered by the Individuals with Disabilities

Education Act (Planty, et al., 2008, p.13). This in itself suggests that Blacks are more likely to be assigned to special education programs. But as several scholars have noted (Blanchett, 2006; Bollmer, Bethel, Garrison-Mogren & Brauen, 2007; Henderson, 2008), Black students are very heavily over-represented within certain disabilities categories, notably the "high incidence" categories of mental retardation and emotional or behavioral disorders. According to Blanchett, Black students are 2.41 times more likely than White students to be identified as having mental retardation and 1.68 times more likely to receive an emotional or behavioral disorder assessment (p.24). Black students in special education are most likely to be diagnosed as having "mild" mental retardation, suggesting that when faced with a borderline case, school system psychologists are disposed towards recommending that they be placed in special education. (Bollmer et.al, 2007, p.186)

Black students and particularly Black males constitute an inordinately high proportion of all students who receive one or more out-of-school suspensions (Holzman, 2006, p.10). While the federal governments mandates reporting of discipline data from schools for special education students, there is no such requirement for students who do not have IDEA plan (Fenning & Rose, 2007, p.545). Nevertheless, the U.S. Department of Education Office for Civil Rights has estimated that during the 2004-2005 school year African Americans students were about three times more likely to be suspended from public schools across the nation as White and Asian students (Gregory & Weinstein, 2008, p.456). Using more conservative methods and excluding Asians from the comparison group, Hinjosa (2008) recently estimated that Black students are 2.3 times more likely to be suspended than their White counterparts (p.175).

There is also no national data-collection system for public school grade promotion or retention statistics; researchers have used indirect measures and limited samples to calculate racial and gender differences for grade retention (Hauser, Frederick & Andrew, 2007, p.3). The most powerful and consistent demographic correlate of grade retention is not race, but gender. At every grade level, female students are much less likely to be retained than males (Hauser, et al., 2007, p.4). The National Research Council has reported that between the ages of 6 to 8, there is no statistically significant difference in the modal ages of Black and White students. However, for the 9- through 11-year-old age bracket, the rate of being below modal grade age in school is approximately 10 percent higher for Black students in comparison to Whites. By high school, approximately 40 to 50 percent of Black students are above the modal age for grade attended as opposed to 25 percent to 30 percent of Whites (cited in Hauser, 2007, p.4). This indirectly but strongly affirms that Black students are much less likely to be continuously promoted than White students throughout the years in public school, with a significant share of the grade retention loss for Blacks occurring at middle schools and high schools.

Most American high schools organize instruction along curriculum tracks that are geared to variation in the assessed ability levels of individual students (Southworth & Mickelson, 2007, p.502). Again, there is no national system that reports student assignments to ability groups, but the available research strongly indicates that Blacks are disproportionately enrolled in lower ability courses (Oakes, 2005, p.5),. Studies of tracking have consistently shown that White and Asian students occupy most of the college-bound, high track classes while African American and Latino students occupy most of the remedial and lower track classes (Gregory & Mosley, 2004, p.20). In a profile of a

large, urban high school in which 37 percent of the student body was White, 30 percent Black, 12 percent Latino and 8 percent Asian, Gregory and Weinstein (2008) described *de facto* racial segregation within the school.

> Although racial diversity was seen in the hallways, segregation was seen in classrooms. In the senior year of the class of 2000, 68 percent of those enrolled in calculus were White and only 5 percent were African American. Similarly, the enrollment in advanced placement classes that same year was comprised of 65 percent to 85 percent White students and fewer than 10 percent African American students (p.458).

Several researchers (Kelly, 2004; Hauser et al., 2007; Lleras, 2008; Southworth & Mickelson, 2007) have presented evidence that Black high school students in general, and Black male students in particular, are over-represented in lower ability classes and under-represented in advanced, "college-bound" curriculum track courses.

At the national level, then, the official high school completion and dropout figures tend to conceal actual graduation rates and to report smaller Black-White gaps than those found in indicators using more stringent definitions and computational methods. Even the raw NAEP test score figures mask the actual extent of Black-White disparities. The compositional figures provided by the NAEP clearly indicate that while many Black male students are learning at or above the same rate as White students, a large proportion of Black students have much lower levels of knowledge and skills. The statistics suggest (and research studies discussed later in this chapter affirm) that poor Black students who go to school with other poor minority group students are at much greater risk for failure than more affluent Black students who do not attend high poverty schools and high minority schools. On the other hand, within schools that have comparatively high SES levels and greater racial diversity, Black students are sorted into categories and tracks that constrain their ability to achieve at the same level as their White peers.

**Florida K-12 Schools**

The Black-White achievement gap in Florida's public school system displays all of the inequalities found at the national level. The official data from the Florida Department of Education (2007, 2008) demonstrate the existence of statewide Black-White gaps in high school completion/drop-out figures, but undoubtedly understate racial disparities by counting GED degrees in graduation rates. The NAEP's compositional proficiency percentage provides insight into the extent of learning differences between Black and White students in Florida, and these figures are disturbing. There is also convincing evidence of racial disproportionately in special education and school suspensions.
Before examining the descriptive statistics for Florida, it is useful to note the existence of a conflict between the State of Florida's interpretations of recent school failure/success indicators and the evaluations presented by activists and critics. On November 19, 2008, the Florida Department of Education reported that the high school graduation rate within the state was 75.4 percent during the 2007-2008 school year. Although Florida treats GEDs as the equivalent of a "regular" high school diploma, the state's figures are based upon continuous promotion data rather than post-hoc surveys of young adults. Governor Charlie Crist (2008) welcomed the report and noted that the 2007-2008 rate was the highest ever recorded by Florida. The Governor stressed that while the graduation rate

for White students rose strongly by 2.6 percentage points over the 2006-2007 year, the rate for Black students increased by an even more impressive 3.8 percentage points. The overall impression from this release was that Florida had made substantial progress in boosting its total graduation rate and in narrowing the school completion rate for White and Black students.

Just eight months earlier, however, the Florida chapter of the American Civil Liberties Union filed a "first of its kind" lawsuit against Palm Beach County's public school system (Khadaroo, 2008). The complaint alleged that the low graduation rate within the school district violated Florida's constitution. Palm Beach reported a 71.4 percent graduation rate in 2006-2007, but the ACLU presented a much lower figure, eliminating GED recipients from students counted as having completed high school in the County. The suit did not allege racial discrimination but did seek equal treatment for all sub-groups of students. In this context, the plaintiff charged that the school completion rate for White students in Palm Beach County was a full 29 percentage points higher than the rate for Black students (Khadaroo, 2008). The ACLU petition requested additional resources and the equalization of outcomes across racial/ethnic groups, but it also requested the imposition of a new method for calculating graduation rates. What we find then is that the State does recognize a substantial Black-White school achievement gap but points to emphasized recent progress in closing it. Critics maintain that the Florida gap is much wider than the official statistics indicate and that the true picture for Black is much worse than the data suggests.

The State of Florida has assessed the performance of its public high schools since the early 1970s, but during the past decade its assessment/accountability regime has been strengthened dramatically. There are three aspects to the current system that warrant attention. First, the state administers the Florida Comprehensive Assessment Test (FCAT), a "high-stakes" test that public school students must pass to be eligible for graduation from high school (Borg, Plumee & Strahan, 2007, p.700). Based in part upon the FCAT and the NAEP standardized test scores, Florida rates its public schools and its school districts according to a five-tiered grading system that ranges from "A" to "F." Schools that receive an "F" are deemed to be failing and the grades for all schools are widely publicized. The controlling idea is that the "stigma" of receiving a failing evaluation (or even a low mark) will mobilize public pressure for change, which, in its turn will pressure school personnel to increase their efforts (Figlio & Rouse, 2004. p.29). Lastly, Florida is unique in that it embedded a school voucher program within its accountability system. Since 1999, the parents of students attending a failing school can apply for an "Opportunity Scholarship" that provides funding for tuition at a private school or they can elect to send their children to a high performing school. In addition to creating parental choice, a function of this program is to use competitive incentives to drive school improvement. In conjunction with the federal NCLB, Florida has a very "high pressure" accountability regime, one that features heavy reliance upon standardized test scores, including the FCAT and NAEP assessments (Kent, 2007, p.40).

Haney's (2006) research led him to argue that under the pressure of the NCLB, Florida schools boosted their NAEP test scores and reduced the Black-White gap on these assessments by "gaming" the system. He observed that in 2005 Florida reported a decline in the Black-White gap on the NAEP's 4th grade math test decline from 28 to 23 points over a two-year time span. Black student scores increased by nearly 10 points while the mean score among White students rose by 4 points. Haney then found that during the 2003-2004 year Florida's schools began to retain a much higher

proportion of students in the third grade than it had in the immediate past, thereby eliminating them from the pool of students taking the NAEP's 4th grade math test. While roughly 4 to 6 percent of White third-grade students were held back, 15 to 20 percent of third grade Black students were retained in that same year. Haney asserted that Florida schools increased the aggregated NAEP 4th grade math scores by reducing the number of low-performing students taking the test and it "closed" the Black-White gap by disproportionately retaining more Black students than White students. He provided somewhat weaker evidence of a similar use of selective retention among 7th grade students slated to take the NAEP's 8th grade assessments. The significance of this study's findings is twofold. First, reported standardized test rates and Black-White differences within them may not accurately reflect the extent of a racial gap at any given point in time. Second, seemingly positive changes in rates and racial gap measures may be an artifact of practices that actually disadvantage Black students.

Florida reports a dropout rate based upon the percentage of students who withdraw from school in a given year without transferring to another school, a home education program, or an adult education program, including a GED certificate program. In 2000-2001 the White student dropout rate in Florida was 3.1 percent and it subsequently declined to 2.4 percent in 2006-2007. Among Black students, the dropout rate in 2000-2001 was 4.7 percent, but it remained unchanged through 2006-2007. In 2007-2008, the White dropout rate fell to 1.7 percent, while the Black rate declined by to 3.1 percent (Florida Department of Education, 2008). Without taking the GED factor into account, it appeared that in 2007-2008, Florida was effectively addressing its Black-White dropout rate gap. But further examination of the data for 2006-2007 reveals enormous variations in the dropout rate for individual school districts within Florida. In 2006-2007, year the dropout rate in Liberty County was just 0.4 percent (against a statewide rate of 3.3 percent), but in Glades County rate was 13.0 percent. In Glades, the White dropout rate for the year was 11.4 percent while the Black rate came in at an astounding 18.9 percent. (Florida Department of Education, 2007).

Florida also calculates a high school completion or graduation rate. The rate is stated as the percentage of students enrolled in ninth grade receiving diplomas with their cohort at the end of twelfth grade: it includes GED certificate holders but it basically reflects a four-year completion schedule. The Florida Department of Education reported a remarkable increase in the total graduation rate between 1998-1999 and 2007-2008, with completions rising from 60.2 percent to 75.4 percent. In 2007-2008, the statewide high school graduation rate for White students was 83.6 percent, while the rate for Black students was 62.5 percent and significantly lower than the 69.1 percent reported for Hispanics (Florida Department of Education, 2008). However, Holzman (2006) calculated that in 2005-2006, only 31 percent of Black male students (as compared to 54 percent of White male students) graduated with students of their age cohort and received a conventional high school diploma (p.2). Using the same methods, the Schott Foundation calculated that in 2006-2007, the graduation rate for Black male students improved to 38 percent, while the rate among White male students rose to 60 percent (Schott, 2008, p.5). The Foundation's research also indicates that in some Florida school districts, e.g., Pinellas County, more than three-quarters of African-American male students did not receive a regular high school diploma with members of their age cohort. (Holzman, 2006, p.24).

The NAEP's compositional data indicates that Black male students posted substantial gains on the 4th grade reading assessment between 1992 and 2005. The percentage of Florida's White male students scoring at or above the "basic level" of proficiency in grade 4 reading increased from 69 percent to 74 percent during that time span. But among Black male students, the rise was significantly greater (from 23 percent to 38 percent) this narrowed the Black-White gap from 46 percent to 36 percent. On the 2005 test of 4th grade reading ability, 77 percent of White female students were at or above the basic level and 51 percent of Black females showed basic or greater proficiency in reading (Holzman, 2006, p.25). In 2007, 78 percent of the state's 4th grade White male students were reading at or above basic level, as compared with just 41 percent of Black male students (Schott, 2008), indicating a widening of the Black-White gap. On the NAEP's 2007 4th grade mathematics assessment, just 6 percent of White male students were "below basic" proficiency in contrast to 29 percent of Black male students (Schott, 2008).

In the 2005 8th grade reading test, 70 percent of White male students in Florida scored at or above the basic level, a slight decline from the performance posted in 1998. By contrast, Black male students made substantial progress on the 8th grade reading assessment between 1998 and 2005; in 2005, 38 percent scored at or above basic proficiency in reading as compared with 33 percent seven years earlier. White females outperformed all other racial/ethnic-gender groups in 2005, with 81 percent reading at or above basic level on the 8th grade test. Black female students displayed a poorer performance, with 55 percent of the 8th graders among them reading at or above basic levels. In 2007, 74 percent of Florida's 8th grade White male students were at or above basic reading levels while 45 percent of their Black age/gender peers were reading at or above basic level. (Schott, 2008). The racial gap among Florida's 8th grade males on the NAEP's math assessment in 2007 was even greater, with 82 percent of white males displaying at or above basic levels of proficiency compared to 46 percent of Black males.

Florida does not collect any data or provide any information about racial and/or gender distributions across student ability groups or curriculum tracks. Nevertheless the Schott Foundation (2008) estimated that, relative to their respective shares of enrolled students, five times as many White male students as Black male students were allowed to take Advanced Placement Mathematics classes in Florida. On the same basis the researchers also calculated that four times as many White males were allowed to take Advanced Placement Science classes as Black males.

A selective review of the available evidence strongly suggests that Black students enrolled in Florida public schools are much less likely to complete high school than their White peers, learn less while they are in school, and receive placement decisions (including exclusionary discipline) that diminish their chances for school success. Moreover, these negative outcomes are more apparent among Black males than among Black females and they tend to cumulate across time. The achievement gap(s) separating African American males from White students (and African American females) appear in elementary school and widen in middle and high school.

**Theoretical Perspectives**

As Uwah and her colleagues have recently observed, "multiple hypotheses have been suggested to explain the lower performance of African American students generally and African American male

students specifically compared to their White counterparts" (2008, p.297). While these hypotheses often build upon the findings of prior empirical studies, at bottom, they are derived from theoretical constructs. The researcher's selection of a particular construct effectively determines the identification of variables for testing and has a powerful influence upon study design. Yet there is no scholarly consensus concerning the validity of any model that might explain the Black-White school achievement gap or how student gender interacts with race. In fact, the relevant literature indicates intense conflicts among scholars about the structures and processes that contribute to that gap.

Summarizing the factors that researchers have employed in studies of the Black-White public school achievement gap, Lee (2002) wrote that they include "socioeconomic and family conditions (educational attainment, income, poverty, single parent household); youth culture and student behaviors (motivation and effort for learning, alcohol and illicit drug usage, crime); and schooling conditions and practices (instructional resources, teachers, course taking, dropout, segregation)" (p.6). This roster could conceivably serve as the basis for a three-category taxonomy of possible causal factors that can be used to explain the poor school performance of Black students, but it is by no means comprehensive. The most widely used categorical division among factor sets that appears in the literature distinguishes "within school" variables from "between school" factors. The nature of this distinction has been illustrated by Page et al. (2008):

> Two patterns from recent research stand out. First, on average, black students attended schools staffed by less-skilled teachers than did white students…This is an example of an inequality that exists between the schools attended by black children and those attended by white children. Second, even when attending the same schools, black students were often treated differently than were white students. For example, they were less often enrolled in classes for the gifted and talented. In addition, multiple studies have documented that teachers' expectations for black students are, on average, lower than for their white counterparts…These are examples of within-school inequalities (p.4).

This dichotomy cuts across Lee's tri-partite schema. "Between school" differences are broadly congruent with what Lee refers to as "school conditions and practices," but it also encompasses dimensions of Lee's "socioeconomic and family conditions" factor set.

Lewis and his associates (2008) have delineated three interrelated but competing "paradigms" that have been used to account for differences in public school outcomes among Black and White students. The "structural-systemic" paradigm stresses the influence of macro-level forces, notably socioeconomic stratification and its correspondence with race. The "cultural deficit" paradigm, as Lewis et al. refer to it, focuses upon norms, attitudes, and behaviors grounded in African American culture that purportedly influence student engagement in educational processes. Lastly, what Lewis et al. designate as the "discontinuity paradigm" highlights conflicts that stem from Black student experiences with and perceptions of public schools as manifestations of White culture and racial bias on the part of public school personnel, most notably classroom teachers.

In their effort to explain the causes of elevated drop-out rates among African American high school students, Heck and Mahoe (2006) distinguished among four theoretical perspectives: individual (and family) deficits, resistance theory, school structure, and social reproduction (pp.419-422). Individual

and family deficits resemble Lee's (2002) "socioeconomic and family conditions" factor set and Lewis et al.'s cultural deficit paradigm. Both resistance theory and social reproduction overlap with Lewis et al.'s "discontinuity paradigm," while Heck and Mahoe's "school structure" perspective is broadly congruent with Lee's "school conditions and practices" factor cluster.

**Conclusion**

Although it is far from complete, current research amply demonstrates that Black students are trailing behind their White counterparts on virtually every major indicator of public school performance, and that Black males are at especially high risk of educational failure. The Black-White achievement gap is apparent from the 4th grade onward, appears to widen through the 9th grade and then stabilizes partially as a consequence of disproportionately high dropout rates among Black students during the first two years of high school. The officially reported racial gap in Florida's high schools generally mirrors national data. There is, moreover, strong evidence that the official data masks the gap's true extent. The theoretical literature on the Black-White achievement gap is fragmented and conflicted. There is no scholarly consensus about the capacity of any theoretical model to explain the gap's magnitude and persistence. Empirical work within this topical domain provides at least some support for the explanatory power of at least three distinct perspectives. Structural, individual/family, and cultural conflict variables appear to contribute to the Black-White achievement gap and to interact through multiple and complicated pathways. A review of the literature strongly indicates that additional descriptive and explanatory research is warranted and suggests that the prospective findings of an investigation into the Black-White/gender gaps within Florida high schools may prove significant as contributions to the field and as grounds for educational policy decision-making.

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# THE RELATIONSHIP BETWEEN PHYSICAL FITNESS AND ACADEMIC ACHIEVEMENT IN NINTH-GRADE STUDENTS IN ARKANSAS

**Shellie L. Hanna**
**Health & Physical Education**
**Arkansas Tech University**
**Russellville, AR 72801**
**shanna@atu.edu**

**Abstract**

The purpose of this study was to determine if and to what degree a relationship existed between physical fitness and the academic achievement of ninth-grade public school students in Arkansas. A sample of 152 students from 4 different schools participated in the study. The dependent variable was academic achievement as measured by the Stanford Achievement Test 10th edition (SAT 10). Scores were obtained for both SAT 10 reading scores and SAT 10 math scores. The main predictor variable in the study was physical fitness as measured by the Fitnessgram criterion-referenced evaluation. Other independent or predictor variables included in the study were gender, ethnicity, and socioeconomic status. Partial correlational analysis was performed to determine whether a relationship existed between reading academic achievement and level of physical fitness; a second partial correlational analysis was performed as well to determine if a relationship existed for math academic achievement and level of physical fitness. Two separate stepwise multiple regression analyses were performed to determine the best combination of predictors for both SAT 10 reading scores and SAT 10 math scores. Analyses were performed in response to four research questions. Results of the analysis for question one revealed no relationship between physical fitness score and SAT 10 reading score when controlling for the other predictor variables. Results of the analysis for question two indicated a positive relationship between the physical fitness score and SAT 10 math scores when the other predictor variables were adjusted for. Results of the analysis for question three indicated that the best predictor of SAT 10 reading scores was socioeconomic status. The analysis for question four resulted in an optimal prediction equation for SAT 10 math scores, which consisted of the variables socioeconomic status and physical fitness score.

**Keywords:** Academic achievement, Physical fitness, Standardized test scores

## Review of the Literature

Childhood obesity has become a national public health problem with approximately 25% of school-age children meeting the classification guidelines for being obese and 30% of school-age children being at risk for obesity-related heart disease (Alderman, Smith, Fried, & Daynard, 2007; Varga, 2007). Hoeger and Hoeger (2007) defined *obesity* as a person being 30% or more above the recommended amount of weight for one's size, gender and height; while being classified as *overweight* means that a person is just over the recommended amount of weight. The Centers for Disease Control and Prevention (2008) and Varga (2007) reported that since 1960, obesity has increased 54% in elementary school children and 39% in high school students. Alderman et al. (2007)

stated that since 1980, regardless of gender, race, socioeconomic status, or geographic location, the number of overweight children over the age of 6 has doubled. They further affirmed that the number of overweight adolescents ages 13 to18 has tripled.

This large increase in the prevalence of overweight and obese children has resulted in terms such as epidemic, crises, and emergency being used to describe the trend (Schwartz & Brownell, 2007). A survey of American households found that respondents considered childhood obesity as much of a health threat as tobacco use and violence, ranking just below drug use (Evans, Finkelstein, Kamerow, & Renaud, 2005). This issue, described as a national public health problem by Alderman et al. (2007) has led to predictions that the current generation of children will be the first generation in history to live shorter lives than their parents (Schwartz & Brownell, 2007).

The issue, however, goes beyond being just a health problem for children. Varga (2007) stated that obese children tend to remain that way throughout life and become obese adults. Finklestein and Trogdon (2008) found that there are great economic costs in the workplace for companies with obese adults. Their research determined that in a typical firm of 1,000 full-time employees, roughly more than $277,000 would be spent per year because of obesity. This includes medical expenses, time off, and lack of productivity. These findings regarding the personal and economic costs of obesity lend to a discussion of the importance of health and physical education within schools.

Evans et al. (2005) surveyed administrators and parents of school-aged children and reported that a majority of participants in the survey supported school-based strategies that included, among other things, physical activity. Martin and Chalmers (2007) stated, "Quality school physical education programs have many positive effects, including motor skill and physical fitness development of students" (¶ 27). They also suggested that, because of the increase in obesity and childhood type 2 diabetes (formerly known as adult onset diabetes), it is increasingly important for schools to provide physical activity and health education to students.

Paradoxically, while there is much evidence to support a need to help children with their education of health and physical fitness, school physical education programs are often trivialized and are the targets of budget cuts because of lack of inclusion in No Child Left Behind and the high stakes testing it requires (Martin & Chalmers, 2007). Because of the need to substantiate the importance of health and physical education programs while still meeting No Child Left Behind standards, some school districts are considering results from research that suggest that physical fitness may boost academic achievement (Byrd, 2007; Dwyer, Sallis, Blizzard, Lazarus, & Dean, 2001). Arkansas is among those states providing justification for health and physical education programs. The Office of the Governor of Arkansas (2004) created a report entitled *Healthy Arkansas for a Better State of Health*, which stated that between 1991 and 2000, Arkansas saw a 77% increase in obesity, with 14% of school-aged children being overweight and 34% of school-age children not getting enough physical activity for health benefits. However, the health risks have not been enough to justify the need for health and physical education programs in and of themselves. There has been a call for additional research. In 2003 the 84th General Assembly of the State Legislature of Arkansas created Act 1220 of 2003, House Bill 1583. Act 1220 is titled, "An act to create a child health advisory committee; to coordinate statewide efforts to combat childhood obesity and related illnesses; to improve the health of the next generation of Arkansans; and for other purposes." Subtitled "An act to create a

child health advisory committee," this legislation created a panel of experts to investigate standards for schools in the area of nutrition and physical activity (Arkansas State Legislature, 2003). This panel, known as the Governor's Council on Fitness, is investigating not only how physical activity affects the health of students, but also how physical activity affects the students' abilities academically. The president of the council, Jean-Paul Francoeur (personal communication, March 14, 2005), in a panel discussion and during an interview at the end of the discussion, stated that more study needs to be performed in this area because there is little current research available, and what research there is reveals mixed results.

Prior to 2003 a limited number of studies examined the relationship between physical fitness and academic achievement (Smith & Lounsbery, 2009). Taras (2005) worked with the National Coordinating Committee on School Health and Safety and found only 14 published articles between 1984 and 2005. Other research used only student questionnaires about academic ability and performance (Dwyer et al., 2001). Since then there has been an increase in research about the relationship between physical fitness and academic achievement in response to the landmark California Department of Education study by Grissom (2005). Grissom (2003, 2005) matched student records for the Fitnessgram and for the Stanford Academic Test (SAT), 9th edition, for 884,715 students and found a statistically significant relationship between students' fitness scores and achievement scores.

Jensen (2003) stated that physical activity could affect and improve learning in a variety of ways. Stress stimulates the brain to release the hormones cortisol and adrenaline (Brooks, Fahey, White, & Baldwin, 2000). By utilizing cortisol and adrenaline that is released when perceived stress occurs, blood glucose levels are stimulated and stress is relieved. While some levels of cortisol and adrenaline can be beneficial, Jensen and Dabney (2000) explained that situations perceived as stressful or threatening decrease learning and recall because of excessive cortisol and adrenaline levels. Exercise allows the body to relieve stress by reducing cortisol and stress without having to increase blood glucose levels. Because regular activity can reduce stress, those who participate in activity will learn more easily. Further, excessive blood glucose levels can be damaging over time because of the wear on the pancreas from having to create insulin to transport glucose into muscle cells; therefore, exercise is a much healthier way to reduce hormone levels. In situations in which students find the classroom and learning experience to be stressful, exercise can be beneficial to utilize excess stress hormones and therefore enhance the immediate learning experience.

Jensen (2003) further posited that extended exercise enhances cognitive function in several ways. First, exercise boosts blood circulation so the brain can get more oxygen and therefore work more effectively and efficiently. Exercise additionally enhances the production of the hormone NGF, a nerve-growth factor that enhances brain function. Another benefit of exercise is dopamine production. Learning is improved because dopamine has a function of being a mood enhancer. Improved mood is thought to increase learning, and increased dopamine production consequently enhances learning (Jensen, 2003). While Jensen's (1998, 2003) and Jensen and Dabney's (2000) writings are research based, more research is needed to draw a complete conclusion that physical activity and physical fitness affect learning.

Sibley and Etnier (2003) performed a meta-analysis on published and unpublished research in the area of determining how physical activity affects cognition and academic achievement. The results of the meta-analysis concluded that exercise alters brain neurotransmitters in such a manner that the central nervous system is altered, the body is aroused, and cognitive development can occur. Not only was cognition improved for students who performed more exercise with a significant correlation of 0.32 for an $\alpha < .05$, academic achievement performance was also improved with a significant correlation of .30 for an $\alpha < .05$ (Sibley & Etnier, 2003). One critique of the studies analyzed was that most were relational in nature rather than causal in design. Additionally, Sibley and Etnier commented that even with a conservative viewpoint, time spent in physical activity "will not hurt cognitive performance or academic achievement" (p. 253).

Weiss (2001) noted that "physiological states support our mental efforts" (¶ 15). The responsibility of endorphins is to decrease pain in the body, enhance a mental sense of well-being, and increase blood flow to the brain; when exercising, endorphins are increased. Another benefit of increased blood flow during exercise is in helping with oxygen levels. With physical activity, there is an escalation in the number of capillaries, which in turn assist learning by increasing blood flow to the brain, even when one is at rest. With exercise, the brain releases dopamine and serotonin, and these neurotransmitters are particularly important for improving and maintaining attention.

Although Jensen and Dabney (2000) supported the previously mentioned relationships between exercise, activity, and their affect on cognition, they included one more possible factor not mentioned in other studies and reviews. Because physical activity can help reduce levels of obesity, learning may be improved. Research correlates obesity to health risks, and therefore an individual's ability to learn and achieve may subsequently lessen due to illness or other health issues. Obese individuals are more at risk for chronic stress, which stimulates an overproduction of glucocorticoids. One glucocorticoid particularly involved with chronic stress is cortisol (Scheen, Byrne, Plat, Leproult, & VanCauter, 1996; Brooks et al., 2000). While some levels of cortisol and adrenaline can be beneficial, as previously discussed, excessive cortisol will damage and destroy neurons in the brain over time, which could possibly affect its ability to retain information and to learn new information. By increasing physical activity enough to reduce obesity levels and therefore reduce glucocorticoids, learning and achievement will increase (Jensen & Dabney, 2000). Because findings in studies indicated that a multiplicity of variables may interplay with an individual's ability to learn and achieve, researchers are currently addressing several possible variables related to learning and academic achievement including type of activity and/or type of exercise; these variables are then being compared to both grade-point average and standardized test scores.

A landmark study performed by a member of the California Department of Education examined this relationship. Jim Grissom (2003, 2005), California's educational research and evaluation consultant, stated that beginning in 1996, the California State Board of Education designated the Fitnessgram physical fitness test to be administered to students each year. The test measures not only cardiovascular endurance but also muscular strength and flexibility. Beginning in 2001 the California Department of Education began reporting the physical fitness test results and in 2002 began administering the SAT 9. With the administration of the SAT 9, demographic information is also collected. Grissom (2003, 2005) reported that he matched student records for the Fitnessgram and for the SAT 9 for 884,715 students. The results of the study indicated there was a statistically

significant relationship between the fitness scores and the achievement scores. The fitness score was determined by the number of fitness standards achieved. As the fitness score on the Fitnessgram increased, the mean SAT 9 score increased. Whereas there was a strong overall relationship between the variables, the researchers also analyzed scores between groups. When stratified for specific groups, analysis revealed a significant relationship between fitness scores and academic achievement for each group. When examining the analysis related to gender, Grissom (2003) reported females and males differed. Females indicated a stronger relationship between physical fitness and academic achievement than males. When examining the variable socioeconomic group, he determined "the rate of increase" was greater for students with more highly educated parents and higher socioeconomic status (Grissom 2003, p. 13). Grissom (2003) suggested, however, that the results "be interpreted with caution" (p. 14). He observed that there could be other variables not considered that mediated scores. He further suggested that results for the higher socioeconomic group's stronger statistical relationship could be related to those students having higher academic achievement and better health. Grissom analyzed the 2004 scores using the same methodology as the 2002 study, which was reported by the California Department of Education in April of 2005. Grissom reported that findings in 2004 "validated" his earlier report from 2003 (California Department of Education, 2005, p. 6).

It is from this landmark study that other studies began to emerge including this present study.

**Purpose of the Study**

The purpose of this study was to determine if a relationship existed between physical fitness and the academic achievement of ninth-grade public school students in Arkansas.

***Research Questions***

The general research question for the study investigated whether there was a relationship between physical fitness and academic achievement after adjusting for the effects of demographic variables. This study specifically investigated the following research questions:

1. Is there a relationship between physical fitness and reading scores while controlling for the effects of socioeconomic status, ethnicity, and gender?
2. Is there a relationship between physical fitness and math scores while controlling for the effects of socioeconomic status, ethnicity, and gender?
3. Which of the possible combinations of the four predictor variables, physical fitness, gender, ethnicity, and socioeconomic status, give the best prediction of reading scores?
4. Which of the possible combinations of the four predictor variables, physical fitness, gender, ethnicity, and socioeconomic status, give the best prediction of math scores?

***Research Design and Instruments***

This study was a correlational study using a parametric multiple regression analysis to determine if a relationship between physical fitness and academic achievement occurs in ninth-grade public school students in the state of Arkansas. Because multiple variables could have affected the relationship between physical fitness and academic achievement, a multiple regression analysis was used to

determine the relationship rather than a simple correlational design. Multiple regression analysis allowed multiple independent variables to enter the analysis as controlling variables.

Participants in the study were ninth-grade public school students in the state of Arkansas. Schools from each region of the state that were listed on the Arkansas Department of Health's Coordinated School Health list were invited to participate in the study, thus narrowing the pool to 30 schools. Of the 30 schools invited to participate in the study, 4 schools actually agreed to participate.

This study examined the relationship of physical fitness to reading comprehension and math problem solving respectively. The dependent variable in the study was academic achievement as indicated by the SAT 10. All ninth-grade students in Arkansas are required to take the norm-referenced SAT 10 that measures reading comprehension and math problem solving.

The primary independent variable (or predictor variable) in the study was physical fitness as measured by the Fitnessgram criterion-referenced evaluation. The criteria standards evaluate fitness performance and indicate levels of fitness necessary for good health on six tests. The number of standards met was the student's physical fitness score. To enhance internal validity, the researcher required that the participating teachers administer the Fitnessgram tests during the same semester as the administration of the SAT 10.

**Design of the Study**

***Study Type***

This study was conducted from a quantitative research perspective and utilized a correlational methodology. It employed a stepwise multiple regression analysis to determine if there existed a relationship between physical fitness and academic achievement of ninth-grade public school students in the state of Arkansas.

***Population and Sample of Participants***

The population of interest in this study was public school ninth-grade students in the state of Arkansas. This population was chosen because the ninth grade (freshman year) is when many high school students take a physical education course to satisfy the state requirement of 1 year of physical education and health prior to graduation. In addition, all ninth-grade students in Arkansas take the SAT 10 multiple-choice assessment.

***Variables***

The dependent variable in the study was academic achievement. This study utilized the scores for reading and math as the dependent variable.

The main independent or predictor variable in the study was the physical fitness score as measured by the Fitnessgram criterion-referenced fitness assessment. The Fitnessgram evaluated physical fitness performance on six standards and indicated whether the student met each of the standards.

Predictor variables of gender, ethnicity, and socioeconomic status were included based on other studies that examined factors that could possibly affect the outcome of academic achievement (Castelli et al., 2007; Grissom, 2005). Ethnicity was categorized as African American, Asian, Caucasian, or Hispanic according to the reporting methods of the Arkansas Department of Education. Socioeconomic status, as defined by the Arkansas Department of Education, was categorized by qualifying for free or reduced lunch versus not qualifying for free or reduced lunch.

Assumption Testing

Prior to conducting the correlational and regression analysis, the data were screened for missing data and multivariate outliers. Participants with missing data were excluded from the analysis. This included students who had not taken the SAT 10 for various reasons or for whom the schools did not provide information.

Possible outliers were investigated by calculating the Cook's distance in a preliminary regression procedure. Cook's distance for this study was .007 for SAT 10 reading scores and .007 for SAT 10 math scores; thus no outliers were identified.

Homoscedasticity, or constant variance across the variables and within the variables, was tested with a Levene's test. The Levene's test measured reading and math homoscedasticity independently. The probability for the Levene's test was $p = .185$ for SAT 10 reading scores and $p = .342$ for SAT 10 math scores with a significance level of $\alpha = .05$, thus the Levene's test indicated that the assumption of homoscedasticity was not violated. Following this test, a partial correlational analysis and stepwise multiple regression analysis was performed, first for SAT 10 reading scores and then for SAT 10 math scores, to examine the four research questions.

**Results**

As previously stated, the general research questions for the study investigated the relationship between physical fitness and academic achievement. The first two questions investigated the exclusive relationship between physical fitness and academic achievement, while the last two questions sought to determine whether certain variables were predictors of academic achievement.

Research Question 1 investigated the exclusive relationship between physical fitness and SAT 10 reading scores: Is there a relationship between physical fitness and SAT 10 reading scores while controlling for the effects of socioeconomic status, ethnicity, and gender? A partial correlational analysis allowed the researcher to control the effects of one or more independent variables when investigating the relationship between the dependent variable and the main independent or predictor variable. To answer research question one, the researcher conducted a partial correlational analysis, controlling for the variables gender, ethnicity, and socioeconomic status. With an alpha level of .05, the partial correlation between physical fitness scores and SAT 10 reading scores was not statistically significant, indicating no relationship between the two variables while controlling for the effects of the other predictor variables, $pr = .092$, $p = .266$.

Research Question 2 investigated the exclusive relationship between physical fitness and SAT 10 math scores: Is there a relationship between physical fitness and SAT 10 math scores while

controlling for the effects of socioeconomic status, ethnicity, and gender? To answer research question two, the researcher again conducted a partial correlational analysis, controlling for the variables gender, ethnicity, and socioeconomic status. With an alpha level of .05, the partial correlation between physical fitness scores and SAT 10 math scores was statistically significant, indicating a relationship between the two variables while controlling for the effects of the other predictor variables, *pr* = .216, *p* = .008.

Research Question 3 specifically investigated whether socioeconomic status, ethnicity, and gender were predictors of SAT 10 reading scores: Which of the possible combinations of the four predictor variables, physical fitness, gender, ethnicity, and socioeconomic status, give the best prediction of SAT 10 reading scores? To answer research Question 3, a stepwise multiple regression analysis was utilized to determine whether physical fitness levels were related to student academic achievement at a statistically significant level. For the purpose of this study, all tests of significance were conducted with a significance level α = .05. Analysis was first performed examining the dependent variable of SAT 10 reading scores and its relationship to the independent variables, which included physical fitness scores, gender, ethnicity, and socioeconomic status.

For this study, the researcher used the SPSS 16.0 default criteria for variables entering the model. Using these criteria resulted in one model for prediction, which included only socioeconomic status as a predictor of SAT 10 reading scores. No other independent variables met criteria for the model (see Table 1).

Table 1
*Variables Entered/Removed in Stepwise Multiple Regression Analysis for SAT 10 Reading Scores*

| Model | Variables Entered | Variables Removed | Stepwise criteria |
|---|---|---|---|
| Model 1 | SES[a] | | Probability-of-to-enter < = .05 |
| | | | Probability-of-F-to-remove > = .100 |

[a]SES = socioeconomic status.

In this study, the *r* square value (.088) was interpreted as the proportion of variability in the SAT 10 reading scores accounted for by Model 1 (see Table 2). An *r* square value of .088 means that 8.8% of the variability in reading scores could be attributed to socioeconomic status. The adjusted *r* square value was .082, which means that 8.2% of the variability in SAT 10 reading scores could be attributed to socioeconomic status.

Table 2
*Stepwise Multiple Regression Model Summary for Predicting SAT 10 Reading Scores*

| Model | *r* | $r^2$ | Adjusted $r^2$ | *SE* of the estimate |
|---|---|---|---|---|
| Model 1[a] | .296 | .088 | .082 | 21.8036 |

[a]Predictor variable: socioeconomic status.

In regression analysis, an ANOVA tests the acceptability of the model from a statistical perspective. The results shown in Table 3 indicate that the model performed well in predicting SAT 10 reading scores from socioeconomic status, and that the variation explained by the model was not due to chance.

Table 3
*ANOVA Summary of Model Effectiveness in Predicting SAT 10 Reading Scores*

| Model | | *SS* | *Df* | *MS* | *F* | *p* |
|---|---|---|---|---|---|---|
| Model 1[a] | | | | | | |
| | Regression | 6,860.425 | 1 | 6,860.425 | 14.431** | .000 |
| | Residual | 71,309.850 | 150 | 475.399 | | |
| | Total | 78,170.275 | 151 | | | |

*Note.* Dependent variable: reading academic achievement.
[a]Predictor variable: socioeconomic status.
**$p < .01$.

Standardized beta coefficients indicate the contribution an independent variable makes to the variance in the dependent variable. The standardized beta coefficient of .296 denoted a significant positive relationship between socioeconomic status and SAT 10 reading scores (see Table 4). The unstandardized beta coefficient for socioeconomic status was 13.466, which represents the slope of the regression line. Finally, the constant 35.425 represents the *y*-intercept of the regression equation.

Research Question 4 specifically investigated whether socioeconomic status, ethnicity, and gender were predictors of SAT 10 math scores: Which of the possible combinations of the four predictor variables, physical fitness, gender, ethnicity, and socioeconomic status, give the best prediction of SAT 10 math scores? To answer research Question 4, the researcher again used stepwise multiple regression analysis to examine the dependent variable of SAT 10 math scores and their relationship to the independent variables, which included physical fitness scores, gender, ethnicity, and socioeconomic status. Again, all tests of significance were conducted with a significance level $\alpha = .05$.

Table 4
*Coefficients for the Regression Model to Predict SAT 10 Reading Scores*

| | | Unstandardized coefficients | | Standardized coefficients | | |
|---|---|---|---|---|---|---|
| Model | | *B* | *SE* | β | *T* | *P* |
| Model 1 | | | | | | |
| | (Constant) | 35.425 | 5.493 | | 6.449 | .000 |
| | SES[a] | 13.466 | 3.545 | .296 | 3.799** | .000 |

[a]SES = socioeconomic status.
**$p < .01$.

The researcher again used the SPSS 16.0 default criteria for variables entering the model. Using these criteria resulted in two prediction models. Model 1 identified only socioeconomic status as meeting the criteria in predicting SAT 10 math scores. No other independent variables met criteria for Model 1 (see Table 5). Model 2 identified physical fitness scores and socioeconomic status as meeting the criteria in predicting SAT 10 math scores. Model 2 showed the strongest combination of independent variables to predict SAT 10 math scores.

Table 5
*Variables Entered/Removed in Stepwise Multiple Regression Analysis for SAT 10 Math Scores*

| Model | Variables entered | Variables removed | Stepwise criteria |
|---|---|---|---|
| Model 1 | SES[a] | | Probability-of-F-to-enter <= .050 |
| | | | Probability-of-F-to-remove >= .100 |
| Model 2 | PFS[b] | | Probability-of-F-to-enter <= .050 |
| | | | Probability-of-F-to-remove >= .100 |

[a]SES = socioeconomic status; [b]PFS = physical fitness score.

In this study, the *r* square value (.108) was interpreted as the proportion of variability in the SAT 10 math scores accounted for by Model 2 (see Table 6). An *r* square value of .108 means 10.8% of the variability in SAT 10 math scores could be attributed to socioeconomic status and physical fitness scores. In this study, the adjusted *r* square value was .096, which means that 9.6% of the variability in SAT 10 math scores could be attributed to the combination of the predictor variables socioeconomic status and physical fitness score.

Table 6
*Stepwise Multiple Regression Model Summary for Predicting SAT 10 Math Scores*

| Model | $r$ | $r^2$ | Adjusted $r^2$ | *SE* of the estimate |
|---|---|---|---|---|
| Model 1[a] | .248 | .062 | .055 | 17.8379 |
| Model 2[b] | .329 | .108 | .096 | 17.4490 |

*Note.* Dependent variable: SAT 10 math scores.
[a]Predictor variable: socioeconomic status.
[b]Predictor variables: socioeconomic status; physical fitness score.

The results of the ANOVA, which are shown in Table 7, indicate that the model performed well in predicting SAT 10 math scores from the combination of socioeconomic status and physical fitness score, and that the variation explained by the model was not due to chance. Although Model 1 indicated statistical significance with only the variable socioeconomic status, Model 2 provided a better prediction of SAT 10 math scores when the variable physical fitness score was included.

The standardized beta coefficient value of .248 denoted a significant positive relationship between socioeconomic status and SAT 10 math scores for Model 1 (see Table 8). The unstandardized beta

coefficient for socioeconomic status was 9.106, which represents the slope of the regression line. Finally, the constant 47.176 represents the y-intercept of the regression equation.

Table 7
*ANOVA Summary of Model Effectiveness in Predicting SAT 10 Math Scores*

| Model | | *SS* | *Df* | *MS* | *F* | *p* |
|---|---|---|---|---|---|---|
| Model 1[a] | | | | | | |
| | Regression | 3,137.184 | 1 | 3,137.184 | 9.859** | .002 |
| | Residual | 47,728.661 | 150 | 318.191 | | |
| | Total | 50,865.845 | 151 | | | |
| Model 2[b] | | | | | | |
| | Regression | 5,500.059 | 2 | 2,750.029 | 9.032** | .000 |
| | Residual | 45,365.786 | 149 | 304.468 | | |
| | Total | 50,865.845 | 151 | | | |

*Note.* Dependent variable: SAT 10 math scores.
[a]Predictor variable: socioeconomic status.
[b]Predictor variables: socioeconomic status and physical fitness score.
**p < .01.

For Model 2, the standardized beta coefficient for socioeconomic status was .221 while the standardized beta coefficient for physical fitness scores was .217. While both standardized beta coefficient values denoted a significant positive relationship to SAT 10 math scores, socioeconomic status contributed more to the variance in SAT 10 math scores than physical fitness scores. The unstandardized beta coefficient value for socioeconomic status was 8.101, while the unstandardized beta coefficient value for physical fitness score was 2.771. These values represent the coefficients of the two variables in the regression equation. The value 37.167 still represents the constant in the regression equation.

Table 8
*Coefficients for the Regression Model to Predict SAT 10 Math Scores*

| | | **Unstandardized coefficients** | | **Standardized coefficients** | | |
|---|---|---|---|---|---|---|
| **Model** | | ***B*** | ***SE*** | **B** | ***T*** | ***p*** |
| Model 1 | | | | | | |
| | (Constant) | 47.176 | 4.494 | 10.498 | .000 | |
| | SES[a] | 9.106 | 2.900 | .248 | 3.140** | .002 |
| Model 2 | | | | | | |
| | (Constant) | 37.167 | 5.677 | 6.547 | .000 | |
| | SES | 8.101 | 2.861 | .221 | 2.833** | .005 |
| | PFS[b] | 2.771 | .995 | .217 | 2.786** | .006 |

[a]SES = Socioeconomic Status; [b]PFS = Physical Fitness Score.
**$p$ < .01.

**Discussion of the Results**

This study found that there was a relationship between physical fitness and math academic achievement. However, unlike Grissom (2005), socioeconomic status was included in the model for predicting how well students performed academically. Another major difference in this study from the Grissom (2005) study was that there was not a relationship between physical fitness and reading academic achievement. Instruments in this study and the Grissom study were the same.

An additional possible explanation of the relationship between physical fitness scores and math scores is the linear, sequential nature of math. Kirkendall's (1986) study measured motor skills and scores on achievement tests. Students who were able to complete particular motor skills scored better on the achievement tests. It is arguable that the higher level of achievement could be in part to possessing more skill for the physical activity than possessing a high level fitness required to complete the activities.

Further, the test requirements for the physical fitness tests require strict following of protocol (Meredith & Welk, 2008). These protocols include specific and exact directions along with precise guidelines for completing some of the physical skills. VanDerHeyden and Burns (2009) conducted research in which ability to perform hierarchical and sequential skills in physical fitness was related to performing well on math tests. The requirements of skill completion on the push-up test, abdominal strength curl-up test, trunk extensor test, and back-saver sit-and-reach are likewise sequential in nature. Thus, as found in VanDerHeyden and Burns' study, students who follow sequential patterns better in math may also perform sequential protocol on fitness tests better than students who do not achieve as highly on sequential tasks.

The findings that higher socioeconomic status was the only statistically significant predictor for reading scores may be related to research that suggests that learning is affected by cultural expectations and situations (Rehmeyer, 2008). Tompkins and Deloney (1994) in their discussion of their research on rural students from Arkansas included a link between the family background, socioeconomic status, and the risk for low academic achievement. They suggested that the expectations from family background along with other factors place students at risk for low achievement and high dropout rates. It is possible that students in higher socioeconomic status homes in this study had cultural expectations for higher academic achievement.

It is possible that high levels of physical fitness and high socioeconomic status work in combination in a manner not explained by current research to make stronger predictions than just socioeconomic status alone. Grissom (2003) suggested in his conclusions that the relationship between low socioeconomic status, general health, and expectations may affect students to the level that if students had no physical education or health-related education, academic achievement could be impacted negatively.

The results that were different in the other studies may be caused by several factors. Castelli et al. (2007) utilized the Fitnessgram physical fitness test. However to measure academic achievement, the researchers used the ISAT test that is used with third- through eighth-grade students in Illinois.

Martin and Chalmers (2007) utilized the President's Challenge Physical Fitness Test, a norm referenced test, as the measure for physical fitness. They also utilized the Iowa Test of Basic Skills to measure academic achievement. On both tests, students' scores were determined by averaging percentiles (Martin & Chalmers). Because Castelli et al. (2007) and Martin and Chalmers (2007) utilized instruments that vary from this study, caution must be used when comparing the studies directly.

Another factor may be the locale of the test and type of physical education program in those locales in each of the studies similar to this one. It is possible that some school districts may practice for the fitness tests more than other schools or have different training requirements of the school teachers. By practicing for tests, students would perform better than students with no practice. By having teachers who are trained to teach physical education, students could benefit from their teacher's ability to teach specific skills related to fitness testing. All of these factors could affect the scores.

Finally, one cause for differing results between Grissom (2005) and this study may be the amount of control exhibited in this study over the fitness testing protocol. The Grissom (2005) study did not have the researcher present at the time of fitness testing. Protocols in the Fitnessgram are precise and valid scores are dependent on accurate implementation. By having the researcher present for every test, this study ensured that all tests were accurately and precisely administered.

Recommendations for Future Research

1. It is recommended that future research be conducted in Arkansas to replicate this study with a larger sample size.
2. It is recommended that future research be conducted to replicate this study with a sample more ethnically diverse in nature. Because of the locale of schools that volunteered to participate in the study, some of the school populations were lacking in student diversity. Tompkins and Deloney (1994) suggest that students in rural Arkansas and specifically in southeastern Arkansas may be more at risk for lower graduation rates and success in schools due to the general level of educational attainment, socioeconomic status, and ethnic make-up of the region. Having schools from that area of the state would be beneficial to a broader understanding of diversity and its relationship to the other variables.
3. It is recommended that future research be conducted that examines other scores such as language and/or composite scores on the SAT 10 test. Because this study found that while the physical fitness score did predict the SAT 10 math score but not the SAT 10 reading score, conducting a study utilizing the SAT 10 composite score as the dependent variable could help determine if overall composite academic achievement can be predicted.
4. It is recommended that research be conducted to analyze the relationship between low socioeconomic status and low physical fitness level in the school setting.
5. It is recommended that research be conducted to analyze the relationship between specific physical fitness test scores to academic achievement. It would be beneficial for researchers to be able to determine if a specific physical fitness test is a more accurate predictor of academic achievement than the overall score on the Fitnessgram.

In conclusion, the purpose of the study was to determine if a relationship existed between physical fitness and the academic achievement of ninth-grade public school students in Arkansas. Data were collected on students from 4 schools, which included scores from the Fitnessgram physical fitness

assessment and the SAT 10 academic achievement assessment. A partial correlation analysis along with a stepwise multiple regression was performed on the data. The study reported that there was no relationship between physical fitness and reading academic achievement. However, there was a relationship between physical fitness and math academic achievement.

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# MENTORSHIPS IN HIGHER EDUCATION

**Shellie L. Hanna**
**Department of Health and Physical Education**
**Arkansas Tech University**
**Russellville, Arkansas 72801**
**shanna@atu.edu**

**Sid T. Womack**
**Department of Curriculum and Instruction**
**Arkansas Tech University**
**Russellville, Arkansas 72801**
**swomack@atu.edu**

## Abstract

The purpose of the study was to determine the extent and nature of mentoring at a mid-sized university in the South. Mentoring in higher education seems to occur sporadically if it occurs at all, and there is relatively slight mention of faculty-faculty mentoring in the literature. Mentoring involves a helping relationship between a faculty member who is either new to college level teaching or who is new to the institution, and a faculty member who has been teaching at the college level and at the institution for a longer period of time. This descriptive study looked at mentoring patterns between junior and senior faculty. Of particular interest were contrasts between the reflections of tenured and non-tenured faculty. Results from the chi square analysis included only 38% of faculty surveyed receiving mentoring with most of the mentoring being directly related to the tenure and promotion process. Findings also indicated that the higher ranked an individual was, the more likely they were to have received mentoring while at lower ranks. That mentoring was also more likely to have included assistance with scholarly productivity.

**Keywords:** Mentoring, Tenure, Promotion, Instructional improvement, Supervision

## Introduction

Mentor was the elderly friend of Odysseus, the hero of the Odyssey. Before Odysseus went to fight in the Trojan War, he made Mentor the guardian of his son, Telemechus. In Mentor's shape, the goddess Athena helped Telemechus search for Odysseus. Today the word *mentor* means wise and faithful counselor.

When discussing mentoring, many varying ideas of what mentoring actually is can depend on whom one speaks to. When speaking towards pre-service teacher education, Hall, Draper, Smith, & Bullough Jr (2008) said that any clarity about what mentoring is, who mentors, how mentoring actually occurs is scarce. Though pre-service mentoring is not what this paper concerns itself with, the same thing can be said for the enigmatic and illusive idea of what mentoring actually is in college level faculty to faculty settings as well.

Sergiovanni and Starratt developed a concept of supervision (*Supervision: A redefinition, 8th ed,* 2007) that is closer to mentoring than the administrative concepts of the past. They combined the human relations supervisor concept and the human resources supervisor to increase school effectiveness while simultaneously increasing teacher satisfaction. This re-definition of supervision is a step closer to the concept of mentoring that is used in this paper. One difference in Sergiovanni and Starratt's application of leadership theory and the world of higher education faculty is that Sergiovanni and Starratt were focusing more on public school settings than on higher education. The cultural and social expectation for higher education faculty is that of more autonomy and independent decision-making because they are, or are presumed to be, among the most educated individuals in our society.

Mentoring serves a many-fold purpose. Mentors benefit from raised self-esteem and the chance to share ideas with others. In 1985 Glickman wrote that ". . . While teaching, teachers in most schools are invisible to each other and lack any concrete knowledge of what other teachers doing in the classroom. . . Little wonder, then, that most school faculties do not work well together." In 1988, Robbins added that we often make our mark on students but not on the profession. Mentoring gives us that chance.

**Literature Review**

Not that many studies on the mentoring of higher education faculty were found during an ERIC search. Over 1000 documents were found when "mentoring" and "higher education" were possibilities, but much fewer were found when the intent was to emphasize the mentoring of junior faculty by senior faculty. For that reason, some citations from the literature on the mentoring of public school teachers were included here.

In 2007, the Australian House of Representatives started an inquiry into the fact that nearly 40% of their teachers were leaving their professions within the first five years of teaching. The House started looking into different types of mentoring programs in order to find one that would best help their current situation. As they studied and reached out to other countries such as the United States, UK, and Canada; they found that this was not a problem merely relegated to their country, but was of international significance (Andrew 2009).

"The reason so many new teachers leave (within the first year) is that teaching, as a profession, has been slow to develop a systematic way to induct beginners gradually into the complexities of a job that demands hundreds of management decisions every day" (Paris 2010). The above statement made by the director of the reciprocal mentoring program at Edith Cowan University in Perth, Australia is one of many good opinions that portray a constant worry that is endemic in education, the fact that new public school teachers often do not survive or thrive.

Paris (2010) cites the fact that induction failure is the main reason for this high attrition rate. She cites Ladd (2007) in showing that in the UK attrition figures are generally around 22% within the early years of teaching and that in a survey of over 1000 teachers leaving their profession, 45% of the respondents cited their reason for leaving as too much workload. As seen in the above quote, Paris does not believe that the workload is too heavy, but that the management skills of the new

teachers are not good enough to manage the workload. She believes that reciprocal mentoring is the way to encourage teacher retention so that two professionals, one experienced and another not, will be able to share that workload until the inexperienced teacher grows into better management skills.

Felder (2010) was interested in how mentoring affects race relations. Gasman, Hirschfield, & Vultaggio (2008) explored how mentoring affected African American attrition rates in graduate school settings and Thompson (2006) documented how well African Americans survived in Ivy League Universities. There are several motivations for studying mentoring.

Rockoff (2008) said that although teacher mentoring is now mandated in most states, high quality research in mentoring remains scarce. This statement lead Washburn-Moses (2010) to conduct her own study from the University of Miami in comparing how state and district policies compare with actual practice in General Education. In this paper by Washburn-Moses, we see yet another motivation for studying mentoring, this one being more political in nature. It was a paper meant to explore the gap between policy and practice and how we, as educators, could close that gap.

Another thing that obfuscates literature on mentoring is that there are so many different reasons that researchers are studying mentoring. Fletcher and Strong (2009) illustrate this point when they say "The majority of existing research on mentoring has focused on the impact of induction on teacher retention. Of greater interest is the potential impact on student achievement" (p. 329). Fletcher and Strong (2009) say that a majority of mentoring research focuses on teacher retention, but they give no statistical evidence of that. In reviewing other literature on mentoring, other factors have emerged.

Hirsch agreed with Washburn-Moses when he said, "It is clear that good policy does not guarantee faithful program implementation, much less increased retention and improved teacher quality." (Hirsch 2009) This quote from Hirsch illustrates another difficulty with pinning down any clarity about mentoring and what it actually is, the fact that there are so many different opinions about what the problem with our current mentoring problems are.

This leads to the present study. We were examining what mentoring at a public university looked like. We believed that mentoring should not exist only to help the teacher/professor *survive* the first few years but also to *thrive.*

**Roles, Relationships, and Responsibilities**

A mentor is expected to be a friend first. This requires establishing a special relationship in which confidentiality is a major component. The mentor is also a facilitator and guide. The mentor is expected to be a wise, experienced teacher. The mentor should be prepared to model methods of teaching. She should be trained to observe and critique. She should be able to point out the good things an intern accomplishes as well as places where there is room for improvement. In these growth areas, she must have the skills to provide opportunities and nurture growth.

It takes a special personality to be a mentor. Someone who always speaks what she thinks or is insensitive is not likely to build the needed bond of trust with an intern. Effective mentors must be people oriented. He or she must be able to tolerate ambiguity and be able to vocalize the obvious without seeming to do so. A good mentor prefers abstract concepts. The mentor values both his own work and that of the protégé'. The mentor must also like and respect her peers as well as be liked and respected by them. She must be confident yet flexible. She must be caring and warm (K. Womack, 1990).

**Role Transitions**

Gray and Gray (1985) found that good mentors are people-oriented, that they tolerate ambiguity, prefer abstract concepts, value their company and their work, and respect and like their subordinates. The things that successful mentors do to make their protégés' successful in their first year of teaching include helping them gain self confidence, learn the technical aspects of their jobs, encourage creativity, help them to better understand the school's administration, and helped them work with people. They also found that the mentorship period had five stages:

1. initiation
2. development
3. disillusionment
4. parting
5. transformation

With the initiation stage comes what is called *the sparkle* in which the protégé' is so dazzled by the mentor that he tries to put forth the best image he can to impress the mentor. In development the mentor presents the information about the craft of teaching. Disillusionment is inevitable and happens when the protégé' realizes that, for all the teaching prowess that the mentor possesses, this prowess is still a finite amount and that the mentoring relationship will soon have little more to offer. In parting the protégé' becomes independent. This may or may not happen with bitterness. In transformation the mentor and protégé' can view each other as competent professionals in their own rights.

One useful thing about developmental descriptions such as these is that if the people involved know what is coming, they can prepare for it and be ready to make adjustments. If the mentor knows that eventually disillusionment will give way to independence, he or she can avoid getting feelings hurt when this new independence is asserted. Conflicts happen when the mentor is unwilling to let the protégé' make the step from disillusionment to parting, trying to hang on to the relationship because of the sense of power that the mentor is feeling during the developmental period. The mentor must be ready to let go. A professionally mature mentor can view the protégé's new successes as being at least partly attributable to the mentor's efforts. This is better than trying to keep a protégé' under his or her wing forever (Phelps & Cotton, 1989).

**A Position on Mentoring**

Trying to live up to the expectation of perfection narrows the field of mentor applicants in a hurry. Nobody gets it right the first time, every time. One of the fascinating things about mentorships, as

seen through the eyes of *protégés*', is getting to see how the mentor works his way out of a mistake once he has made it. Sometimes *protégés'* learn more from watching that developmental process than from observing carefully-retouched finished products.

One of us was asked by the university's chapter of the Student National Education Association to do a presentation on school law on a Thursday night at one of the local restaurants. The presentation was supposed to begin at 7: 30 PM. By 6: 30 the effort began to get the laptop to coordinate with a portable projector. The projector would show a test pattern, but would not communicate with the laptop. For 55 minutes there were re-boots, checking of all the connections, and more attempts to get the computer to send images to the projector. Five minutes before the time for the presentation to begin, a colleague who knew a critical fact about getting computers to "talk" to projectors arrived and revealed how to simultaneously press "Function" and "F8." *Viola!* There were pictures! Now the school law presentation for the 30-35 early childhood majors who had assembled could begin.

It was after the law presentation that the real lesson for the night was made apparent. "You know," one co-ed said, "Your presentation on school law was okay, and I learned from it," she said with a half-dozen of her friends gathering around. "But what we learned most tonight, from watching you work through 55 minutes of nothing but sheer failure, was how a professional deals with frustration. You never cursed; you never swore; you didn't beat up on the equipment; you didn't blame other people; you just kept trying with everything you knew how to do until help arrived. We learned far more from the 55 minutes *before* the presentation than from what came at 7:30. Thank you!" And then she and her six friends left.

Having them sit through the Power Point brought to them that night: Hopefully worth an hour of their time. Having them learn about professionalism under stress: Priceless. Un-intentional learning: If we mentor, un-intentional learning will occur. Count on it. Live right and it won't disappoint.

**Complexities of Mentoring in Higher Education**

One reason for mentoring is that learning to teach is a developmental process. While advanced degrees can prepare faculty in a greater understanding of their fields of specialization, conveying those understandings through the act of teaching can be a separate entity. It has been said that "Just because you do something does not mean that you can teach others to do it." Faculty who come to university teaching without backgrounds in instructional settings often find themselves in foreign territory. New faculty need guidance to get through the phases of pedagogical development without becoming frustrated.

Within higher education, mentorships are necessarily faculty-to-faculty affairs as opposed to administration-to-faculty affairs. The minute there is a significant power differential between a mentor and a protégé', the protégé can be at significant risk for certain kinds of abuse. When there is a significant power differential, the relationship is not likely to be that of mentorship, but supervision—supervision in a traditional sense.

One consideration in higher education mentoring is that the mentor should not be trying to create the protégé' in the mentor's own image. Sometimes mentors want the new professors to dress like them, talk like them, be interested in all the same things, *ad nauseum*. They sometimes even seem to want the protégés' to make the same mistakes in the classroom the mentors did! Mentors should not want their protégés' to be just *like* them. They should want their protégés' to become better than them. Mentors preserve protégé's individualities (Phelps & Cotton, 1989).

**Purposes of the study**

The purposes of the study were (1) to determine the extent of informal or formal mentoring occurring in a university of over 9,000 students, and (2) to determine needs for additional mentoring that might exist. Mentoring is a hand-in-hand relationship. Mentoring prepares a protégé' for the day when the mentor will not be there. Mentoring is about helping another human achieve independence. It is the opposite of enslavement--mentoring is about *freedom*. Mentoring is about a mentor showing someone information in the space of a minute that it took the mentor a year to learn.

**Method**

***Participants***

A questionnaire was made available to a five-year university faculty of 260 via QuestionPro. The survey was announced through the Office of Academic Affairs by email in April, 2010. This was during a busy time of the semester, and 46 faculty answered the survey. Of 46 who began the survey, all 46 completed it. It appeared from the 100% completion rate that the questionnaire did not contain items that were intrusive or offensive to respondents. The modest return rate may have been due to the time of the school year when data were collected. Table 1 depicts the academic disciplines of the respondents.

Table 1
*Demographics of respondents*

| **Academic discipline of respondent** | **Count** | **Percent of total respondents** |
|---|---|---|
| Applied sciences | 6 | 13.33% |
| Arts and Humanities | 15 | 33.33 |
| Business | 2 | 4.44 |
| Education | 9 | 20 |
| Natural and Health Sciences | 12 | 26.67 |
| Professional studies/community outreach | 1 | 2.22 |
| **Total** | 46 | 100% |

Table 2 shows respondents by academic rank and discipline. Two respondents did not answer the item about academic rank. The 46 questionnaires appeared representative of the colleges of the university, with the exception of the college of business; only one faculty member completed the survey. The number of faculty in the College of Business is approximately equal to that of the College of Arts and Humanities.

Table 2
*Ranks and college affiliations of respondents*

| | Instructor | Assistant Professor | Associate Professor | Professor | Row Totals |
|---|---|---|---|---|---|
| **Applied Sciences** | 17% (1) | 50% (3) | 17% (1) | 17% (1) | 13.64% (6) |
| **Arts and Humanities** | 13% (2) | 53% (8) | 27% (4) | 7% (1) | 34% (15) |
| **Business** | 0% | 0% | 0% | 100% (1) | 2.27% (1) |
| **Education** | 11% (1) | 22% (2) | 44% (4) | 22 % (2) | 20.45% (9) |
| **Graduate College** | 0% | 0% | 0% | 0% | 0% (0) |
| **Natural & Health Sciences** | 8% (1) | 58% (7) | 17% (2) | 17% (2) | 27% (12) |
| **Professional Studies** | 0% (0) | 100% (1) | 0% (0) | 0% (0) | 2.27% (1) |
| **Column Total** | 5 | 21 | 11 | 7 | 44 |
| **Column Percent** | 11.36% | 47.73% | 25% | 15.91% | 100% |

Note: This is 100% of those answering the "faculty rank" question. Two who otherwise answered the survey declined to declare their faculty rank.

***Materials and Procedures***

It appeared from the 100% completion rate that the questionnaire did not contain items that were intrusive or offensive to respondents. The modest return rate may have been due to the time of the semester and school year when data were collected. The questionnaire sought information germane to the tenure and promotion process and also contained items about faculties' professional well-being. Percentages of faculty responding to the questionnaire, in comparison to the overall numbers and distribution of faculty across departments across campus, appeared to be proportional. All colleges of the university were represented ($X^2$ =11.208, p< 0.885) in the survey evenly. The Graduate College shares faculty with the undergraduate departments. As a distinct block of faculty,

there appeared to be no responses because they had already responded as members of their academic undergraduate disciplines. The proportion of tenured to non-tenured faculty who responded to the QuestionPro survey appeared to be that expected, given the ratio of the whole population of faculty. A third group of faculty became apparent, those who were faculty but were not on a tenure track. Their responses were reported separately.

**Results**

The first objective of the study was to determine the extent of mentoring among those who had achieved tenured status and non-tenured faculty. When tenure status was used as an independent variable, there were no significant differences between the amount of mentorships experienced, the number or kind of mentorship activities experienced, or the benefits gained from mentorships (Table 3). Only 38 percent of faculty across all three statuses experienced anything that they recognized as a mentorship. About 25 percent had been assigned a mentor through administrative channels. The information gained during mentorships was more likely to relate to navigating the tenure/promotion process than to improving their teaching, improving their methods of assessing their students' learning, presenting or publishing scholarly works, writing grants, or becoming better known in professional circles. Among tenured, non-tenured, and non-tenure-track faculty, fortunately all three groups did not report anything happening to them during a mentorship that caused them to feel ethically uncomfortable.

Table 3. *Responses of tenured and non-tenured faculty*

| **Question** | **Tenured % Yes** | **Non-Tenured % Yes** | **Not tenure-track % Yes** | **p** |
|---|---|---|---|---|
| 1. Upon becoming a new faculty member, did you experience any kind of mentorship? | 32% | 53% | 27% | .306 |
| 2. Were you, when you were a new faculty member, assigned a mentor through administrative channels? | 21% | 40% | 9% | .175 |
| 3. If you had a mentorship during the early time of being a faculty member, was your mentorship something that naturally evolved through your interactions with other faculty? | 28% | 36% | 30% | .739 |
| 4. Did your mentorship include assistance in becoming a more effective teacher? | 29% | 31% | 50% | .516 |
| 5. Did your mentorship include assistance in understanding university policy with regard to tenure and promotion? | 47% | 39% | 56% | .728 |

**Table 3 Cont'd.**

| Question | Tenured % Yes | Non-Tenured % Yes | Not tenure-track % Yes | p |
|---|---|---|---|---|
| 6. Did your mentorship include activities specifically designed to help you gain tenure or promotion? | 35% | 23% | 33% | .000 |
| 7. Did your mentorship include help in developing assessments in order to assess your university students' learning? | 25% | 17% | 20% | .863 |
| 8. Did your mentorship include introducing you to, and building relationships with, other significant professionals in your academic discipline? | 38% | 46% | 40% | .892 |
| 9. Did your mentorship include activities designed to help build your scholarly productivity? | 35% | 15% | 50% | .203 |
| 10. In the sense of co-authoring, did your mentorship involve writing articles or doing research with your mentor? | 25% | 15% | 20% | .815 |
| 11. Did your mentorship involve co-presenting at state, regional, or national, or international conferences? | 25% | 7% | 10% | .377 |
| 12. Did your mentorship involve co-authoring grants? | 13% | 8% | 10% | .937 |
| 13. Did your mentor help you gain membership in departmental or college-level committees? | 38% | 42% | 30% | .850 |
| 14. Did your mentor help you gain membership in university-level committees such as Faculty Welfare, Curriculum Committee, or Faculty Senate? | 21% | 23% | 30% | .883 |
| 15. Did your mentor ever do anything that made your feel uncomfortable, ethically? | 0% | 0% | 0% | 1.000 |

The data were also analyzed using academic discipline as an independent variable. The presence or absence of mentorship experiences was noted by faculty from all colleges. The trends of these data (Table 4) did not appear different from the trends when tenure status was the independent variable. The trend of having about one-fourth assigned a mentor during the early part of the faculty experiences was not uniform across colleges ($X^2$ =13.416, p<.037), favoring such assignments in the College of Arts and Humanities. No one in the College of Education reported that they had been administratively assigned a mentor. Forty-five percent of respondents said that their mentorships naturally evolved, without administrative intervention.

Across all colleges and disciplines, only 35% said that their mentorships involved helping them become better teachers; the quest for more effective instruction was not part of 65 percent of mentorships. In only 20 percent of instances did the mentorship include any advice to protégés about methods of assessing the work of their students. The inclusion of an understanding of university policy on tenure and promotion as part of the mentorship was part of the experience for 46 percent of faculty, with no significant differences between colleges. Assistance to protégés tended to be mechanistic and mainly centered upon the institution's faculty handbook, without leading toward the unleashing of protégés creativity or initiative.

Table 4
*Participation in mentorships by College*

"Upon becoming a new faculty member, did you experience any kind of mentorship?"

| College | % Yes | % No | Row Totals |
|---|---|---|---|
| **Applied Sciences** | 33% (2) | 67% (4) | 13.3% (6) |
| **Arts and Humanities** | 27% (4) | 73% (11) | 33.3% (15) |
| **Business** | 100% (2) | 0% (0) | 4.44% (2) |
| **Education** | 44% (4) | 56% (5) | 20% (9) |
| **Natural and Health Sciences** | 33% (4) | 67% (8) | 27% (12) |
| **Professional Studies & Comm. Outreach** | 100% (1) | 0% (0) | 2.22% (1) |
| **Column Total** | 17 Yes | 28 No | 45 |
| **Column Percent** | 37.78% | 62.22% | 100% |

There were no significant differences in the propensities of colleges to involve junior faculty in activities designed to help them meet and befriend other, more established, professionals in their fields ($X^2$=5.637, p<.465). College of Education protégés, however, were much more likely to receive assistance in scholarly activity (Table 5). That assistance was more likely to take the form of offers to

co-author or co-present ($X^2$=25.371, p<.000) in the College of Education or in the College of Business than in the other colleges.

Table 5
*Mentorship activities involving scholarship, by college*

"Did your mentorship include activities designed to help build your scholarly productivity?"

| College | % Yes | % No | Row Totals |
|---|---|---|---|
| **Applied Sciences** | 0% (0) | 100% (6) | 15% (6) |
| **Arts and Humanities** | 18% (2) | 81% (9) | 27.5% (11) |
| **Business** | 100% (2) | 0% (0) | 5% (2) |
| **Education** | 67% (6) | 33% (3) | 22.5% (9) |
| **Natural and Health Sciences** | 18% (2) | 82% (9) | 27.5% (11) |
| **Professional Studies & Comm. Outreach** | 100% (1) | 0% (0) | 2.5% (1) |
| **Column Total** | 13 Yes | 27 No | 40 |
| **Column Percent** | 32.5% | 67.5% | 100% |

Overall, though, only 21 percent of protégés received any offers of co-authoring or co-presenting. Four out of five faculty were left to find their way on their own in the area of scholarship. When it came to actual co-presenting at state, regional, national, or international conferences, only 15 percent had that opportunity, almost all of them coming from the College of Education. Only eleven percent of the sample received any guidance on grant writing. Forty-one percent of the respondents were of senior rank (*e. g*., associate or full professors) as they reflected upon their first few years of university-level teaching. Across all colleges, 37 percent had assistance from their mentors in being appointed to departmental or college committees, and 24 percent had assistance in being seated on university-level committees such as the faculty welfare committee, university curriculum committee, or faculty senate.

Examination of the data using professorial rank as an independent variable revealed almost no changes to the trends already noted. Only 18 percent of associates and 29 percent of full professors had the benefit of any kind of recognizable mentorship to help guide them through the probationary period. Four out of every five also had to find their own mentors, if they were able to, and one-third obtained mentors through social circumstances that naturally evolved. Only 11 percent of associates and 29 percent of professors received any memorable help with the dynamics of university-level classroom teaching.

Interestingly, 71 percent of professors received help understanding the university policies regarding tenure and promotion, which may explain why they survived in academia as long as they did. By a ratio of more than two to one, professors had had the benefit of activities designed to help them gain tenure and promotion, compared to assistant or associate professors. Professors were more than four times as likely (57 percent to 12.5 percent) to have received help in meeting significant others in their profession in order to network. Professors were more than twice (57 percent versus 21 or 22 percent) as likely to have had help with their scholarly productivity than assistant or associate professors. Full professors were significantly ($X^2$=7.895, p<.048) more likely to have benefitted from offers to co-present at conferences than were instructors, assistants, or associates (50% for full, 0% for instructors, 5% for assistants, 22% for associates). The same linear trends existed in getting help with placement in departmental, college, or university-level committees.

**Discussion, Conclusions, Recommendations**

It could be easy for readers to be dismissive of the data in this study. It would be very easy for one of the authors to be dismissive of it because of his rank as full professor. The data seem to indicate a "rich get richer, poor get poorer" portrayal of life at a particular university. The fact that 46 professors out of approximately 260 answered a questionnaire might offer opportunity for such a dismissal. But there are two problems with a perfunctory dismissal of these findings—two problems that senior professors would be well acquainted with:

1. The "end of the semester time crunch" (when these data were obtained) came evenly to *all* academic disciplines and colleges. All faculty have obstacles to overcome as they strive to bring a semester to a close. To claim that some faculty did not answer the questionnaire because they were overcome with end-of-semester chores is to resort to stereotyping.

2. The repeated usage of chi square to objectively quantify proportionality eases objections that the sample was not random. It was proportionate among itself, and was proportionate to the faculty from which the sample came. All colleges, faculty ranks, and tenure statuses were proportionately represented.

The last data reviewed indicated that senior faculty were the recipients of much more mentoring during their early years of teaching in higher education than those coming into the field more recently, especially in activities related to promotion and tenure. There was a sharp division between the resources experienced by full professors and those available to associates, assistants, instructors, and faculty hired in non-tenure-seeking positions. From this statistic, we suggest that senior ranked professors need to make themselves more available to their less experienced department members. The contemporary phrase "Giving back" comes to mind in reflecting upon these data. Senior faculty need to give protégés the opportunities they were been given two or three decades previously. University life should not perpetuate inequalities if faculty are going to teach that education creates opportunities and overcomes disparities. When today's assistants and associates are leading their universities within a few short years from now, they need to have had the benefits of everything the last generation of full professors had.

It can be asked if the apparent lack of mentorship of new professors has to do with the seeming change in higher education in general. Higher education seems to be moving to a system concerned primarily with promotion, publications, and tenure. It is moving toward a narcissistic system that is concerned with self-achievement more than about creating a united team for the purpose of fostering student learning. While publications and large numbers of tenured faculty may be helpful with accreditations and outward public appearances, perhaps this mentality promotes an individual to have a self-serving attitude which results in less willingness to act with a team mentality and help our less experienced professors learn.

Our research clearly supports that there is a lack of mentorship occurring for individuals coming into the field of higher education. These educators are "left to the wolves" to learn how to work best with the students in their university, prepare for tenure, publish, make presentations, and learn everything else that is part of becoming the best professor that they can be. Researchers in other parts of the world are tackling this issue and the issue of mentoring in general. Perhaps now is the time that American universities begin to tackle this issue on their own.

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# THE IMPACT OF HYBRID DISTANCE LEARNING ON STUDENT PERFORMANCE

**James W. Harvey, Kevin F. McCrohan,**
**Frank Allen Philpot & Jeffrey Kulick**
**School of Management**
**George Mason University**
**Fairfax, Virginia 22030**
**jharvey@gmu.edu, kmccroha@gmu.edu**
**fphilpot@gmu.edu, jkulick@gmu.edu**

**Abstract**

Two studies of the impact of hybrid distance learning on student performance are presented. Study 1 examines the perceptions of 359 students who were assigned on-line homework exercises using McGraw-Hill's *Connect*™ platform. Factor analysis of the questionnaire items was employed to examine the underlying structure of the students' views of their experiences with the assignments. Follow up analysis summarizes the student ratings of the survey elements and regression models are used to provide insight into the impact of homework results on the students' self-reported exam scores. Study 2 examines the impact of 62 students' performance in their *LearnSmart* ™ "digital flashcard" assignments on actual semester performance.

**Keywords:** Distance learning, Distance education, Online learning, Hybrid courses, Marketing

## Introduction

Today's distance learning (DL) can be traced to the first correspondence courses in the early 1840's (Hall 2006). In 2007–08, about 4.3 million undergraduate students, or 20 percent of all undergraduates, took at least one DL course, compared to 16 percent in 2003-04. Compared to the earlier reporting year, in 2007–08 the percentage of undergraduates who took their entire program through DL decreased from 5 to 4 percent. Additionally, about 0.8 million, or 22 percent, of all post baccalaureate students took DL courses in 2007–08, while 9 percent of graduate students took their entire program through DL (U.S. Department of Education, 2011).

Key contemporary questions regarding DL include whether student performance is different in distance formats compared to face-to-face (Fenouillet and Kaplan 2009; and Zhao, Lei, Yan, Lai and Tan 2005), the determinants of learner satisfaction (Allen, Bourhis, Burrell and Mabry 2002; and Sahin and Shelley 2008 ), what factors are related to faculty satisfaction (Koenig 2010), whether special populations are affected differently (Flowers, Moore and Flowers 2008; Rovai and Barnum 2003; Stryker 2011; and Styron and Styron 2010), the characteristics of best practices (Boettcher and Conrad 2010; Grandzol and Grandzol 2006; Grant and Thornton 2007; Miller and King 2003; Nash 2005; and Sunal, Sunal, Odell and Sundberg 2003) and the overall DL advantages and disadvantages (Bigony 2010). A subset of the key questions about DL that represents the topic of this piece is whether value is added by the hybrid approach to DL where a proportion of the course, but not all is offered in a distance format (Colucci and Koppel 2010; French, Jaju and Brown 2000; Hall 2006; Jackson and Helms 2008; Piña 2010; Priluck 2004).

**Example DL literature findings**

An example inquiry into the determinants of learner satisfaction is offered in Sahin and Shelley (2008) who collected data from 195 undergraduate students. Key drivers of learner satisfaction were computer knowledge, beliefs that DL provides flexibility (time and place allocation, better with different learning styles), DL usefulness and DL effectiveness (efficacy). Another study of satisfaction is offered by Koenig (2010) who measured faculty satisfaction with classroom effectiveness to compare DL to face-to-face delivery on nine factors: (1) Class size density, (2) Utilization of educational resources, (3) Enhancement and application of cognitive skills, (4) Promotion of active participation by students, (5) Interaction of instructor and students within learning environment, (6) Allowance for student group collaboration, (7) Recognition of different learning styles, (8) Accommodation of diversity and multiculturalism and (9) Effectiveness for learning course content. Across these factors, Koenig found face-to-face delivery was more effective than technologically delivery with online being slightly more effective than video conference.

An example of DL best practices is offered by Boettcher and Conrad (2010) who provide 10 suggestions for great DL experiences: (1) Be present at the course site; (2) Create a supportive online course community; (3) Develop a set of explicit expectations for your learners and yourself as to how you will communicate and how much time students should be working on the course each week; (4) Use a variety of large group, small group, and individual work experiences; (5) Use synchronous and asynchronous activities; (6) Ask for informal feedback early in the term; (7) Prepare discussion posts that invite responses; questions, discussions, and reflections; (8) Search out and use content resources that are available in digital format if possible; (9) Combine core concept learning with customized and personalized learning; and (10) Plan a good closing and wrap activity for the course.

Key advantages of DL was summarized by Bigony (2010) who noted the value offered by DL include time and geographic flexibility, global exchanges of ideas and information not possible in traditional learning environments, greater personal and professional accountability, and improved technology skills. The DL disadvantages noted by the author include the lack of face-to-face contact that strains the student-faculty relationship; instructor responsiveness delays that can cause student anxiety and difficulty in understanding course materials, leading to student frustration, isolation and insecurity; and that DL students experience less collegiality, and drop-out rates that are higher than traditional learning.

**Distance Learning and Student Performance**

One of the most comprehensive and enlightening examinations of DL is offered by Zhao, Lei, Yan, Lai and Tan (2005). Using Meta Analysis of 51 journal articles, their analysis revealed no significant differences in outcomes exist between distance learning and the face-to-face format, confirming the "no difference" hypothesis of DL proponents. However, these researchers conducted internal analysis of their overall findings to report important interaction effects in DL. These results included when the author of the research examined was not the instructor, no significant differences were found; when the status of author was unknown, distance learning was found to be more effective than face-to-face learning; but when the author was the instructor the results were more positive.

The researchers found that studies of DL programs in business, computer science, and medical science were more effective than face-to-face learning, while few differences were found in social science and science programs.

Zhao, Lei, Yan, Lai and Tan also found that DL undergraduate programs and military settings were more effective than face-to-face learning. Programs with high media use were reported DL to be more effective than face-to-face, while programs with both synchronous and asynchronous interactions reported more positive outcomes than those with only one type of interaction. Programs with a broad range of interactions between students and instructors and among students reported more positive outcomes and degree of instructor involvement was a significant characteristic, reminding us that human are needed to ensure quality DL. Their analysis also found that programs that used a combination of technology and face-to-face learning resulted in the most positive outcomes. Zhao, Lei, Yan, Lai and Tan include in their findings of the superiority of the platform that combines both a face-to-face component and a technology-mediated distance component – the hybrid model of distance learning.

**Example Hybrid DL (HDL) literature findings**

Jackson and Helms (2008) found that HDL classes continued to exhibit the same weaknesses of the online format, and the addition of face-to-face interaction did not minimize weaknesses. Their results indicated an almost equal number of strengths and weaknesses of hybrid courses compared to all face-to-face and 100% DL. The top two strengths were delivery flexibility and time utilization but were also mediated by the weaknesses of lack of faculty interaction and technology challenges. Thus, flexibility is both strength and a weakness both in DL and HDL.

Hall (2006) examined the perceptions of graduate management students and found that two-thirds of the students surveyed found the HDL more effective than a traditional classroom format. Hall emphasized the concept of Learning Nets (LN) that facilitated peer collaboration and instructor feedback. The following insights were offered, particularly for working adults: (1) LNs offer a high degree of interaction and collaboration that can be more effective than traditional classroom methods, (2) students can enjoy a dynamic, personal and scaleable experience for continuous learning in a flexible learning environment, (3) they provide a purposeful entry to Internet resources, (4) LNs connect learners and instructors on a 24/7 basis, (5) LNs provide new patterns of relationships between education and business through virtual arrangements such as faculty tours, (6) HDL based curriculum permits more working adults access to management know-how that allows learners to remain competitive.

Priluck (2004) compared a face-to-face method of teaching to a Web-assisted method in which half of the class sessions met online. Overall, students were more satisfied with the traditional course, preferred the traditional format, and felt the course was more effective in developing their skills and course knowledge. In addition, students in the traditional class felt that the course helped them develop their skills, including team building, critical thinking, oral and written communications, global perspective, and social interaction. Student performance on a comprehensive final exam was not, however, significantly different between the two sections.

Colucci and Koppel (2010) compared HDL sections where face-to-face interaction was added to an undergraduate business computer applications course. The results showed no difference in average grades for assigned work, but adding more face time resulted in more missed assignments, fewer tutorials completed and missed more assignments. The authors opine that the results were due to the students receiving more face time had a practical disadvantage in being required to work in class, thus reducing overall student flexibility.

**An Examination of the Impact of a Hybrid DL Format on Performance**

To explore the question of the impact of hybrid DL on student performance, two studies were conducted. Study 1 examined the perceptions of on-line homework assignments using McGraw-Hill's *Connect™* platform (http://connect.mcgraw-hill.com/connectweb/branding/en_US/default/html/instructor/index.html).

**Study 1**

Data from students' perceptions of on-line homework assignments was collected from seven sections of principles of marketing classes over three semesters, using an anonymous questionnaire. The instrument was administered on the last day of class, prior to the final exam. Survey anonymity was selected to increase candor of student responses. Ten items considered being important descriptors of perceptions of the homework, plus demographic items were included in the instrument. See Appendix 1 for the questionnaire. Follow-up factor analysis was used for insight into the underlying structure of the belief ratings.

*Sample Characteristics.* 359 usable questionnaires were collected over an eighteen month period in an introductory marketing course, required of all majors. The sample characteristics included majors and GPAs that generally reflected school parameters. For example, 55% of the sample was comprised of accounting and management majors. Self-reported GPAs and exam averages reflected actual school parameters and classroom performance to date (two exams). The sample was also comprised of 52% males and 63% transfer students, also consistent with population parameters.

*On-line survey Results.* Table 1 presents the overall results of student perceptions of the on-line homework assignments, listed in descending order of agreement. Students mostly agreed the assignments were relevant to real world marketing and interesting, while less agreement was associated with the assignments helping with the semester project (a team-based marketing plan) and the added cost of purchasing access to the assignments ($20-30). The lowest means were associated with assistance given or received.

*Factor Analysis of On-Line Homework Beliefs.* To explore the underlying nature of the results of the student perceptions of the beliefs about the homework assignments, Principle Component Analysis with Varimax Rotation was conducted. This analysis revealed two independent factors underlay the homework experience. As seen in Table 2, the ten questionnaire items spread across two factors with eigenvalues 1 or greater, and no mixed loadings. Factor I (46.5% of variance) was comprised of evaluative beliefs about their experiences (interesting, helpful, etc.) and Factor II (15.0% of variance)

was comprised of student behaviors regarding assistance with the on-line assignments (providing and receiving assistance).

Table 1. *Survey Item Means (descending order)*

**Descriptive Statistics**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Relevant to real world marketing | 359 | 4.25 | .887 |
| Interesting | 359 | 3.88 | .938 |
| Helped me better understand course | 359 | 3.86 | 1.026 |
| More engaged in the course | 359 | 3.78 | 1.028 |
| Helped with exams | 359 | 3.55 | 1.142 |
| Made book more interesting | 359 | 3.33 | 1.115 |
| Helped with semester project | 359 | 3.15 | 1.172 |
| Worth the money | 358 | 2.82 | 1.194 |
| Others helped me with assignments | 359 | 1.89 | 1.257 |
| Helped others with assignments | 359 | 1.85 | 1.220 |
| Valid N (listwise) | 358 | | |

Table 2. *Factor Analysis of Student Perceptions of On-Line Homework*

**Rotated Component Matrix[a]**

| | Component | |
|---|---|---|
| | 1 | 2 |
| Interesting | .763 | .058 |
| More engaged in the course | .819 | .072 |
| Relevant to real world marketing | .686 | -.162 |
| Helped others with assignments | .113 | .880 |
| Worth the money | .697 | .239 |
| Helped with semester project | .690 | .254 |
| Made book more interesting | .752 | .230 |
| Helped with exams | .670 | .202 |
| Others helped me with assignments | .113 | .867 |
| Helped me better understand course | .805 | .074 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

*Impact of On-line Assignments on Student Performance.* Since data was collected anonymously, the key dependent variable for Study 1 was self-reported exam average in the course. Stepwise linear regression was selected to examine the impact of instrument items on class performance. Table 3 presents the results of that analysis. As seen in Table 3, perceptions that the on-line homework assignments helped with exams were positively related to exam averages. However, only 3.9% of variation in exam performance was associated with variation in perceptions the assignments helped with exams (F = 14.14; df = 1,352; p = .000).

Table 3. *Regression results on Class Exam Performance*

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | |
|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Zero-order | Partial | Part |
| 1 | (Constant) | 3.567 | .130 | | 27.474 | .000 | | | |
| | Helped with exams | .131 | .035 | .197 | 3.761 | .000 | .197 | .197 | .197 |

a. Dependent Variable: Exam Average

To improve understanding of the interrelationship among study variables, stepwise regression of the instrument items was undertaken.

*Impact of Study Items on 'Helped with Exams'.* To better understand the key predictor of exam performance, Helped with Exams, the dependent measure of this phase of the study was student perceptions that the on-line assignments assisted with preparation for the course exams. As seen in Table 4, three variables were associated with perceptions the assignments Helped with Exams, Helped me better understand the course, Made the book more interesting and Helped others with assignments (F = 99.56; df = 3,354; p = .000). These three variables explained 45.5% of the variation in Helped with Exams.

Table 4. *Regression results on Helped with Exams*

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | |
|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Zero-order | Partial | Part |
| 1 | (Constant) | .823 | .182 | | 4.527 | .000 | | | |
| | Helped me better understand course | .707 | .046 | .636 | 15.544 | .000 | .636 | .636 | .636 |
| 2 | (Constant) | .572 | .183 | | 3.126 | .002 | | | |
| | Helped me better understand course | .564 | .053 | .507 | 10.740 | .000 | .636 | .495 | .425 |
| | Made book more interesting | .241 | .048 | .235 | 4.982 | .000 | .512 | .256 | .197 |
| 3 | (Constant) | .476 | .185 | | 2.577 | .010 | | | |
| | Helped me better understand course | .562 | .052 | .505 | 10.792 | .000 | .636 | .498 | .423 |
| | Made book more interesting | .214 | .049 | .209 | 4.384 | .000 | .512 | .227 | .172 |
| | Helped others with assignments | .105 | .038 | .112 | 2.780 | .006 | .237 | .146 | .109 |

a. Dependent Variable: Helped with exams

*Determinants of 'Helped Others with Assignments'.* Due to the unique variance associated with assisting others with on-line assignments, the relationship among study variables on this variable was explored using stepwise regression. Table 5 shows that two variables were associated with Helped Others with Assignments, Others Helped Me with Assignments and Worth the Money (F = 104.84; df = 2,343; p = .000). These two variables explained 37.9% of the variation in Helped Others with Assignments.

Table 5.
*Regression results on Helped Others with Assignments*

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | |
|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Zero-order | Partial | Part |
| 1 | (Constant) | .735 | .093 | | 7.929 | .000 | | | |
| | Others helped me with assignments | .579 | .041 | .603 | 14.028 | .000 | .603 | .603 | .603 |
| 2 | (Constant) | .430 | .139 | | 3.099 | .002 | | | |
| | Others helped me with assignments | .552 | .042 | .575 | 13.167 | .000 | .603 | .579 | .560 |
| | Worth the money | .127 | .043 | .128 | 2.925 | .004 | .256 | .156 | .124 |

a. Dependent Variable: Helped others with assignments

*Determinants of 'Others Helped Me with Assignments'.* Owing to the interesting finding that assistance reciprocity was a key indirect driver of Helped with Exams, the relationships among study variables on this variable was explored using stepwise regression. As expected, Figure 6 shows that the idea of reciprocity was confirmed with the results. Helped Others, Major and the assignments Made the Book more Interesting were the three variables best associated with Others Helped Me with Assignments (F = 71.98; df = 3,342; p = .000). These three variables explained 38.7% of the variation in Others Helped me with Assignments. In terms of giving assistance, there were no differences between the majors (F = 1.21; df = 4,349; p = .305). However, Accounting and Information Systems majors were slightly more likely to report receiving assistance (F = 2.80; df = 4,349; p = .026).

Table 6. *Regression results on Others Helped Me with Assignments*

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | |
|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Zero-order | Partial | Part |
| 1 | (Constant) | .728 | .097 | | 7.476 | .000 | | | |
| | Helped others with assignments | .628 | .045 | .603 | 14.028 | .000 | .603 | .603 | .603 |
| 2 | (Constant) | .994 | .134 | | 7.399 | .000 | | | |
| | Helped others with assignments | .628 | .044 | .603 | 14.173 | .000 | .603 | .608 | .603 |
| | Major | -.101 | .036 | -.121 | -2.846 | .005 | -.121 | -.152 | -.121 |
| 3 | (Constant) | .690 | .194 | | 3.563 | .000 | | | |
| | Helped others with assignments | .605 | .045 | .581 | 13.338 | .000 | .603 | .585 | .565 |
| | Major | -.101 | .035 | -.122 | -2.870 | .004 | -.121 | -.153 | -.122 |
| | Made book more interesting | .105 | .048 | .095 | 2.172 | .031 | .231 | .117 | .092 |

a. Dependent Variable: Others helped me with assignments

**Study 2**

During Fall Semester 2011, an on-line "flash card" feature (McGraw-Hill *LearnSmart™*) was added to the interactive on-line homework exercises (*Connect™*). One assignment for each of 19 chapters in the book was required of all students. A default of estimated 15 minutes for each chapter assignment was set. A unique feature of the flashcard assignments was that the number of minutes each student took to complete each assignment and the resulting flashcard performance were linked to the individual, thereby being able to link to actual exam performance.

*Impact of LearnSmart™ Flashcards on Exam Performance.* 62 students completed the flashcard assignments with an average 488 minutes total time for all 19 assignments, an average 26 minutes per assignment (range 41 – 1360; sd = 278). To provide insight into the relationship between time spent on flashcard performance, SPSS curve fit was employed. As seen in Figure 1, the S-Curve transformation provided the best fit in modeling the relationship between minutes on task and flashcard performance ($R^2$ = .907; F = 582; df = 1,60; p = .000). Results of this analysis reveal that approximately 250 minutes total, an average 13 minutes per assignment was required to obtain most of the flashcard performance.

As presented in Figure 2, a linear relationship provided the best fit to describe the relationship between flashcard performance and exam performance ($R^2$ = .128; F = 8.83; df = 1,60; p = .004). The unstandardized coefficient for flashcard performance was 1.83 with a standard error of .616.

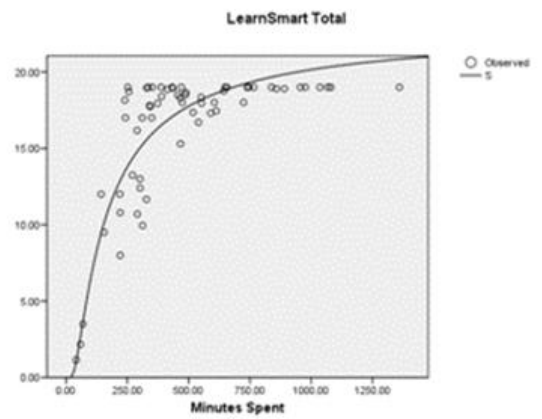


Figure 1. *S-Curve Fit of Minutes Spent on Flashcard Performance*

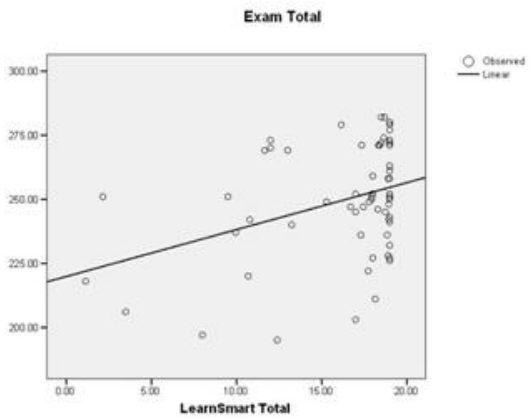


Figure 2. *Linear Fit of Flashcard Performance on Exam Performance*

*Impact of Interactive Connect™ Exercises Performance on Exam Performance.* To compare the impact of the on-line interactive *Connect™* exercises on exam performance, SPSS curve fit was employed. As seen in Figure 3, the S-Curve transformation provided the best fit in modeling the impact on exam performance ($R^2$ = .252; F = 20.2; df = 1,60; p = .000). Results of this analysis reveal that approximately 80% correct *Connect™* scores were required to obtain most of the exam performance benefit.

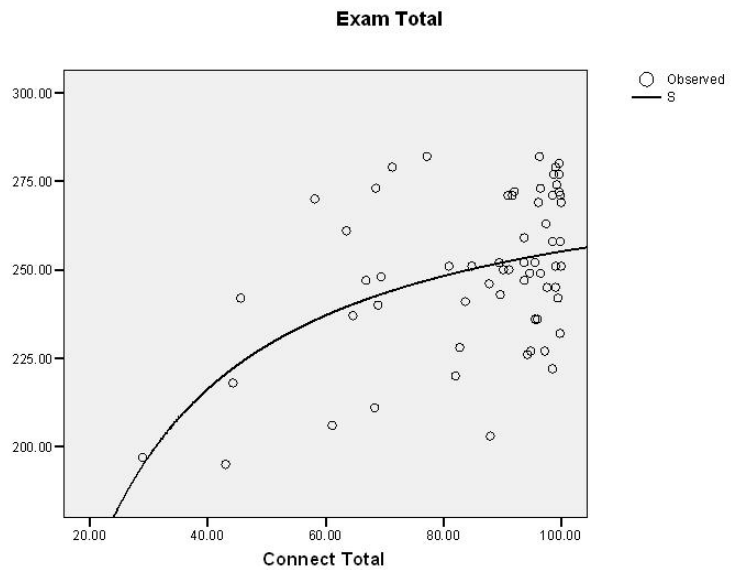


Figure 3. *S-Curve Fit of Connect™Performance on Exam Performance*

**Summary of Findings**

Student perceptions of the *Connect™* on-line exercises revealed that students primarily saw the assignments as relevant to real world marketing, interesting, and helped them better understand the course. Students were less positive about whether they helped with the semester project and if the added expense was worth it. Factor analysis of the questionnaire revealed that helping others and receiving assistance was an important, independent dimension of the homework.

Analysis revealed that self-reported exam scores were associated with "Helped me better understand the course," "Made the book more interesting" and "Helped others with assignments," explaining just over 45% of the variation in exam scores. Follow-up analysis revealed that helping others with the assignments was positively related to "Others helped me with assignments," and "Worth the Money," explaining nearly 38% of the variation in helping others with assignments. To determine drivers of being assisted by others, regression analysis revealed that "Helped Others with Assignments," "Academic Major" and the assignments "Made the Book more Interesting" were the three variables best associated with being helped, explaining just over 38% of the variation in "Others Helped me with Assignments." The concept of assisting others and being helped underscores the value of Learning Nets, as described by Hall (2006). This finding should be a reminder of the value of facilitating such relationships either face-to-face or electronically.

An examination of digital flashcards on actual exam performance revealed that doing well on the assignments required the amount of time on task associated with the time calibrated for them (15 minutes per assignment). Scores on flashcards were associated with just under 13% of variation in actual exam scores. A final analysis of the effects of on-line assignment performance on actual exam performance revealed that an S-Curve transformation of the assignment scores was associated with just over 25% of the variation in exam scores. The results of these two HDL exercises indicate they had a positive impact on perceptions of the course by offering real-world experiences and improving understanding of the course material. Analysis also reveals the two HDL efforts had a positive effect on actual exam scores.

**Discussion**

Increasing opportunities for distance and hybrid distance learning experiences are effecting major changes in higher education. As demands for updated skill sets conflict with learner time shortages, the challenge of delivering distance learning platforms with demonstrated effectiveness is required. The present study presents new insights into the structure of hybrid distance learning perceptions of on-line homework and the impact of these platforms on exam performance.

These findings indicate that students perceive such on-line exercises benefit exam performance and actual results reveal a positive relationship, albeit relatively small effect. As always with such studies, these findings are exploratory and associative, not conclusive and causal. Presumably, a control group with identical inputs would be required for stronger inference. Such a design would be quite challenging at a minimum, given experimenter effects (the professor who wants the experiment to work – or not) and self-selection effects (student registration that invalidates random assignment requirements).

Anecdotal responses from my students were varied. Consistence with the descriptive statistics of student perceptions, many students expressed the belief that the on-line exercises provided them with real-world marketing examples and provided a higher level of course engagement. Negative comments included that if they knew of the on-line exercises in advance they would have preferred a DL course – suggesting that face time should have been reduced because of the elevated DL time.

The lead authors of this paper have been awarded a development grant from George Mason University to restructure this course to a 50/50 face time format. This change should address the concerns expressed by such anecdotal comments. Part of the restructured course will feature two sections that alternatively meet in the same room, thus providing better classroom utilization.

The exploratory results of this study provide insight into the beneficial impact of on-line activities on student performance. We look forward to comparing our experiences with HDL with efforts structured by other educators.

**Appendix**

Student Perceptions Questionnaire

Use the Scantron to indicate your beliefs about the 10 items below, using

A = Strongly Agree B = Agree C = Neither D = Disagree E = Strongly Disagree

The Connect assignments in this course …

1. were interesting
2. made me more engaged in the course
3. were relevant to real world marketing
4. I helped others with the connect assignments

5. was worth the money it cost
6. helped with the semester project
7. made the book more interesting
8. helped with my results on the exams in this course
9. I had help with the Connect assignments
10. helped me better understand the course materials

Please provide the follow information:

11. My major is (or most likely will be)

A Accounting B Finance
C Information Systems & Operations Management
D Management E Marketing

12. My exam score average in this class is
A 90 – 100
B 80 – 89
C 70 – 79
D 60 – 69
E < 60

13. My GPA is
A 3.5 – 4.0
B 3.0 – 3.4
C 2.5 – 2.9
D 2.0 – 2.4
E < 2.0

14. I am a transfer student
A Yes
B No

15. My gender is
A Female
B Male

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# ASSESSING THE PERFORMANCE OF MICROFINANCE INSTITUTIONS IN SUB-SAHARAN AFRICA: THE EFFECT OF PROFITABILITY ON THE DEPTH AND BREADTH OF OUTREACH

**Mary Catherine Hoyt**
**College of Business & Economics**
**Longwood University**
**Farmville, Virginia 23909**
**mary.hoyt@live.longwood.edu**

## Abstract

This study is the first to use empirical analysis to address the tradeoff between financial and social performance of microfinance institutions (MFIs) in Sub-Saharan Africa. Ordinary Least Squares (OLS) regressions are used to compare the depth and breadth of outreach of MFIs. Results indicate that for-profit MFIs in Sub-Saharan Africa have less depth of outreach, indicated by larger loan sizes, and significantly more breadth of outreach than non-profits. Results support the conclusion that for-profit MFIs grant more loans overall, but these loans do not necessarily reach the poorest clients. Ultimately, both for-profit and non-profit MFIs provide access to banking services that are traditionally unobtainable for their clients; they simply address different target markets in doing so.

## Introduction

In the growing movement for poverty alleviation, Microfinance Institutions (MFIs) have been pivotal institutions over the past two decades, enabling millions of impoverished people to work towards a better standard of living. MFIs directly fight poverty by providing access to banking services that are traditionally unobtainable for low-income clients. Although all MFIs were originally small non-profit companies whose sole mission was to maximize outreach, the industry is quickly evolving and these institutions are facing increasing pressure from various stakeholders to reduce their dependence on subsidies and donations to become self-sustaining businesses. There are now many for-profit MFIs that seek the same mission of expanding access to credit, but now focus on becoming sustainable and maximizing profits.

This change in focus has resulted in a “double bottom line”, measured by both social performance and financial performance. Because it is very difficult to maximize both social impact and financial performance, many stakeholders argue that for-profit and non-profit MFIs belong to different communities and should not be held to the same measures of performance. For profit MFIs are expected to be more self-sustainable and profitable, resulting in an objective that is easily measured with financial ratios, while non-profits are normally more sensitive to the environmental, social and developmental impacts of their activities because these impacts are typically their main focus in business. These contrasting business models make it difficult to judge the virtuous course in the MFI industry. The purpose of this study is to address the impact of profitability and sustainability on the performance of MFIs in Sub-Saharan Africa.

It is important to have an accurate answer to this research question because this "double bottom line" may, in fact, be compromising outreach to the poor in exchange for increased profitability and sustainability. If this is the case, it must be realized sooner than later, before the microfinance industry drifts away from its original mission of poverty alleviation. Ordinary Least Squares (OLS) regressions will be run in the empirical analysis section of this study to help determine if MFIs in Sub-Saharan Africa are facing a tradeoff from contrasting measures of performance.

**Review of Relevant Literature**

There are few studies that directly address the impact of profitability or self-sustainability on MFI outreach, but there are studies that analyze similar research questions. Gutiérrez-nieto, Serrano-Cinca, and Mar Molinero (2009) use data from 2003 to study the efficiency of 89 MFIs in relation to financial and social outputs using data envelopment analysis. They find that social efficiency does not necessarily lead to financial inefficiency and that there is a significant positive relationship between efficiency in supporting women and efficiency in fighting poverty. They also report that Non-Governmental Organizations (NGOs) are more socially efficient than other organizational structures. In addition, this study provided the idea for the key dependent variable of outreach to the poor.

In addition, Kar (2011) looks at factors which have impacts on several performance indicators of MFIs including profitability or sustainability, repayment status and cost indicators. He uses OLS robust regressions to run several different regressions in order to analyze 426 MFIs in 81 countries. The results of this study indicate that MFIs can still attain sustainability without necessarily increasing average loan size or interest earning. Increasing the breadth of outreach was also found to help attain sustainability while avoiding mission drift.

Cull, Demirguc-Kunt, and Morduch (2007) address the impact of interest rates on repayment rates and profitability, investigate the tradeoff between depth of outreach to the poor and profitability, and assess the idea of mission drift. Using a series of OLS regressions, the authors analyze 124 MFIs in 49 countries from 1999-2002. They find that it is possible to serve the poor and still earn profits, but there is a clear tradeoff between the contrasting objectives of serving the poorest and earning profits. However, the authors conclude that institutions that have smaller loan sizes do not necessarily generate less profit.

Olivares-Polanco (2005) argues that commercialization, which is characterized by profitability and regulation, may lead to larger loan sizes and less depth of outreach. This study focuses on 28 MFIs in Latin America with older data. The results of his regressions indicate that the type of institution has no effect on loan size and the models confirm that there is a trade-off between depth and sustainability.

This study differs from the previous literature because it uses outreach and average loan size as dependent variables. Also, this study focuses on a sample of MFIs in Sub-Saharan Africa, where microfinance is relatively new. Because microfinance is a newer institution in the region, there is little literature regarding any sort of impact or performance of MFIs in Sub-Saharan Africa. In

addition, the data set for this study is more current than the data sets of previously reviewed literature.

**Data**

The data set for this study is panel data that encompasses 408 different MFIs in 32 Sub-Saharan African countries from 2002-2009. All data was collected from the Microfinance Information eXchange (MIX), a non-profit organization that has become the largest web-based MFI information resource and is designed to promote transparency of information in the industry. The data is adjusted to make comparisons across MFIs more relevant for publication in the *MicroBanking Bulletin* (MBB). All data is publicly available on the MIX webpage (www.mixmarket.org). Because data submission to this organization is completely voluntary, an unbalanced panel results. Therefore, the dataset for this study was reduced to 953 observations for which there is complete data.
In addition, because submission of data is voluntary, it can be assumed that low-performers do not disclose as much information to the public. Therefore, the sample set may be skewed towards MFIs that stress profitability and financial objectives resulting in selection bias regarding the information available. The level of information disclosure is revealed by MIX, however, using a "diamond" system where the highest rank is five diamonds. This allows investors and researchers to know the quality of the information they are getting from the webpage. On the following page, Table 1 lists the summary statics of relevant variables in the collected data.

Table 1. *Summary Statistics*

| Variable Name | Observations | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| Number of Active Borrowers | 953 | 29296.4 | 75346.99 | 18 | 715969 |
| Loan Balance per Borrower | 953 | 1.039 | 1.672 | .013 | 26.026 |
| Return on Assets | 953 | -0.027 | 0.148 | -0.906 | 0.599 |
| Operational Self-Sufficiency | 953 | 1.065 | 0.756 | 0 | 19.383 |
| Profit Status | 953 | 0.369 | 0.483 | 0 | 1 |
| Bank | 953 | 0.067 | 0.250 | 0 | 1 |
| Credit Union/ Cooperative | 953 | 0.266 | 0.442 | 0 | 1 |
| NBFI | 953 | 0.309 | 0.463 | 0 | 1 |
| NGO | 953 | 0.319 | 0.466 | 0 | 1 |
| Rural Bank | 953 | 0.037 | 0.191 | 0 | 1 |
| Percent of Women Borrowers | 953 | 0.611 | 0.257 | 0 | 1.642 |
| Portfolio Quality: PAR>30 | 953 | 0.089 | 0.122 | 0 | 1.054 |
| Age of the MFI: Mature | 953 | 0.551 | 0.497 | 0 | 1 |
| Age of the MFI: Young | 953 | 0.181 | 0.386 | 0 | 1 |
| Age of the MFI: New | 953 | 0.182 | 0.386 | 0 | 1 |
| Total Assets | 953 | 1.80e+07 | 7.00e+07 | 2590 | 1.27e+09 |
| Cost per Borrower | 953 | 139.933 | 268.206 | 0 | 4374 |
| Borrowers per Loan Officer | 635 | 335.998 | 278.098 | 12 | 1967 |

**Econometric Model**

The goal of this study is to analyze the impact of profitability and sustainability factors, as well as other factors that literature suggests may have an impact on the breadth and depth, or quantity and quality, of outreach. OLS regressions are utilized in this study to identify which variables are the best predictors of outreach. Because the sample is panel data, both country and year dummy variables are being utilized as fixed effects to correct for the component of the error term that accounts for the unobserved impact of time-invariant variables (such as the for-profit dummy variable).

***Dependent Variables***

*Outreach*

For this study, outreach is measured by the number of active borrowers. It is an indicator of not only the breadth of outreach, but also the scale which is inversely related with costs and positively related with profitability (Kar 2011). Number of active borrowers is a standard measure of the sheer quantity of outreach. Higher breadth of outreach is typically associated with for-profit MFIs.

*Loan Balance per Borrower*

Loan balance per borrower is measured by the adjusted average loan balance per borrower divided by Gross National Income (GNI) per capita. Deflating the average loan balance by GNI per capita adjusts for a country's overall wealth and standardizes the measurement of average loan balance. Loan balance per borrower is a common measure of the quality of outreach and indicates the depth of outreach. Smaller average loan size is associated with better depth of outreach to the poor (Cull et al., 2007). In regards to the "double bottom line", better depth of outreach is typically a measure of social performance. Therefore, it is expected that non-profit MFIs will have smaller loan sizes and better depth of outreach.

***Explanatory Variables***

*Return on Assets*

Return on Assets (ROA) is a standard measure of profitability, generated by the ratio of adjusted net operating income after taxes over adjusted average total assets. ROA is a good indicator of how well an MFI uses its assets to generate returns (Kar 2011). There is also an argument that MFIs must be profitable in order to be sustainable, and the best measure of profitability in this case is ROA (Gutiérrez-Nieto et al., 2009). In addition, ROA is a better indicator than Return on Equity (ROE), which is can be distorted by subsidies and financing structures used by the different types of MFIs (Olivares-Polanco 2005). ROA is expected to have a positive impact on the breadth of outreach. It is also expected to increase loan size, which in turn will have a negative effect on depth of outreach to the poor.

*Operational Self-Sustainability*

Operational Self-Sustainability (OSS) is another measure of MFI sustainability, which is the ratio of financial revenue to operating expenses which include financial expense, impairment losses on loans, and operating expenses. OSS measures how well an MFI utilizes its operating revenues to cover its costs. OSS is a better sustainability proxy than Financial Self-Sustainability (FSS) because

donors have long term control of OSS through monitoring processes, resulting in a more reliable estimate of MFI sustainability (Kar 2011). OSS is expected to increase both breadth of outreach and loan size, resulting in less depth of outreach to the poor.

*Profit Status*

The profit dummy variable is equal to one when the MFI is designated as for-profit and equal to zero when it is a non-profit. For-profit firms are expected to have more overall breadth of outreach and have larger loan sizes. This is due to the basic assumption that higher profits typically expand the breadth of outreach (number of borrowers) but decrease the depth of outreach (benefit to the poorest) (Olivares-Polanco 2005).

*Charter Type*

Five different charter types: banks, credit unions and cooperatives, non-bank financial institutions (NBFIs), non-governmental organizations (NGOs), and rural banks are represented by a series of charter type dummy variables. Banks, rural banks, and most NBFIs are for-profit organizations, so they are expected to have higher breadth of outreach and larger loan sizes. NGOs and credit unions are non-profit organizations, so they are expected to have lower breadth of outreach and smaller loan sizes than the other charter types.

*Additional Variables.* Additional variables are defined on the following page in Table 2.

**Results and Discussion**

***Outreach Models***

To assess the determinants of outreach, three different specifications are used (Table 3). Regression 1 shows expected results.

- For-profit MFIs have significantly more outreach than non-profits ceteris paribus. This result relates back to one of the key motivations of this study; the idea that for-profit MFIs have higher breadth of outreach.
- As loan balance per borrower increases outreach significantly decreases. This is initially a surprising result because larger loan size is typically associated with for-profit firms that have higher breadth of outreach. However, theoretically this result makes sense due to the logic that spreading the total loan portfolio over more clients will cause the average loan size to decrease as breadth of outreach increases.
- Outreach significantly decreases as cost per borrower increases. The relationship may be explained by the idea that costs per borrower decrease from economies of scale as outreach increases, leading to a question regarding the causality of the relationship. However, theoretically the variable must be included to control for different levels of efficiency across different MFIs.
- Outreach significantly decreases as portfolios at risk greater than 30 days increase. This result is easily explained by the association between lower outreach and non-profits, which make riskier loans to poorer clients.
- Increased total assets result in significantly greater outreach. This result is explained by the idea that for-profits tend to be larger than non-profits, and therefore have more breadth of outreach.

- More mature MFIs have significantly more outreach than young MFIs. It is likely that more mature MFIs are larger and more efficient than young MFIs, resulting in more breadth of outreach.

Table 2. *Variable* Names and Definitions

| Variable Name | Variable Description | Definition |
|---|---|---|
| Number of Active Borrowers | Overall Breadth of Outreach Indicator | Number of borrowers with loans outstanding, adjusted for standardized write-offs |
| Loan Balance per Borrower | Depth of Outreach to the Poor Indicator | Adjusted Average Loan Balance per Borrower/GNI per capita |
| Return on Assets (ROA) | Profitability Indicator | (Adjusted Net Operating Income - Taxes)/ Adjusted Average Total Assets |
| Operational Self-Sufficiency (OSS) | Sustainability Indicator | Financial Revenue/ (Financial Expense + Impairment Losses on Loans + Operating Expense) |
| Profit Status (PROFIT) | Profit Status Indicator | Dummy variable where 1=For profit firm and 0=Not for profit firm |
| Bank | Charter Type Indicator | Dummy variable where 1=Bank and 0=otherwise |
| Credit Union/Cooperative | Charter Type Indicator | Dummy variable where 1=Credit Union/Cooperative and 0=otherwise |
| NBFI | Charter Type Indicator | Dummy variable where 1=NBFI and 0=otherwise |
| NGO | Charter Type Indicator | Dummy variable where 1=NGO and 0=otherwise |
| Rural Bank | Charter Type Indicator | Dummy variable where 1=Rural Bank and 0=otherwise |
| Percent of Women Borrowers | Social Performance Indicator | Number of active women borrowers/ Adjusted Number of Active Borrowers |
| Portfolio Quality (PAR>30) | Social Performance and Risk Indicator | Outstanding balance, portfolio overdue> 30 Days + renegotiated portfolio/ Adjusted Gross Loan Portfolio |
| Age of the MFI: Mature | Firm Age Control Variable | Dummy variable where 1=Mature (>8 yrs) and 0=otherwise |
| Age of the MFI: Young | Firm Age Control Variable | Dummy variable where 1=Young (5-8 yrs) and 0=otherwise |
| Age of the MFI: New | Firm Age Control Variable | Dummy variable where 1=New (0-4 yrs) and 0=otherwise |
| Total Assets | Firm Size Control Variable | Total Assets, adjusted for Inflation and standardized provisioning for loan impairment and write-offs |
| Cost per Borrower | Efficiency Indicator | Adjusted Operating Expense/ Adjusted Average Number of Active Borrowers |
| Borrowers per Loan Officer | Efficiency Indicator | Adjusted Number of Loans Outstanding/ Number of Loan Officers |
| Country Dummy Variables | Fixed Effects Control Variable | Identify which country the MFI operates in |
| Year Dummy Variables | Fixed Effects Control Variable | Identify the years of operation for relevant data |

A comparison of the first two specifications show that using a series of charter type dummy variables does not result in any more explanatory power than simply using a for-profit dummy variable. However, it is interesting that in Regression 2, the Rural Bank charter type dummy is omitted, resulting in the conclusion that NBFIs have significantly more outreach than Rural Banks. Although both of these charter types are typically for-profit institutions, Rural Banks are typically much smaller.

Table 3. *OLS Regression Estimates of Outreach*

| | **Outreach** | | |
|---|---|---|---|
| | **(1)** | **(2)** | **(3)** |
| PROFIT | 11,451*** | | -96,840* |
| | (3,174) | | (52,484) |
| Bank | | 12,146 | |
| | | (11,005) | |
| Credit Union | | -690.8 | |
| | | (5,533) | |
| NBFI | | 12,271** | |
| | | (4,917) | |
| NGO | | 5,150 | |
| | | (4,108) | |
| ROA | 12,709 | 17,022 | 25,771** |
| | (27,953) | (28,721) | (11,515) |
| PROFIT*ROA | | | -237,672** |
| | | | (93,791) |
| Operational Self-Sufficiency | 5,505 | 5,575 | -1,166 |
| | (15,162) | (15,358) | (2,906) |
| PROFIT*OSS | | | 98,645** |
| | | | (49,433) |
| Loan Balance per Borrower | -2,568** | -2,392** | -2,601** |
| | (1,105) | (1,099) | (1,165) |
| Percent of Women Borrowers | -2,654 | -6,656 | 2,235 |
| | (7,025) | (7,313) | (6,813) |
| PAR>30 | -30,324*** | -29,129*** | -23,646** |
| | (10,484) | (10,828) | (9,644) |
| Total Assets | 0.000705*** | 0.000709*** | 0.000672*** |
| | (0.000127) | (0.000134) | (0.000126) |
| Cost per Borrower | -15.60* | -15.29* | -15.46* |
| | (8.267) | (8.119) | (9.046) |
| Age: Mature | 15,454*** | 14,315*** | 12,954*** |
| | (4,043) | (3,876) | (3,676) |
| Age: New | 423.1 | -293.9 | -205.7 |
| | (3,295) | (3,318) | (3,412) |
| Constant | 2,556 | 3,175 | 14,499 |
| | (22,123) | (23,281) | (9,789) |
| Observations | 953 | 953 | 953 |
| R-squared | 0.596 | 0.595 | 0.638 |

All models estimated via OLS with Robust standard errors. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. *Fixed Effects Country and year variable results not shown. Source: Calculations based on data from the Microfinance Information eXchange, Inc.

In Regression 3, an interaction term with the profit status dummy variable and ROA is included to investigate if for-profit MFIs that are more profitable have a different amount of outreach than non-profit MFIs. An interaction term with the profit status dummy variable and OSS is also included in the regression to explore the idea that for-profit MFIs with higher self-sufficiency may have a different amount of outreach than non-profits. When these interaction terms are added to the model, the overall fit of the equation improves. The regression results indicate interesting findings:

- Increasing ROA in non-profit firms has a significant positive impact on outreach, but increasing ROA in for-profit firms has a significant negative impact on outreach. The result regarding for-profit firms is difficult to explain, leading to a question regarding the causality of the relationship between outreach and ROA. It is possible that less outreach is driving some factor of ROA.
- Increasing OSS in a for-profit firm has a significant positive impact on outreach, but increasing OSS in a non-profit firm does not have a significant impact on outreach. This is easily explained by the idea that non-profit MFIs are not designed to be self-sufficient.
- The marginal effect of PROFIT across the dummy variable and interaction terms, evaluated at the mean values of explanatory variables is 14843.40.

All three regressions above were run with and without observations from South Africa to test the assumption that it may be an outlier due to its wealthier economy. Dropping the observations did not produce any significant findings, so the observations for South Africa were included in the final regressions. Overall, profit status, loan size, and portfolio quality seem to be key drivers of MFI outreach. Controlling for firm size, costs per borrower, and age are also significant in the equation. The results are consistent with the initial assumption that for-profit firms have more outreach.

***Loan Size Models***

To assess the determinants of outreach, two different specifications are used (Table 4). Regression 1 shows the following results.

- For-profit MFIs have significantly larger loans than non-profits ceteris paribus. This finding relates back to one of the key motivations of the study; the idea that for-profit MFIs make many large loans but are not necessarily making the small loans to the poor that are needed the most.
- As operational self-sufficiency increases loan size significantly increases. This may be explained by the relationship between increased OSS and for-profit firms, which are associated with larger loans.
- Loan size significantly decreases as percent of women borrowers increases. This finding may be explained by the idea that income inequality causes women to be poorer than men in Sub-Saharan Africa, leading to smaller loans and increased depth of outreach.
- As the number of active borrowers increases, loan size significantly decreases. This is a surprising result due to the original assumption that increasing the breadth of outreach will increase loan size and decrease depth of outreach. Theoretically this result makes sense due to the logic that spreading the total loan portfolio over more clients will cause the average loan size to decrease as breadth of outreach increases. However, this result could be

interpreted to mean that there is not necessarily a tradeoff between increasing the number of loans and making small loans to the poor.

- As borrowers per loan officer increases, loan size significantly decreases. Theoretically, if holding loan officers constant, this may be related to the finding that loan size decreases as number of active borrowers increases. However, correlation coefficients show that the two variables are not highly correlated.
- Increased total assets result in significantly larger loan size. This result is explained by the idea that for-profits are larger than non-profits, and therefore have larger loan sizes.

Table 4. *OLS Regression Estimates of Loan Size*

| | **Loan Balance per Borrower** | |
|---|---|---|
| | **(1)** | **(2)** |
| PROFIT | 0.353*** | 1.514** |
| | (0.136) | (0.603) |
| ROA | 0.0997 | 0.390 |
| | (0.439) | (0.471) |
| Operational Self-Sufficiency | 0.453* | 0.381 |
| | (0.273) | (0.301) |
| Percent of Women Borrowers | -1.176*** | -0.704* |
| | (0.372) | (0.400) |
| PROFIT*Women Borrowers | | -1.461* |
| | | (0.746) |
| Number of Active Borrowers | -1.72e-06*** | -2.01e-06*** |
| | (6.15e-07) | (6.67e-07) |
| PAR>30 | -0.529 | 0.570 |
| | (0.632) | (0.719) |
| PROFIT*PAR>30 | | -3.223** |
| | | (1.556) |
| Borrowers per Loan Officer | -0.00131*** | -0.00129*** |
| | (0.000249) | (0.000237) |
| Total Assets | 2.24e-09*** | 2.46e-09*** |
| | (5.61e-10) | (5.93e-10) |
| Age: Mature | -0.0489 | -0.00549 |
| | (0.141) | (0.133) |
| Age: Young | -0.233 | -0.206 |
| | (0.268) | (0.263) |
| Constant | 1.819*** | 1.216* |
| | (0.649) | (0.730) |
| Observations | 634 | 634 |
| R-squared | 0.369 | 0.388 |

All models estimated via OLS with Robust standard errors
Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
*Fixed Effects Country and year variable results not shown
Source: Calculations based on data from the Microfinance Information eXchange, Inc.

In Regression 2, an interaction term with the profit status dummy variable and percent of women borrowers is included to investigate if for-profit MFIs that have a higher percentage of women

borrowers have a different average loan size than non-profit MFIs. An interaction term with the profit status dummy variable and portfolios at risk greater than thirty days is also included in the regression to explore the idea that for-profit MFIs with better portfolio quality may have a different average loan size than non-profits. Adding these interaction terms improves the overall fit of the equation. The regressions results indicate interesting findings:

- Increasing percent of women borrowers in non-profit firms has a significant negative impact on loan size. Increasing percent of women borrowers in for-profit firms has even more of a significant negative impact on loan size. These significant negative impacts on loan size are interpreted as decreasing loan size, and improving depth of outreach to the poor.
- Increasing portfolio risk in a for-profit firm has a significant negative impact on loan size, resulting in smaller loans. However, increasing portfolio risk in a non-profit firm does not have a significant impact on loan size. This raises a question regarding the causality of the relationship between portfolio risk and loan size. It is possible that smaller loans made to poorer clients are more risky than larger loans made to less poor clients.
- The marginal effect of PROFIT across the dummy variable and interaction terms, evaluated at the mean values of explanatory variables is 0.34025.

Overall, profit status, number of active borrowers, percent of women borrowers, and portfolio quality seem to be key drivers of MFI average loan size. Controlling for firm size and borrowers per loan officer are also significant in the equation. The results are consistent with the initial assumption that for-profit firms have larger average loan sizes.

***Heteroskedasticity***

In the regressions above, results of Breusch-Pagan tests indicated a presence of heteroskedasticity. Robust OLS regressions were used to correct the inconstant variances in the standard errors of the variables. Results reported show the adjusted Robust Standard Errors.

**Conclusion**

This study has used empirical analysis to address the concept of a trade-off between social performance and financial performance of MFIs in Sub-Saharan Africa. Results of the study indicate strong conclusions regarding the determinants of MFI breadth of outreach, measured by the number of active borrowers, and depth of outreach, measured by average loan size adjusted for GNI per capita.

In conclusion, results indicate that for-profit MFIs in Sub-Saharan Africa have less depth of outreach, indicated by larger loan sizes, and significantly more breadth of outreach than non-profits. Increased self-sustainability, which is associated with for-profit firms, also results in larger loan sizes and decreased depth of outreach. These results indicate a clear tradeoff between the depth and breadth of outreach. This tradeoff supports the assumption that focusing on self-sustainability and financial performance ultimately results in more loans, but these larger loans are not necessarily reaching the poorest clients that need the loans most.

Results also indicate that increasing percent of women borrowers in both for-profit and non-profit MFIs results in significantly smaller average loan sizes. This is an exceptional measure of social performance, explained by the idea that income inequality causes women to typically be poorer than men in Sub-Saharan Africa, leading to smaller loans for women and increased depth of outreach. The impact on outreach of increasing the percent of women borrowers was inconclusive.
These conclusions are subject to a number of limitations. It is important to recognize that the conclusions made in this study only apply to MFIs in Sub-Saharan Africa. In addition, results are subject to alternative interpretations based on social and financial objectives of the individual MFIs included in the sample set. Obvious questions of causality arose in this study that are evident opportunities for future research. These endogeneity issues have been mentioned in other literature, but have yet to be addressed with a satisfactory solution.

This study has supported the concept of a tradeoff resulting from the "double bottom line" of the microfinance industry. Because it is very difficult to maximize both overall breadth of outreach and depth of outreach to the poor, for-profit and non-profit MFIs should not be held to the same measures of performance. These two different types of businesses clearly have different financial and social missions and are designed to function in ways that will allow them to accomplish their objectives. As long as information remains transparent to the public, especially investors and researchers, for-profit MFIs are shall be held to financial performance standards and non-profits shall be assessed by their social and developmental impacts. In the end, both for-profit and non-profit MFIs are providing access to banking services that are traditionally unobtainable for their clients; they just address different target markets in doing so.

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# LEADER-MEMBER EXCHANGE, ORGANIZATIONAL COMMITMENT, ORGANIZATIONAL CITIZENSHIP BEHAVIOR AND AFFECT OF DYADIC DURATION IN SMALL BUSINESSES

**Robert Jago**
**SBE Management Inc.**
**Edmonton, Alberta, Canada, T6J 4T8**
**sbem@shaw.ca**

**Pesi Amaria**
**Professor Emeritus**
**pamaria@comcast.net**

**Abstract**

Literature shows significant relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior and that as dyadic duration increases quality of leader-member exchange increases. Researchers discovered leader-member exchange relationships develop quickly, evolve though definitive stages remain stable for extended periods, and contribute to organizational success. This quantitative study uses pre-established questionnaires to examine relationships between leader-member exchange organizational commitment, and organizational citizenship behavior in small businesses, from followers' perspectives, and explores the affect of dyadic duration on followers' perceptions of leader-member exchange. Survey questionnaires administered to a sample of 600 businesses located within and near Edmonton, Alberta. After eliminating invalid responses, the final sample size was 183. Zero-order correlations, part and partial correlations, and regression analysis conducted to observe relationships among variables and the affect of dyadic duration on the relationships. Findings demonstrate significant positive correlations exits between follower organizational commitment and leader-member exchange and between follower organizational citizenship behavior and leader member-exchange and that dyadic duration has a significant effect on followers' perceptions of leader-member exchange. Outcomes suggest increasing the size of correlation between organizational commitment and leader member exchange and between organizational citizenship behavior and leader-member exchange, in small businesses, can increase organizational performance. Further, by extending the dyadic duration, before a decline occurs in size of correlation between organizational commitment and leader-member exchange and between organizational citizenship behavior and leader-member exchange, small businesses can increase follower retention and organizational success.

**Keywords:** Leader-member exchange, Organizational commitment, Organizational citizenship behavior, Dyadic duration, Beneficial leader-follower exchange relationships, Small business

## Introduction

During the first years of operation, small businesses encounter situations that threaten development of positive leader-member exchange relationships. With no definitive leader-follower exchange relationship models for small businesses, nearly 48 percent of businesses struggle and fail by their third year (Industry Canada, 2009). Early in the development of leader-member exchange, literature

researchers identified significant relationships between leader-member exchange, organizational commitment, and employee turnover (Deluga, 1994; Liden, Wayne, & Green, 1993). Researchers discovered leader-member exchange relationships develop quickly, evolve though definitive stages remain stable for extended periods, and contribute to organizational success (Naumann, Widmier, & Jackson, 2000). Researchers recognized leader-member exchange as a dynamic partnership and a mutually shared socially anchored perspective contingent on value congruence between leaders and followers (Erdogan, Kraimer, & Liden, 2004). While findings advanced understanding of leader-member exchange, few studies examined whether leader-member exchange relationships engendered positive outcomes in small businesses.

With increased understanding of the role leader-member exchange plays in organizational success researchers turned their focus to leader and followers' perceptions in forming leader-member exchange relationships (Greguras & Ford, 2006; Ilies, Nahrgang, and Morgeson, 2007; Lapierre & Hackett, 2007; Vigoda-Gadot, 2007; Waul, 2007). Although early in the evolution of leader-member exchange relationships in small businesses Neff (2008), Stringer (2008), and Soldner (2009), made significant advancements in understanding the roles of organizational commitment, organizational citizenship behavior, and dyadic duration in context with leader-member exchange. This quantitative study builds on past research by identifying followers' perspectives of leader-member exchange, organizational commitment, organizational citizenship behavior and the affects of dyadic duration on leader-member exchange relationships in small consulting businesses, during the first five critical years of business operations.

**Defining the Problem**

Records indicate that 97 percent of employer businesses are small businesses with fewer than 48 percent surviving their third year of operation (Industry Canada, 2009). With lack of organizational commitment and inconsistent citizenship behavior, by followers, and high employee turnover, small businesses incur annual losses of nearly 150 billion dollars (Weerasinghe, 2009). Early researchers demonstrated high-quality leader-member exchange relationships contribute to success in large organizations, (Awamleh & Gardner, 1999; Howell & Hall-Merenda 1999; Keller, 1999).

While researchers demonstrated leader-member exchange relationships impact followers' attitudes, behaviors, and the functioning of small businesses (Chaganti, Cook, & Smeltz, 2002), few studies examined relationships between organizational commitment and organizational citizenship behavior of followers and leader-member exchange, or whether dyadic duration affected followers' perceptions of leader-member exchange relationships. Linking organizational commitment and organizational citizenship behavior with leader-member exchange, in small businesses, will offer direction for small business success (Brower, Schoorman, & Tan, 2000; Chaganti, Cook, & Smeltz, 2002; Lord, Brown, Harvey, & Hall, 2001).

**Research Questions**

Findings from previous research suggest positive relationships between organizational commitment and organizational citizenship behavior of followers and leader-member exchange. Research questions one, (Q1), and two, (Q2), examine this proposition as it relates to small businesses.

Q1: Does organizational commitment of followers have a positive effect on followers' perceptions of leader-member exchange?

Q2: Does organizational citizenship behavior of followers have a positive effect on followers' perceptions of leader-member exchange?

Findings from previous research studies suggest positive relationships between dyadic duration and followers' perceptions of leader-member exchange relationships. Research question three, (Q3), examines this proposition as it relates to small businesses.

Q3: Does dyadic duration have a positive effect on followers' perception of leader-member exchange relationships?

**Limitations and Delimitations**

The research study examines relationships, from followers' perspectives, in a diverse multicultural society without evaluating or comparing types of businesses, leadership styles, or management practices. Demographic variables, including age, gender, level of education, type of profession, and method of communication, lead to significant variations in perceptions of leader-member exchange relationships. Selecting one geographic region, while reducing communication barriers, and affects of cultural and socio-economic nuances, across geographic regions, influences outcomes by increasing sample selection bias and the impact of non-response error and reduces potential to generalize findings.

**Key Definitions**

In this research study, leader and manager refer to someone who, responding to situational and contextual factors, influences another to achieve a specific organizational goal or objective. Follower and employee refer to someone who, responding to external influence works to achieve a specific organizational goal or objective.

Organizational commitment is an attitude that begins with the belief that organizational goals, objectives, and values align with personal goals, objectives, and values, and manifests as loyalty, positive behavior, low absenteeism, and low turnover.

Organizational citizenship behavior is discretionary and self-directed activities, which lead to more effective and efficient organizational performance.

Leader-member exchange relationships are reciprocal processes in which leaders and followers freely participate to create understanding of their mutual situation and when beneficial followers exhibit greater organizational commitment, organizational citizenship behavior, employee performance, and job satisfaction.

Small business refers to goods and service producing employer businesses with more than one and fewer than 100 employees.

**Literature Review**

Since Mary Parker Follett (1868-1933), recognized the collaborative and participative leader-follower relationships increased organizational effectiveness (Graham, 1995) researchers examined follower behavior that determined follower commitment to leader-member exchange relationships (Ehrhart & Klein, 2001; Townsend, Phillips, & Elkins, 2000). For decades, researchers advanced the premise that leader-member exchange relationships effect organizational performance by influencing organizational commitment and organizational citizenship behavior (Graen & Cashman, 1975; Gerstner & Day, 1997; Liden & Graen; 1980; Liden, Wayne, & Stilwell, 1993). With decades of research establishing leader-member exchange a great deal of work remains to understand antecedents and mediators that predict quality and success of leader-member exchange relationships (Chaganti, Cook, & Smeltz, 2002; Lord, Brown, Harvey, & Hall, 2001).

***Contemporary Perspective***

Contemporary research indicates followers, who perceive high quality leader-member exchange relationships, experience greater job satisfaction and a higher degree of personal fulfillment than followers who perceive low quality leader-member exchange relationships (Yu & Liang, 2004). Vigoda-Gadot (2006) found follower citizenship behavior positively relates to job satisfaction, affective commitment, and positive organizational performance and when followers perceived coercive or exploitive influence they withheld effort and achieved less than the desired levels of performance.

With increased frequency of leader-member exchange, shared understanding and mutual respect increase, which translates into mutually beneficial goals (Gasaway, 2006). Leader-member exchange relationships hinge on recognition of beneficial engagement and to be beneficial both leaders and followers must realize value (Gasaway, 2006). Stringer (2006) found that leaders and followers in high quality leader-member exchange relationships shared fulfillment of extrinsic needs and reciprocity. According to LaPierre and Hackett (2007) positive citizenship behavior is a discretionary act, manifests as trait conscientiousness, and enhances work environments in a manner that supports increased performance.

Walters (2007), found leaders and followers must both engage in leader-member exchange relationships, for individuals and organizations to reach their potential, and that organizational productivity increases as quality of leader-member exchange increases. According to Stringer (2008), leader-member exchange relationships are social process, in which both leaders and followers seek and share information with other members of a dyad, as a micro-system within a larger organizational social setting.

Scandura and Pellegrini (2008), found high-quality leader-member exchange relationships stabilize early and remain stable for the duration of the leader-member exchange relationship in contrast with assertions by Graen and Uhl-Bien (1995) that leader-member exchange relationships are

unstable. As mutual trust and respect increases, perceptions of leader-member exchange quality increases (Scandura & Pellegrini, 2008; Sin, Nahrgang, & Morgeson, 2009).

According to Soldner (2009), dyadic duration affects leader-member exchange and the more time followers spend with a leader, the more followers become accustomed to the leader and the leaders task performance expectations.

***Relevant Research***

Truckenbrodt (2000) tested relationships between organizational commitment, organizational citizenship behavior, and leader-member exchange, of followers, and found open and collaborative organizational cultures inspired altruistic and conscientious organizational commitment and extra role seeking citizenship behavior that contributes to organizational success. According to Truckenbrodt (2000), quality of leader-member exchange affects follower commitment and behavior and developing organizational cultures that promote high quality leader-member exchange relationships reduces follower turnover.

Greguras and Ford (2006) examined leader-member exchange relationships in 422 matched pairs of leaders and followers in small organizations and found the more respect followers have for a leader the more leader-member exchange contribution a follower makes to achieving organizational goals and the more organizational commitment a follower demonstrates. Greguras and Ford (2006) cautioned studies demonstrate low correlations between leader and follower perceptions due to significant variability in the choice of relationship factors measured.

Rigdon (2006) found perception of efforts predicted duration and depth of leader-member exchange and discovered that leaders and followers who perceived equal and reciprocal relationships, in terms of duration and depth, exhibited greater commitment and job satisfaction.

LaPierre and Hackett (2007) found while positive organizational citizenship behavior resulted in higher quality leader-member exchange relationships and followers used organizational citizenship behavior as a means to elevate quality of leader-member exchange relationships, individual differences, self-motivations, and personalities mitigated the development and quality of leader-member exchange.

According to Deckert (2007), the degree leaders and followers understand what the other expects influences the quality of leader-member exchange relationships. Deckert (2007) found value congruence critical to leader-member exchange development and followers, who demonstrated dependability, reliability, and effectiveness, more often developed high quality leader-member exchange relationships.

Changquan (2007) found leader-member exchange and its correlation with organizational citizenship behavior, are key elements in efficient functioning of organizations.

Affective commitment and psychological empowerment positively relate to higher quality leader-member exchange, higher intrinsic job satisfaction, and greater organizational commitment, while

low levels of psychological empowerment and low job satisfaction, positively relate to follower turnover (Collins, 2007; Waul, 2007).

Ilies, Nahrgang, and Morgeson (2007), found, leader-member exchange predicts discretionary individual targeted follower behavior as well as organizational targeted behavior and the higher the quality of leader-member exchange the more benefit organizations realize in terms of follower performance. High quality leader-member exchange relationships predicate on common exchange experiences, and mutual agreement between leaders and followers increase with duration and intensity of interaction (Neff, 2008; Sin, Nahrgang, & Morgeson, 2009).

Soldner (2009) found quality of leader-member exchange positively relates with organizational commitment and organizational citizenship behavior and improving leader-member exchange quality may lead to increased organizational success.

***Gaps Addressed***

Published literature falls short of demonstrating whether leader-member exchange has a positive influence in small business settings. Truckenbrodt (2000) found open and collaborative organizational cultures inspired altruistic and conscientious organizational commitment and extra role seeking behavior by followers that contributes to organizational success.

Chaganti, Cook, and Smeltz (2002), examined data from 372 small businesses and their findings were inconclusive in identifying positive relationships between leader-member exchange, and antecedents of organizational commitment, and organizational citizenship behavior.

Greguras and Ford (2006) examined leader-member exchange in 422 leader-follower dyads, in small businesses and were not able to draw definitive conclusions regarding leader-follower relationships, organizational commitment and organizational citizenship behavior.

LaPierre and Hackett (2007) examined affects of organizational citizenship behavior on leader-member exchange and linked organizational citizenship behavior and leader-member exchange; however, the study did not examine the partial influence of follower organizational commitment on the relationship.

Sin, Nahrgang, and Morgeson (2009), demonstrated trust, depth, duration, and reciprocity are essential antecedents of mutually beneficial leader-member exchange; however, focused on leader-member exchange relationships, with average tenure of 6.64 years, which is too long to provide insights into relationship challenges faced by small businesses.

Soldner (2009), found leader-member exchange positively relates with organizational commitment and organizational citizenship behavior, and improving quality of leader-member exchange leads to increased organizational success; however, Soldner's findings are endemic to large institutions and not generalizable to small businesses.

While findings from previous studies are significant in establishing relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior, outcomes are either insignificant or not generalizable to small businesses and past research made significant breakthroughs in understanding leader-member exchange relationships, significant gaps remain in understanding relationships between organizational commitment, organizational citizenship behavior, and leader-member exchange (Ilies, Nahrgang, and Morgeson, 2007).

This research study extends methodologies employed by Truckenbrodt, (2000), Chaganti, Cook, and Smeltz (2002), Greguras and Ford (2006), LaPierre and Hackett (2007), and Soldner (2009), and examines direct dyadic relationships, from followers' perspectives in small organizations.

**Methodology**

This quantitative study focuses on small consulting businesses in the Edmonton Alberta area and reflects data obtained from followers in dyadic and near dyadic leader-member exchange relationships. Employing probability-sampling techniques, the sample consisted of 600 randomly selected small businesses listed in telephone and small business directories available from the business development bank. One follower from each business participated in the survey. All respondents were English speaking, over the age of 18 years, and participated on a voluntary basis. Survey packets, consisting of three established and extensively tested survey questionnaires, gathered followers' responses in context with organizational commitment, organizational citizenship behavior, and leader-member exchange. A coded number identified each business in the research study and followers are unknown to the researcher.

This study used a cross-sectional survey design and three pre-established questionnaires to collect data from the sample population. The independent variables are organizational commitment and organizational citizenship behavior and the dependent variable is leader member exchange. The mediating variable is dyadic duration and the controlled variables are company size and geographic region.

***Survey Instruments***

The organizational commitment (OCQ) questionnaire presented 15 questions and measured how strongly followers felt committed to their organizations (Mowday, Porter, & Steers, 1982). The organizational citizenship behavior scale (OCBS) scale presented 16 questions, and measured characteristic follower behavior in their individual organizational settings (Smith, Organ, & Near, 1983). The team leader-member exchange (LMX) questionnaire presented 10 questions and measured follower perceptions of leader-member exchange with their immediate supervisor (Graen & Uhl-Bien, 1995; Graen, Hui, & Taylor, 2004). A demographic questionnaire identified age of participant, gender, education level, type of industry, age of the business, length of employment, and duration of leader-member exchange relationship with current supervisor.

The 15-item OCQ utilizes a seven-point Likert-type scale to indicate the relative degree of follower commitment. The total sum of all 15 items establishes potential scores between 15 and 105, from which a mean summary indicator is calculated (Soldner, 2009; Truckenbrodt, 2000). Truckenbrodt

reported a Cronbach's Alpha for internal consistency and reliability of .884 for the OCQ. According to Soldner (2009), the OCQ demonstrates internal consistency, over time, and test-retest reliability of .53 to .75 at two to four month intervals. Cronbach's Alphas recorded by Mowday, Steers, and Porter in 1982, ranged from .64 to .88; Tierney, Bauer and Potter in 2002, .89; and Sias in 2005, .91 (Soldner, 2009).

The 16-item OCBS, developed by Smith, Organ, and Near (1983), with subscales for altruism and generalized compliance, uses a five-point Likert-type scale. Level of organizational citizenship behavior is indicated by the total of all responses, divided by the total number of questions (Soldner, 2009; Truckenbrodt 2000). The range for responses is 16 to 80, with higher scores indicating higher levels of organizational citizenship behavior (Soldner, 2009). In past studies, the OCBS demonstrated high levels of internal consistency and high Alpha reliability coefficients for both subscales (Soldner, 2009). Truckenbrodt (2000) reported a Cronbach's Alpha for internal consistency and reliability of .718 for the organizational citizenship behavior scale.

The 10-item LMX-SLX questionnaire employs a five-point Likert-type scale and indicates the degree to which a follower agrees that each positively worded item is true (Soldner, 2009; Truckenbrodt 2000). Summing responses, with a potential range from 10 to 50, and dividing the total score by the number of scale items, indicates the level of leader-member exchange from followers' perspectives. A high LMX-SLX score indicates high leader-member exchange quality (Soldner, 2009; Truckenbrodt, 2000). Truckenbrodt, (2000) reported a Cronbach's Alpha for internal consistency and reliability of .877 for the LMX-SLX. According to Soldner (2009), the LMX-SLX has a high internal consistency, .95 and high indices of discrimination.

***Statistical Tests***

Raw data relevant to independent and dependent variables received multiple non-parametric procedures to determine veracity and identify singularity and multi-collinearity capable of interfering with analysis and interpretation. Comparing calculated Cronbach's Alphas for the OCQ, OCBS, and LMX-SLX, with Alphas obtained from previous studies demonstrated validity and veracity of survey instruments. A histogram showed frequencies and distribution of raw data and Pearson product moment correlation measured how closely independent variables correlated with dependent variable. Analysis of variance produced an F-observed score, which when compared with the F-critical score indicated the degree of similarity between variables (Waul, 2007). Regression analysis identified co-relationships between the independent variables and their individual relationships with dependent variable.

Data evaluation employed Baron and Kenny's three-step procedure. The first step determined the relationship between the independent variables and mediating variable. For dyadic duration to act as a mediator of leader-member exchange, variations in levels of dyadic duration must account for variations in leader-member exchange (Pallant, 2010). The second step utilized analysis of variance and regression analysis, to determine the relationships between the independent variables and the dependent variable and the ability of the independent variables to explain variance in the dependent variable. The third step, examined the relationship between the mediating variable and the dependent variable in context with the independent variables as period and term of dyadic

duration changed. For conditions where the independent variable returns a significant beta weight, partial mediation is present, and for conditions where the independent variable returns a non-significant beta weight, the mediators remain significant and full mediation is present.

**Data Analysis and Results**

The sampling program complied with provisions established by the Canadian Institute of Health Research (CIHR), Natural Sciences and Engineering Research Council of Canada (NSERC), and Social Sciences and Humanities Research Council of Canada (SSHRC), who jointly administer the Interagency Advisory Panel on Research Ethics (Panel on Research Ethics, 2010). Six-hundred randomly selected businesses received survey packets containing survey instructions, contact information, consent form, demographic sheet, survey questionnaires, and pre-addressed and postage-paid, return-mail envelopes, and all survey packets retained and stored in a secure and confidential location. The implementation period for the survey was four consecutive weeks.

***Data Preparation***

From 335 survey packets received, 60 had incomplete data or duplicated responses and excluded from the data set. Each of the 275 remaining survey packets received a unique case number. A spreadsheet was used to catalogue data by corresponding case number and checked for entry errors in preparation for preliminary analysis. Questions 3, 7, 9, 11, 12, and 15, in the OCQ and questions 4, 8, and 10, in the OCBS, were reverse scored to complete data preparation. Mean scores from the OCG, OCBS, and LMX-SLX for each case were calculated. Preliminary analysis of the 275 usable cases, found a Cronbach's Alpha, for OCQ of $\alpha = .915$, n = 15; for OCBS of $\alpha = .801$, n = 16; and LMX-SLX of $\alpha = .958$, n = 10. Significant negative inter-item correlations were evident in the OCBS. A corrected item-total correlation value, $r_{it} = .30$, for OCBS questions 2, 4, 6, 8, 9, and 10, and a mean inter-item correlation value, $r_{ii} = .21$, indicated inconsistency of measurement and a weak relationship among six items of the 16 items in the OCBS (Pallant, 2010). Six cases in which "X = Does Not Apply" were examined and found to correspond with business having no employees. Contacting 20 additional businesses, where "X = Does Not Apply" identified 17 businesses having no employees. Based on these findings, 92 cases removed reducing the total number of usable cases to 183.

***Reliability Test***

Reliability analysis of the 183 cases generated significant values for Cronbach's Alpha, for OCQ of $\alpha = .927$, n = 15; for OCBS of $\alpha = .897$, n = 16; and for LMX-SLX of $\alpha = .959$, n = 10. The Cronbach's Alphas for OCQ, OCBS, and LMX-SLX were all above $\alpha = .75$, with no significant negative inter-item correlations for OCQ, OCBS, and LMX-SLX, indicating very good internal consistency among items (DeVellis, 2003, Pallant, 2010).

Histograms of mean OCQ, OCBS, and LMX-SLX scores revealed no missing data with slight negative skew and kurtosis observed for mean OCBS scores. Comparing n = 183, with the formula n = 50 + 8 x (the number of independent variables) (Tabachnick & Fidell, 2007), confirmed N was significantly greater than the calculated value of n = 66.

***Demographic Analysis***

The 183 cases had a mean respondent age of 37.7 years including 59 (32.2%) Generation Y (1982-2001), 72 (39.3%) Generation X (1967-1981), and 52 (28.5%) Baby Boomer (1947-1966). There were 100 (54.6%) male and 83 (45.4%) female respondents out of which 138 (75.4%) respondents reported college, or higher, education. The mean business age was 14.38 years with 88 (48.1%) businesses operating 60 months or less, and 95 (51.9%) businesses operating 61 months or more. Respondents reported employment with businesses engaged in management, engineering, accounting, health, environment, finance, and other designations. The mean length of employment was 67.9 months with 138 (75.4%) respondents reporting from 13 to 60 months. The mean dyadic duration (length of time with the supervisor) was 49.13 months with 135 (73.8%) respondents reporting dyadic duration of 13 to 48 months.

***Research Question One***

Based on mean scores of OCQ, OCBS, and LMX-SLX obtained from 183 surveys, relationships between independent and dependent variables in response to research questions one, two, and three were examined. Preliminary analysis examined independent and dependent variables for relationships capable of influencing or confounding findings. Pearson's Correlation Coefficient identified magnitude and direction of relationships.

Q1: Does organizational commitment of followers have a positive effect on followers' perceptions of leader-member exchange relationships?

A scatter plot of mean OCQ and LMX-SLX scores indicated a positive, roughly linear relationship, with few outliers. No violations of assumptions observed for normality, linearity, and homoscedasticity. Pearson's Correlation Coefficient, identified a significant positive correlation between mean OCQ scores and mean LMX-SLX scores *($r = .637$, $n = 183$, $p = .000$).*

Partial correlation analysis of mean OCQ and LMX-SLX scores, controlling for the effect of mean OCBS scores, found a significant positive partial correlation between mean OCQ and LMX-SLX scores while controlling for mean OCBS scores *($r = .394$, $n = 183$, $p = .000$).* A significant reduction in size of correlation was observed from the recorded zero order correlation $r = .637$ to $r = .394$, while controlling for OCBS, suggests mean OCBS scores have a significant influence on the relationship between mean OCQ and LMX-SLX scores.

*Conclusions for research question one:* The analysis confirms the presence of a positive correlation between organizational commitment and leader-member exchange.

***Research Question Two***

Q2: Does organizational citizenship behavior of followers have a positive effect on followers' perceptions of leader-member exchange relationships?

A scatter plot of mean OCBS and LMX-SLX scores indicated a positive, roughly linear, relationship, with few outliers capable of affecting the data. No violations of assumptions observed for normality, linearity, and homoscedasticity. Pearson's Correlation Coefficient identified a significant positive correlation between mean OCBS scores and mean LMX-SLX scores *(r = .716, n = 183, p = .000).*

Partial correlation of mean OCBS and LMX-SLX scores, controlling for the effect of mean OCQ scores found a significant positive, partial correlation between mean OCBS and LMX-SLX scores while controlling for mean OCQ scores *(r = .554, n=183, p=.000)*. A significant reduction in size of correlation was observed from the recorded zero order correlation *r* = .716 to *r* = .554, while controlling for OCQ, suggests mean OCQ scores have a significant influence on the relationship between mean OCBS and LMX-SLX scores.

*Conclusions for research question two:* The analysis confirms the presence of a positive correlation between organizational citizenship behavior and leader-member exchange.

***Research Question Three***

Q3: Does dyadic duration have a positive effect on leader-member exchange relationships?

The effect of dyadic duration on leader-member exchange indicates significant differences in mean LMX-SLX scores for different periods and terms of dyadic duration and by changes in size and direction of correlation coefficients for relationships between mean OCQ and LMX-SLX scores and between mean OCBS and LMX-SLX scores. Grouping cases by length of time in months, permits examining of the relationship between organizational commitment and leader-member exchange, as periods and terms of dyadic duration changed.

***Examining the affect of dyadic duration on the relationship between organizational commitment and leader-member exchange***

Dyadic durations divided into four separate periods included 0 to 24 months, 25 to 36 months, 37 to 48 months, and 49 months and longer. Zero order correlations between mean OCQ and LMX-SLX scores calculated for each dyadic duration period. Partial correlation analysis conducted between mean OCQ and LMX-SLX scores to determine the effect of mean OCBS scores.

Table 1 illustrates correlation and partial correlations for relationships between mean OCQ and LMX-SLX scores, controlling for the partial effect of mean OCBS scores for four dyadic durations.

For dyadic duration period 0 to 24 months, a significant positive correlation *(r = 0.631, p = .000, n = 53)* between mean OCQ and LMX-SLX scores is observed, with a reduction in correlation from *r* = .631 to *r* = .517 *(p = .000)*, while controlling for OCBS.

For dyadic duration period 25 to 36 months, a significant positive correlation *(r = .492, p = .000, n = 53*, between mean OCQ and LMX-SLX scores is observed, with a reduction in correlation from r = .492 to r = -.023 *(p = .871 not significant)*, while controlling for OCBS.

For dyadic duration period 37 to 48 months, a significant positive correlation *(r = .693, p = .000, n = 40)* between mean OCQ and LMX-SLX scores is observed, with a reduction in correlation from *r* = .693 to *r* = .303 *(p = .061 not significant)*, while controlling for OCBS.

For dyadic duration period 49 plus months, a significant positive correlation (*r = .663, p =.000, n = 37)* between mean OCQ and LMX-SLX scores is observed, with a reduction in correlation from *r* = .663 to *r* = .551 *(p = .000)*, while controlling for OCBS.

Zero order and partial correlation coefficients, while controlling for the effect of organizational citizenship behavior, are different in value for each dyadic period.

*Conclusions for research question three:* The results show significant positive zero order and partial correlations exist for three dyadic duration periods indicating dyadic duration has an effect on the relationship between organizational commitment and leader-member exchange.

Table 1.
*Correlations for OCQ and LMX-SLX, controlling for OCBS by dyadic duration*

| **Dyadic Duration** | | **Zero Order Correlations** | | **Partial Correlations** | |
|---|---|---|---|---|---|
| **(Months)** | **n** | **OCQ and LMX-SLX** | **Sig.** | **OCBS** | **Sig.** |
| 0 to 24 | 53 | .631 | .000 | .517 | .000 |
| 25 to 36 | 53 | .492 | .000 | -.023 | .871 |
| 37 to 48 | 40 | .693 | .000 | .303 | .061 |
| 49 Plus | 37 | .663 | .000 | .551 | .000 |

***Examining the effect of dyadic duration on the relationship between organizational citizenship behavior and leader-member exchange***

Table 2 illustrates correlation and partial correlations for relationships between mean OCBS and LMX-SLX scores, controlling for the partial effect of mean OCQ scores for four dyadic durations.

For dyadic duration period 0 to 24 months, a significant positive correlation *(r = .599, p = .000, n = 53)* between mean OCBS and LMX-SLX scores is observed, with a reduction in correlation from *r* = .599 to *r* = .468 *(p = .000)*, while controlling for OCQ.

For dyadic duration period 25 to 36 months, a significant positive correlation *(r = .772, p = .000, n = 53)* between mean OCBS and LMX-SLX scores is observed, with a reduction in correlation from *r* = .772 to *r* = .684 *(p = .000)*, while controlling for OCQ.

For dyadic duration period 37 to 48 months, a significant positive correlation *(r = .824, p = .000, n = 40)*, between mean OCBS and LMX-SLX scores is observed, with a reduction in correlation from *r* = .824 to *r* = .664 *(p = .000)*, while controlling for OCQ.

For dyadic duration period 49 plus months, a significant positive correlation *(r = .568, p = .000, n = 37)* between mean OCBS and LMX-SLX scores is observed, with a reduction in correlation from *r* = .568 to *r* = .398 *(p = .016)*, while controlling for OCQ.

Zero order and partial correlation coefficients, while controlling for the effect of organizational commitment, are different in value for each dyadic period.

*Conclusions for research question three:* Zero order and partial correlations remain positive and significant for all dyadic durations indicating dyadic duration has an effect on the relationship between organizational commitment and leader-member exchange.

Table 2.
*Correlations for OCBS and LMX-SLX, controlling for OCQ by dyadic durations*

| **Dyadic Duration** | | **Zero Order Correlations** | | **Controlled Variables** | |
|---|---|---|---|---|---|
| **(Months)** | **n** | **OCBS and LMX-SLX** | **Sig.** | **OCQ** | **Sig.** |
| 0 to 24 | 53 | .599 | .000 | .468 | .000 |
| 25 to 36 | 53 | .772 | .000 | .684 | .000 |
| 37 to 48 | 40 | .824 | .000 | .664 | .000 |
| 49 Plus | 37 | .568 | .000 | .398 | .016 |

***Examining the effect of dyadic duration on the relationship between dyadic duration and followers' perception of leader-member exchange relationships by cumulative dyadic terms***

Table 3 illustrates zero order and partial correlations for relationships between mean OCQ and LMX-SLX scores and between mean OCBS and LMX-SLX scores, for each cumulative dyadic term. Zero order correlations between mean OCQ and LMX-SLX scores fluctuates as dyadic duration terms increase; whereas, correlation coefficients for the relationship between mean OCBS and LMX-SLX scores increases through dyadic duration terms one, two, and three, reaching maximum values at or before 48 months.

The relationship between mean OCQ and LMX-SLX scores fluctuates with relative small changes in size of correlation. There is a substantial increase, in relative size of zero order correlations for relationships between mean OCBS and LMX-SLX scores, for terms one, two, and three, with a decline in size of correlation in terms four and five. The zero order correlations remain positive and significant for all five cumulative dyadic periods indicating dyadic duration has an effect on the relationship between organizational commitment and leader-member exchange and on the relationship between organizational citizenship behavior and leader-member exchange.

Table 3.
*Correlations for OCQ, OCBS, and LMX-SLX by cumulative Dyadic Term*

| Dyadic Duration | | Zero Order Correlations | | | |
|---|---|---|---|---|---|
| Term | N | OCQ LMX-SLX | Level (Two Tailed) | OCBS LMX-SLX | Level (Two Tailed) |
| 0 to 24 (one) | 53 | .631 | 0.000 | .599 | 0.000 |
| 0 to 36 (two) | 106 | .595 | 0.000 | .696 | 0.000 |
| 0 to 48 (three) | 146 | .622 | 0.000 | .731 | 0.000 |
| 0 to 60 (four) | 164 | .607 | 0.000 | .724 | 0.000 |
| 61 plus (five) | 183 | .637 | 0.000 | .716 | 0.000 |

***Regression analysis of independent variables organizational commitment and organizational citizenship behavior with dependent variable leader-member exchange***

A standard linear regression analysis examined which independent variable best predicted the dependent variable and the amount of unique variance each independent variable explained in the dependent variable.

Mean OCQ scores, mean OCBS scores, and mean LMX-SLX scores showed suitability for regression analysis. Table 4 illustrates the descriptive statistics.

Table 4.
*Descriptive statistics of LMX-SLX, OCQ, and OCBS*

| Descriptive Statistics | | | |
|---|---|---|---|
| **Variable name** | **Mean** | **Std. Deviation** | **N** |
| Average Score LMX_SLX (Q1-Q10) | 3.85 | .817 | 183 |
| Average Score OC (Q1-Q15) | 5.04 | 1.000 | 183 |
| Average Score OCB (Q1-Q16) | 3.76 | .701 | 183 |

A value of $R^2$ = .588 indicated the regression model accounted for 58.8 percent of variance inherent in mean LMX-SLX scores with an *F* value of 128.4 and significance *p* = .000.

Table 5 illustrates the regression model summary. Standardized Beta coefficients established the unique contribution of mean OCQ scores *(β = .336, p = .000)* to the mean LMX-SLX scores, was less than the unique contribution of mean OCBS scores *(β = .523, p = .000)* to mean LMX-SLX scores.

Table 6 illustrates regression coefficients. While mean OCQ and OCBS scores make positive and significant contributions to mean LMX scores, mean OCBS scores make a larger unique contribution than mean OCQ scores, when the variance contributed by mean OCQ scores is controlled.

Squaring the part correlation values for mean OCQ scores, *r* = .275 and mean OCB scores *r* = .427, indicates that mean OCQ scores explain 7.6 percent of total variance in mean LMX-SLX scores, and mean OCBS scores explain 18.2 percent of total variance in mean LMX-SLX scores.

Although the regression model explained 58.8 percent of variance in mean LMX-SLX scores, the amount of variance explained by the unique contribution of independent variables, with overlapping effects removed, was 25.8 percent of total variance in leader-member exchange, indicating organizational commitment and organizational citizenship behavior share 33 percent of total variance in leader-member exchange scores. Mean OCBS scores at Part *r* = .427 make a larger unique contribution than mean OCQ scores at Part *r* = .275.

Table 5
*Regression model summary for LMX-SLX, OCQ, and OCBS*

| **Model Summary (a, b)** | | | | | |
|---|---|---|---|---|---|
| **R** | **R Square** | **Adjusted R Square** | **Std. Error of the Estimate** | **F value** | **Significance** |
| .767 | .588 | .583 | .527 | 128.40 | .000 |

a. Predictors: (Constant), Average Score OCB (Q1-Q16), Average Score OC (Q1-Q15)

b. Dependent Variable: Average Score LMX_SLX (Q1-Q10)

Table 6
Regression coefficients of LMX-SLX, OCQ, and OCBS

| Coefficients (a) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Model** | **Unstandardized Coefficients** | | **Standardized Coefficients** | **t** | **Sig.** | **Correlation** | | | **Collinearity** | |
| | **B** | **Std. Error** | **Beta** | | | **Zero order** | **Partial** | **Part** | **TOL** | **VIF** |
| Constant | .179 | .232 | | .769 | .443 | | | | | |
| Average Score OC (Q1-Q15) | .275 | .048 | .336 | 5.750 | .000 | 0.637 | 0.394 | 0.275 | 0.66 | 1.49 |
| Average Score OCB (Q1-Q16) | .608 | .068 | .523 | 8.938 | .000 | 0.716 | 0.554 | 0.427 | 0.66 | 1.49 |

a. Dependent Variable: Average Score LMX_SLX (Q1-Q10)

**Conclusions**

Examining research question one, led to finding a positive, significant correlation between OC and LMX, and a significant positive partial correlation between OC and LMX, while controlling for the effects of OCB. In response to research question one; the findings demonstrate that from the

perspective of followers, a positive correlation exists between organizational commitment and leader-member exchange.

Examining research question two, led to finding a significant positive correlation and a positive partial correlation, between OCB and LMX, while controlling for the effects of OC. In response to research question two, the findings of this research study demonstrate that from the perspective of followers, a positive correlation exists between organizational citizenship behavior and leader-member exchange.

Examining research question three, led to finding a significant difference in mean scores for dyadic duration periods 0 to 24 months and 61 months and longer, with a moderate effect size. A positive significant correlation observed between OC and LMX, with the size of correlation fluctuating as period and term of dyadic duration increased, and a positive significant correlation between OCB and LMX, with size of correlation constants increasing as period and term of dyadic duration increased, then declining as period and term of dyadic duration extended beyond 48 months. In response to research question three, the findings of this research study demonstrate that dyadic duration has a positive effect on followers' perceptions of leader-member exchange. Positive significant correlations for the relationship between mean OCQ and LMX-SLX scores, and between mean OCBS and LMX-SLX scores, suggest than an increase in mean OCQ scores, an increase in mean OCBS scores, or an increase in both mean OCQ and OCBS scores, would generate an increase in mean LMX-SLX scores.

Outcomes of this research study demonstrate followers' perspectives have a significant effect on quality of LMX relationships, follower OC and OCB affect quality of LMX, and size of relationship correlations vary with period and term of dyadic duration in small businesses. Linking outcomes of this research study, with findings of previous studies, suggests that increasing the size of correlation between OC and LMX and between OCB and LMX, from followers' perspectives, in small businesses, will generate more beneficial LMX relationships, increase organizational performance, and increase survival rates in the first five critical years of operation.

By extending the length of dyadic duration, before a decline in size of correlation occurs, small business leaders can increase follower perceptions of beneficial leader follower relationships and increase follower retention. Future research should re-examine the relationships between LMX, OC, and OCB in small businesses, and explore the influence of age and gender on follower perceptions of leader-member exchange, organizational commitment, and organizational citizenship behavior.

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# AFFECTS OF AGE AND GENDER ON ORGANIZATIONAL COMMITMENT, ORGANIZATIONAL CITIZENSHIP BEHAVIOR AND LEADER MEMBER EXCHANGE IN SMALL BUSINESSES

**Robert Jago**
**SBE Management Inc.**
**Edmonton, Alberta, Canada, T6J 4T8**
**sbem@shaw.ca**

**Pesi Amaria**
**Professor Emeritus**
**pamaria@comcast.Net**

## Abstract

This paper expands and augments of a previous study on leader-member exchange, organizational commitment, organizational citizenship behavior, and affects of dyadic duration in small businesses, by evaluating the affects of age and gender on the relationships The raw data collected from three pre-constructed survey instruments used in the previous study formed the foundation for evaluating affects of age and gender on relationships between leader-member exchange and organizational commitment and leader-member exchange and organizational citizenship behavior. Out of 600 random surveys, distributed to small business located in and near Edmonton, Alberta, the final sample size, after eliminating invalid responses, was 183. Findings of this study demonstrate that age and gender of respondent have a significant effect on size of correlation coefficient for relationships between leader-member exchange and organizational commitment and between leader-member exchange and organizational citizenship behavior and that further research on the affects of age and gender including dyadic duration is critical to developing successful leader-member exchange models for small businesses. The study results are limited to one geographic location.

**Keywords:** Leader-member exchange, Leader-follower relationships, Organizational commitment, Organizational citizenship behavior, Age, Gender, Dyadic duration

## Introduction

Leader-follower relationships promote small business success (Lord, Brown, Harvey, & Hall, 2001). Links between leadership styles, follower perceptions, and situational and contextual variables are fundamental to successful business operations (Brower, Schoorman, & Tan, 2002; Chaganti, Cook, & Smeltz, 2002; Lord, Brown, Harvey, & Hall, 2001). According to Fuqua and Newman (2005), "one approach to this dilemma would be to build flexible leadership grids in which leader roles shift with the requirements of the situation or context," (p 10). As organizations diversify in the global marketplace, it is important to recognize that not all cultures treat individuals within society regardless of gender or age, with fairness, dignity, and respect (Connerley & Pedersen 2005). Creating a culture where people feel respected and recognized begins with a solid moral foundation of recognition and reciprocal understanding, mutual enabling, trust, and integrity (Pless & Maak, 2004).

In small businesses, it takes time for high quality leader-follower relationships to evolve; however, research to date is unclear on whether relationships between leader-follower relationships, organizational commitment, and organizational citizenship behavior can develop in the relative short-periods essential to small business survival (Giberson, Resick, & Dickson, 2005) and whether age and gender play a significant role in defining leader-follower relationships. Recognizing that leader-follower relationships are dyadic, are affected by situational variables, and are in a continuous state of change (Sin, Nahrgang, & Morgeson, 2009), determining the suitability of beneficial leader-follower relationships to promote small business success hinges on evaluating the affects of age and gender as antecedents and moderators of beneficial leader-follower relationships in context with relationship tenure.

While similarity in demographics increases likelihood that individuals perceive and interpret actions and behaviors similarly and fostering trusting relationships, which in time will lead to homogeneity in terms of personality and values, Giberson, Resick, and Dickson (2005) cautioned that demographic homogeneity is beneficial early in an organizations lifecycle and tends to hinder an organizations ability to adapt to changing situational variables later in the organizations lifecycle. According to Fisher, Boyle, and Fulop (2010) competing commitments, resulting from attempts to maintain balance between family and work, more frequently factor into organizational commitment of female employees than male employees, and type of distraction and perception of commitment change with age. Evaluating organizational commitment in context with gender requires identifying quantitative factors that demonstrate perceptual differences and emotional context inherent in individual commitment (Fisher, Boyle, & Fulop, 2010). With past research focused more on measuring organizational commitment than on understanding its meaning in different organizational settings and less on understanding determinants of follower commitment as age and tenure change (Fisher, Boyle, & Fulop, 2010), when developing leader-follower models critical to small business success it is essential to examine the affects of age and gender on relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior, in small businesses as dyadic durations change.

This research study extends and supplements the analytical evaluation of raw data collected for a previous study of relationships between leader-member exchange, organizational commitment, organizational citizenship behavior, and affects of dyadic duration in small businesses. The primary focus of this analysis is to evaluate the affects of age and gender on the reported relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior. The methodology, demographic analysis, and data preparation, from the previous study on leader-member exchange, organizational commitment, and organizational citizenship behavior, formed the foundation for the analysis of age, gender and dyadic duration on the relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior in small businesses.

**Defining the Problem**

According to Industry Canada (2009) nearly 97 percent of employer businesses are small businesses and nearly 52 percent fail by their third year of operation (Industry Canada, 2009). Research

suggests age and gender play a role in organizational commitment, citizenship behavior, and employee turnover (Weerasinghe, 2009). Published literature establishes links leader-follower relationships, organizational commitment, and organizational citizenship behavior, and supports development of leader-follower relationship models responsive to situational and contextual variables; however, falls short of identifying whether age and gender of followers have significant affect on the strength of relationships as dyadic durations change. While researchers demonstrated leader-member exchange relationships impact follower attitudes, behaviors, and the functioning of small businesses (Chaganti, Cook, & Smeltz, 2002), few studies examined whether are and gender affect followers' perceptions of leader-member exchange relationships as dyadic durations change.

**Purpose of Study**

The purpose of the research study is to identify and create better understanding of the roles age and gender play in leader-follower relationships as periods and terms of dyadic change in small businesses. Understanding how age and gender affect leader-follower relationships, will augment current research findings and provide insights essential to developing high-quality leader-follower relationships. In addition, understanding how age and gender affect leader-follower relationships will inform development of leader-member exchange models that reflect follower needs and perceptions as follower age and tenure change.

**Research Questions**

Four research questions will guide the evaluation of previously reported relationships between leader-member exchange and organizational commitment and between leader-member exchange and organizational citizenship behavior as follower age and tenure change.

*Q1: Does age of followers' affect the relationship between leader-member exchange and follower organizational commitment as dyadic durations change in small businesses?*

*Q2: Does age of followers' affect the relationship between leader-member exchange and organizational citizenship behavior as dyadic durations change in small businesses?*

*Q3: Does gender of followers' affect the relationship between leader-member exchange and follower organizational commitment as dyadic durations change in small businesses?*

*Q4: Does gender of followers' affect the relationship between leader-member exchange and follower organizational citizenship behavior as dyadic durations change in small businesses?*

**Limitations**

The primary research focused on one geographic region where a large number of small businesses engaged in manufacturing and service related activities. This evaluation uses raw data from a previous study and relies on the accuracy and applicability of methodology employed. Selecting, one geographic region in which all leaders and followers aspired to common social and cultural values

increases potential for similarity in demographics and increases likelihood for homogeneity in terms of personality and values.

While Fisher, Boyle, and Fulop (2010) caution that evaluating organizational commitment in context with gender requires identifying perceptual differences and emotional context inherent in individual commitment, this evaluation recognizes that perceptual and emotional factors are reflected in direct and near direct dyadic relationships in the target population, identified in the previous study. Confounding variables may affect the veracity of primary and secondary data and are difficult to anticipate in context with the independent and dependent variables. The level of education, type of profession, situational and contextual factors lead to significant variations in perceptions of leader-follower relationships.

According to Fisher, Boyle, and Fulop (2010) competing commitments, resulting from attempts to maintain balance between family and work, more frequently factor into organizational commitment of female employees than male employees, and type of distractions and perceptions of commitment change with age. The previous study focused on measuring relationships between leader-member exchange and organizational commitment and between leader-member exchange and organizational citizenship behavior without identifying or examining determinants of follower commitment reflective of respondent age and gender. The quality and validity of raw data is contingent on past researchers maintaining ethical, sensitive, and unbiased methodologies in the light of perceptual ambiguity while performing systematic and rigorous research.

**Contemporary Research**

In a study of 228 employees, Singh, Finn, and Goulet (2004) found that male and female employees have similar job attitudes toward organizational commitment, when controlling for demographic work related variables, and that organizational commitment more reflects job related experiences. The inherent nature of a job and its social perceptions are significant factors in defining determinants of employee in-role and extra-role citizenship behavior and when gender-specific attributions were associated with a job in-role performance expectations and measures tended to be less desired and rewarded than extra-role behavior (Farrell, & Finkelstein, 2007). Studies by Li and Wan (2007) and by Na and Feldman, (2008) demonstrate that the older an employee is the more the employee will perceive affiliation over need for achievement as drivers for organizational citizenship behavior. Research by Allen (2006), and Farrell and Finkelstein (2007) found gender was a moderator of organizational citizenship behavior, and that specific antecedents of OCB were prominent in male employees and female employees and that not all antecedents were common to both male and female.

According to Turner, (2008) past studies demonstrate that age is significantly correlated with organizational commitment with strong links to affective commitment and weak association to normative and continuance commitment; however, while acknowledging male and female employees have similar commitment levels, found no consistent relationship between gender and commitment. Turner (2008) found commitment, by male and female intercollegiate athletic coaches, evolves differently and reaches different levels with tenure, job characteristics are more

predominant moderators of organizational commitment in female coaches, and affective commitment in male coaches is more influenced by personal characteristics.

In his research Soldner (2009) examined the relationship between followers' perceptions of leader-member exchange and propensity toward organizational commitment and organizational citizenship behavior and the potential for dyadic duration to moderate the quality of leader-member exchange relationship. According to Soldner (2009) past studies demonstrate that leader-member exchange is related to follower commitment, citizenship behavior, performance, absenteeism, and turnover. Soldner (2009) found gender, age, and dyadic duration are antecedents and moderators of follower perceptions of leader-member exchange quality. According to Soldner (2009) organizations that effectively create and take active measure to sustain high quality leader-member exchange relationships increase organizational commitment, organizational citizenship behavior, and job satisfaction, and reduce follower turnover. According to Soldner (2009) leader-member exchange predicates on dyadic duration and the more time a follower spends with a leader the more the follower becomes accustomed to the leaders task and performance expectations.

According to Fisher, Boyle, and Fulop (2010) past research into relationships between gender and organizational commitment is limited by design and fails to acknowledge emotional differences and expression of organizational commitment. Past approaches to examining organizational commitment relate little emphasis on presenting a balanced gender sensitive and inclusive perspective (Fisher, Boyle, & Fulop, 2010). Past research has focused more on measuring organizational commitment than on understanding its meaning in different organizational settings (Fisher, Boyle, & Fulop, 2010). According to Fisher, Boyle, and Fulop (2010) competing commitments, resulting from attempts to maintain balance between family and work, more frequently factor into organizational commitment of female employees than male employees, and type of distractions and perceptions of commitment change with age. Evaluating organizational commitment in context with gender requires identifying quantitative factors that demonstrate perceptual differences and emotional context inherent in individual commitment (Fisher, Boyle, & Fulop, 2010).

Chou and Pearson (2011) evaluated organizational citizenship behavior in 85 information technology professionals and found that age and tenure are significant factors in follower organizational citizenship behavior; however, organizational behavior is gender related and results are inconclusive when using an aggregated measure due to the impetus of gender and non-gender related behavior. Findings by Setyabundi and Chun-His (2011) indicate that new and younger employees have weak organizational commitment and trust and are more influenced by their perceptions of internal politics and organizational culture than more senior employees suggesting age and tenure relate to organizational commitment.

**Gaps Addressed**

Singh, Finn, and Goulet (2004) found male and female employees have similar job attitudes toward organizational commitment and organizational commitment reflects job related experiences; however, stopped at examining the affects of age and dyadic duration on strength of commitment. Farrell and Finkelstein (2007) found the inherent nature of a job is a significant factor in employee in-role and extra-role behavior; however, did not study whether perceptions of leader-follower

relationships changed over time. Studies by Li and Wan (2007) and by Na and Feldman (2008) demonstrated that affiliation drives citizenship behavior in older employees without examining the influence of gender. Research by Allen (2006) and Farrell and Finkelstein (2007) found gender was a moderator of organizational citizenship behavior; however, did not examine whether age played a role in perceptions.

The ability of the reader to recognize and generalize findings informs their level of generalizability (Kadriye & Wolf-Michael, 2006). According to Turner, (2008) past studies demonstrate age is significantly correlated with organizational commitment; however, while acknowledging male and female employees have similar commitment levels, found no consistent relationship between gender and commitment. Turner (2008) found commitment evolved differently in male and female athletic coaches and reaches different levels with tenure; however, findings were specific to intercollegiate athletic coaches and are not generalizable across small business settings. Soldner (2009) exposed relationship characteristics inherent in a large institution and while significant in establishing age and gender affect leader-member exchange, organizational commitment, and organizational citizenship behavior, the findings are not generalizable across small business settings. Studies by Chou and Pearson (2011) and Setyabundi and Chun-His (2011) suggest age and gender affect follower commitment and behavior; however findings are inconclusive in demonstrating a significant affect.

Examining the research questions will test the proposition that relationships between leader-member exchange, organizational commitment and organizational citizenship behavior develop by the second month of leader-follower interaction, remain consistent for extended periods, and are affected by the age and gender of followers. Answering the research questions will also provide information critical to advancing leadership-followership relationships as a paradigm for small business success.

**Methodology**

The previous study used a cross-sectional survey design and pre-established questionnaires to collect data from the sample population of small businesses geographically located in and around Edmonton, Alberta, Canada. The independent variables for this study are organizational commitment and organizational citizenship behavior. The dependent variable is leader member exchange. The demographic variables are age, gender, dyadic duration (length of time with the supervisor), length business operations, length of employment, and company size. The affects of age and gender on relationships between the independent and dependent variables, not considered in the previous research, are examined in this study.

The researchers distributed 600 survey packets to a random selection of small businesses. Each business was contacted by telephone and the purpose of the survey explained before survey packets were delivered. Out of 600 survey packets, 335 survey packets were received and after eliminating surveys with incomplete responses, duplicated responses, and responses from business having no employees from the raw data set, the final valid sample size was 183 surveys.

**Survey Instruments**

The previous research used three pre-constructed survey instruments. The organizational commitment (OCQ) questionnaire presented 15 questions and measured how strongly followers felt committed to their organizations (Mowday, Porter, & Steers, 1982). The organizational citizenship behavior scale (OCBS) scale presented 16 questions, and measured characteristic follower behavior in their individual organizational settings (Smith, Organ, & Near, 1983). The team leader-member exchange (LMX) questionnaire presented 10 questions, and measured follower perceptions of leader-member exchange with their immediate supervisor (Graen & Uhl-Bien, 1995; Graen, Hui, & Taylor, 2006). A demographic questionnaire identified age of participant, gender, education level, type of industry, age of the business, length of employment, and duration of leader-member exchange relationship with current supervisor. The generational categories included Generation Y (1982-2001), Generation X (1967-1981), and Baby Boomers (1947-1966).

The 15-item organizational commitment questionnaire (OCQ) utilized a seven-point Likert-type scale to indicate the relative degree of follower commitment. Organizational commitment describes to an attitude that begins with the belief that organizational goals, objectives, and values align with personal goals, objectives, and values, and manifests as loyalty, positive behavior, low absenteeism, and low turnover. Cronbach's Alphas reported by Mowday, Steers, and Porter (1982) ranged from .64 to .88; Tierney, Bauer and Potter (2002) .89; and Sias (2005), .91 (Soldner, 2009).

The 16-item organizational citizenship behavior scale (OCBS), developed by Smith, Organ, and Near (1983), with subscales for altruism and generalized compliance, used a five-point Likert-type scale. Organizational citizenship behavior describes discretionary and self-directed activities, which lead to more effective and efficient organizational performance. Truckenbrodt (2000) reported a Cronbach's Alpha for internal consistency and reliability of .718 for the organizational citizenship behavior scale.

The 10-item leader-member exchange questionnaire employed a five-point Likert-type scale and indicated the degree to which a follower agrees that each positively worded item is true (Soldner, 2009; Truckenbrodt 2000). Leader-member exchange relationships are reciprocal processes in which leaders and followers freely participate to create understanding of their mutual situation and when beneficial followers exhibit greater organizational commitment, organizational citizenship behavior, employee performance, and job satisfaction with increased dyadic duration. Truckenbrodt, (2000) reported a Cronbach's Alpha for internal consistency and reliability of .877 for the team leader-member exchange questionnaire.

**Data Preparation**

Questions 3, 7, 9, 11, 12, and 15, in the OCQ, and questions 4, 8, and 10, in the OCBS were reverse scored to complete the data preparation. Mean OCQ scores for each case were calculated by dividing total OCQ scores by the number of questions, in this case 15. Mean OCBS scores for each case were calculated by dividing total OCB scores by the number of questions, in this case 16. Mean LMX scores for each case were calculated by dividing total LMX scores by the number of questions, in this case 10.

A reliability analysis of the 183 cases generated significant values for Cronbach's Alpha, for OCQ of α = .927, n = 15; for OCBS of α = .897, n = 16; and for LMX-SLX of α = .959, n = 10. The Cronbach's Alphas for OCQ, OCBS, and LMX-SLX were all above α = .75, with no significant negative inter-item correlations for OCQ, OCBS, and LMX-SLX, indicating very good internal consistency among items (DeVellis, 2003, Pallant, 2010).

As neither independent variable is a combination or subset of the other variable singularity is not present (Pallant, 2010). With both tolerance and VIF values confirming that assumptions of multicollinearity had not been violated, both variables were retained for analysis. Histograms of mean OCQ, OCBS, and LMX-SLX scores revealed no missing data with slight negative skew and kurtosis observed for mean OCBS scores. Comparing n = 183, with the formula n = 50 + 8 x (the number of independent variables) (Tabachnick & Fidell, 2007), confirmed N was significantly greater than the calculated value of n = 66.

**Demographic Analysis**

Analysis of the 183 cases indicated a mean respondent age of 37.7 years, with ages ranging from 20 to 64 years. Table 1 provides frequency distributions between age categories and gender. The respondent's age categories were aligned with generational designations described by Foot (2000). There were 59 (32.2%) Generation Y (1982-2001) respondents, 72 (39.2%) Generation X (1967-1981), and 52 (28.4%) Baby Boomers (1947-1966).

Table 2 lists the frequency distribution of education with gender. There were 100 (54.6%) male and 83 (45.4%) female respondents out of which 138 (75.4%) respondents reported college, or higher, education.

Table 1
*Frequency distribution of age categories with gender*

| Age Categories | Gender | | Total |
|---|---|---|---|
| | Male | Female | |
| 20-29 years (Generation Y) | 27 | 32 | 59 |
| | 27.0% | 38.6% | 32.2% |
| 30-44 years (Generation X | 36 | 36 | 72 |
| | 36.0% | 43.4% | 39.3% |
| 45 and above years (Baby Boomers) | 37 | 15 | 52 |
| | 37.0% | 18.1% | 28.4% |
| Total | 100 | 83 | 183 |
| | 54.6% | 45.4% | 100% |

Table 2. *Frequency distribution of education categories with gender*

| Education | Gender | | Total |
|---|---|---|---|
| | Male | Female | |
| Secondary | 29 | 16 | 45 |
| | 29.0% | 19.3% | 24.6% |
| College | 31 | 31 | 62 |
| | 31.0% | 37.3% | 33.9% |
| Undergraduate | 21 | 27 | 48 |
| | 21.0% | 32.5% | 26.2% |
| Graduate | 19 | 9 | 28 |
| | 19.0% | 10.8% | 15.3% |
| Total | 100 | 83 | 183 |
| | 54.6% | 45.4% | 100% |

The mean business age was 14.38 years with 88 (48.1%) businesses operating 60 months or less, and 95 (51.9%) businesses operating 61 months or more. Respondents reported employment with businesses engaged in management, engineering, accounting, health, environment, finance, and other designations. The mean length of employment was 67.9 months with 138 (75.4%) respondents reporting from 13 to 60 months. The mean dyadic duration (length of time with the supervisor) was 49.13 months with 135 (73.8%) respondents reporting dyadic duration of 13 to 48 months.

***Findings from previous study of relationships between OC, OCB, and LMX***

The purpose of presenting summary findings of the previous study is to provide a holistic analysis when the effects of age and gender are discussed. The previous study by the authors examined the relationships between OC and LMX and OCB and LMX and the effect of dyadic durations (length of time with a supervisor) on the relationships without considering the moderating effect of age or gender demographics. The following findings are replicated from the previous study.

*OC and LMX:* Significant positive correlation was observed between mean OC scores and mean LMX scores *(r = .637, n = 183, p = .000),* confirming the presence of a positive relationship between organizational commitment and leader-member exchange.

*OCB and LMX:* Significant positive correlation was observed between mean OCB scores and mean LMX scores *(r = .716, n = 183, p = .000),* confirming the presence of a positive relationship between organizational citizenship behavior and leader-member exchange.

*Dyadic duration on the relationship between OC and LMX*: The results showed significant positive zero order and partial correlations for three dyadic duration periods indicating dyadic duration has an effect on the relationship between organizational commitment and leader-member exchange.

*Dyadic duration on the relationship between OCB and LMX*: The results showed significant positive zero order and partial correlations for three dyadic duration periods indicating dyadic duration has an effect on the relationship between organizational citizenship behavior and leader-member exchange.

***Analyzing the Effect of Respondent Age and Dyadic Duration on OC, OCB, and LMX***

Examining the affects of respondent age on relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior, require re-examining the reported relationships in context with age of respondent. The following evaluation addresses research questions Q1 and Q2.

*Q1: Does age of followers' affect the relationship between leader-member exchange and follower organizational commitment as dyadic durations change in small businesses?*

*Q2: Does age of followers' affect the relationship between leader-member exchange and organizational citizenship behavior as dyadic durations change in small businesses?*

The potential influence of age on relationships between OC and LMX and OCB, and LMX included Generation Y (1982-2001), Generation X (1967-1981), and Baby Boomers (1947-1966). Analysis of variance on regressions for each generational designation (age categories) by dyadic duration (length of time with the supervisor) was conducted for combinations of OC and LMX and OCB and LMX.

Table 3 illustrates the relationships between OC and LMX by respondent age and dyadic duration. It is observed most of the correlations are significant and positive however because the sample size for each combinations of age by dyadic durations are small, no specific pattern in the relationships can be made with confidence. However, the aggregate sample size of each age categories and dyadic durations is large and therefore their results are analyzed.

Table 3
*Relationships between OC and LMX-SLX by Respondent Age x Dyadic Duration*

| Correlation Coefficients<br>Organization Commitment (OC) with Leader-Member Exchange (LMX) – Age | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age Category | Dyadic Duration (Time spent with the supervisor) | | | | | | | | | |
| | 0-24 months dyadic | | 25-36 months dyadic | | 37-48 months dyadic | | 49 plus months dyadic | | Total | |
| | r | n | r | n | r | n | R | n | r | n |
| 20-29 years (Generation Y) | .802 *** | 25 | .481 * | 18 | .737 ** | 12 | .907 | 4 | .723 *** | 59 |
| 30-44 years (Generation X) | .439 | 16 | .591 ** | 25 | .554 * | 18 | .802 ** | 13 | .573 *** | 72 |
| 45 plus years (Baby Boomers) | .716 ** | 12 | .000 | 10 | .699 * | 10 | .500 * | 20 | .575 *** | 52 |
| Total | .631 *** | 53 | .492 *** | 53 | .693 *** | 40 | .663 *** | 37 | .637 *** | 183 |

*p* * <.05, ** < .01, *** < .001

The zero order correlations between OC and LMX are significant and positive for each of the three age categories (Table 3). The relative strength of zero order correlations recorded for the relationship between OC and LMX for 20-29 years (Generation Y) is *r* = .723 *(p = .000, n = 59)*, for 30-44 years (Generation X) is *r* = .573 *(p = .000, n = 72)*, and for 45 plus years (Baby Boomers) is *r* = .575 *(p = .000, n = 52)*. The pattern shows decreasing correlation strength with increasing respondent's age in relationship between organizational commitment and leader-member exchange.

For each of the four dyadic duration periods, the zero order correlations between OC and LMX are significant and positive (Table 3). The relative strength of zero order correlations between OC and LMX for 0 to 24 months is *r* = .631 *(p = .000, n = 53)*, for 25 to 36 months is *r* = .492 *(p = .000, n = 53)*, for 37 to 48 months is *r* = .693 *(p = .000, n = 40)*, and for 49 plus months is *r* = .663 *(p = .000, n = 37)*. The pattern shows significant positive correlations for all dyadic durations indicating dyadic duration has an effect on the relationship between organizational commitment and leader-member exchange.

Table 4 illustrates the relationships between OCB and LMX by respondent age and dyadic duration. It is observed most of the correlations are significant and positive however because the sample size for each combinations of age by dyadic durations are small, no specific pattern in the relationships can be made with confidence. However, the aggregate sample size of each age categories and dyadic durations is large and therefore their results are analyzed.

Table 4
*Relationships between OCBS and LMX-SLX by Respondent Age x Dyadic Duration*

Correlation Coefficients
Organization Citizenship Behavior (OCB) with Leader-Member Exchange (LMX) - Age

| **Age Category** | **Dyadic Duration (Time spent with the supervisor)** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **0-24 months dyadic** | | **25-36 months dyadic** | | **37-48 months dyadic** | | **49 plus months dyadic** | | **Total** | |
| | **r** | **n** | **r** | **n** | **r** | **n** | **R** | **n** | **r** | **n** |
| 20-29 years (Generation Y) | .770 *** | 25 | .821 *** | 18 | .944 *** | 12 | .959 * | 4 | .826 *** | 59 |
| 30-44 years (Generation X) | .532 * | 16 | .790 ** | 25 | .766 *** | 18 | .720 ** | 13 | .716 *** | 72 |
| 45 plus years (Baby Boomers) | .113 | 12 | .620 | 10 | .687 * | 10 | .360 | 20 | .424 ** | 52 |
| Total | .599 *** | 53 | .772 *** | 53 | .824 *** | 40 | .568 *** | 37 | .716 *** | 183 |

*p* * <.05, ** < .01, *** < .001

The zero order correlations between OCB and LMX are significant and positive for each of the three age categories (Table 4). The relative strength of zero order correlations recorded for the relationship between OCB and LMX for 20-29 years (Generation Y) is $r = .826$ *(p = .000, n = 59)*, for 30-44 years (Generation X) is $r = .716$ *(p = .000, n = 72)*, and for 45 plus years (Baby Boomers) is $r = .424$ *(p = .000, n = 52)*. The results show higher correlation strengths for respondents in the demographic group Generation Y and Generation X than for the baby boomers relationships between organizational citizenship behavior and leader-member exchange.

For each of the four dyadic duration periods shown in Table 4, the zero order correlations between OC and LMX are significant and positive. The relative strength of zero order correlations between OC and LMX for 0 to 24 months is $r = .599$ *(p = .000, n = 53)*, for 25 to 36 months is $r = .772$ *(p = .000, n = 53)*, for 37 to 48 months is $r = .824$ *(p = .000, n = 40)*, and for 49 plus months is $r = .568$ *(p = .000, n = 37)*. The pattern shows significant positive correlations for all dyadic durations indicating dyadic duration has an effect on the relationship between organizational citizenship behavior and leader-member exchange.

In comparing the results of Table 3 and Table 4, the relationship strengths between OC and LMX and between OCB and LMX are higher for followers in Generation Y than for Generation X followers, and for Baby Boomer followers; indicating that younger employees demonstrate more organizational commitment and more align citizenship behavior with organizational performance expectations than older followers. The level of organizational commitment is similar for Generation X followers and Baby Boomer followers indicating that organizational commitment tends to fall step down and stabilize as age of employee increases. In case of organizational citizenship behavior, the correlation tends to fall more gradually with age.

*Summary of research questions one and two:* Findings show the size of correlation coefficients for the relationship between OC and LMX-SLX and for the relationship between OCB and LMX are significant and positive, and differ with age of respondent.

***Analyzing the Effect of Respondent Gender and Dyadic Duration on OC, OCB, and LMX***

Examining the affects of respondent gender on relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior, require re-examining the reported relationships in context with age of respondent. The following evaluation addresses research questions Q3 and Q4.

*Q3: Does gender of followers' affect the relationship between leader-member exchange and follower organizational commitment as dyadic durations change in small businesses?*

*Q4: Does gender of followers' affect the relationship between leader-member exchange and follower organizational citizenship behavior as dyadic durations change in small businesses?*

Correlation analyses for gender were conducted for combinations of OC and LMX and OCB and LMX. Table 4: illustrates the relationships between OC and LMX and OCB and LMX by respondent gender.

Table 5 illustrates the relationships between OC and LMX by respondent gender and dyadic duration. It is observed most of the correlations are significant and positive however because the sample size for each combinations of gender by dyadic durations are small, no specific pattern in the relationships can be made with confidence. However, the aggregate sample size of each gender categories and dyadic durations is large and therefore their results are analyzed.

In Table 5 it is shown the zero order correlations between OC and LMX are significant and positive for each of the two gender categories. The relative strength of zero order correlations recorded for the relationship between OC and LMX for male respondent is $r$ = .706 *(p = .000, n = 100)* and for female respondent is $r$ = .527 *(p = .000, n = 83)*. The correlation strength for male respondent is higher than the female respondent relationship between organizational commitment and leader-member exchange.

Table 5
*Relationships between OC and LMX-SLX by Respondent Gender x Dyadic Duration*

Correlation Coefficients
Organization Commitment (OC) with Leader-Member Exchange (LMX) - Gender

| Age Category | Dyadic Duration (Time spent with the supervisor) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0-24 months dyadic | | 25-36 months dyadic | | 37-48 months dyadic | | 49 plus months dyadic | | Total | |
| | R | n | r | n | r | n | R | n | r | n |
| Male | .758 *** | 29 | .547 ** | 27 | .718 ** | 16 | .681 *** | 28 | .706 *** | 100 |
| Female | .535 ** | 24 | .231 | 26 | .684 *** | 24 | .428 | 9 | .527 *** | 83 |
| Total | .631 *** | 53 | .492 *** | 53 | .693 *** | 40 | .663 *** | 37 | .636 *** | 183 |

*p* * <.05, ** < .01, *** < .001

Table 6 illustrates the relationships between OCB and LMX by respondent gender and dyadic duration. It is observed most of the correlations are significant and positive however because the sample size for each combinations of gender by dyadic durations are small, no specific pattern in the relationships can be made with confidence. However, the aggregate sample size of each gender categories and dyadic durations is large and therefore their results are analyzed.

The zero order correlations between OCB and LMX are significant and positive for each of the two gender categories (Table 6). The relative strength of zero order correlations recorded for the relationship between OCB and LMX for male respondent is $r$ = .708 *(p = .000, n = 100)* and for female respondent is $r$ = .667 *(p = .000, n = 83)*.

In comparing the results of Table 5 and Table 6, it can be seen that the size of the correlation coefficient for the relationship between OC and LMX and for the relationship between OCB and LMX differs with respondent's gender.

*Summary of research questions three and four:* Findings show the size of correlation coefficients for the relationship between OC and LMX and for the relationship between OCB and LMX are significant and positive, and differ with gender of respondent.

Table 6
*Relationships between OCB and LMX-SLX by Respondent Gender x Dyadic Duration*

Correlation Coefficients
Organization Citizenship Behavior (OCB) with Leader-Member Exchange (LMX) - Gender

| Age Category | Dyadic Duration (Time spent with the supervisor) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0-24 months dyadic | | 25-36 months dyadic | | 37-48 months dyadic | | 49 plus months dyadic | | Total | |
| | R | N | r | n | r | n | R | n | r | n |
| Male | .545 ** | 29 | .799 *** | 27 | .766 ** | 16 | .544 ** | 28 | .708 *** | 100 |
| Female | .524 * | 24 | .562 ** | 26 | .857 *** | 24 | .925 *** | 9 | .667 *** | 83 |
| Total | .599 *** | 53 | .772 *** | 53 | .824 *** | 40 | .568 *** | 37 | .716 *** | 183 |

*p* * <.05, ** < .01, *** < .001

**Summary of Findings**

The previous study found organizational commitment and organization citizenship behavior of followers has significant positive effect on followers' perceptions of leader-member exchange. In addition, the previous study observed significant positive zero order and partial correlations for three dyadic duration periods between organizational commitment and leader-member exchange and between organizational citizenship behavior and leader-member exchange. This study further adds to the understanding of the relationships by considering the moderating effects of respondent age and gender including dyadic durations that were not considered in the previous study.

The following findings are derived from evaluating age and gender as moderators of relationships between leader-member exchange and organizational commitment and between leader-member exchange and organizational citizenship behavior as dyadic durations changed.

Moderating effect of age, the findings of this study indicate the size of correlation strengths between OC and LMX *(r = .723)* and between OCB and LMX *(r = .826)* for respondents in Generation Y are higher than correlations between OC and LMX *(r = .573)* and between OCB and LMX *(r = .716)*, for Generation X; and between OC and LMX *(r = .575)* and between OCB and LMX *(r = .424)*, for Baby Boomers. The size of correlation coefficient for the relationship between OC and LMX and for the relationship between OCB and LMX differ with age of respondent.

Moderating effect of female, the findings of this study indicate the size of correlations between OC and LMX *(r = .706)* and between OCB and LMX *(r = .708)*, were higher in male respondents than correlations between OC and LMX *(r = .527)* and between OCB and LMX *(r = .667)* for female respondents.

Interaction effect of age and gender with dyadic duration, most of the correlation coefficients are observed significant and positive however because the sample size for each combinations of age and of gender by dyadic durations are small no specific pattern in the relationships can be construed with confidence. The interaction effect of age and gender with dyadic duration is an area considered for further study.

**Conclusions**

The affects of both demographic variables age and gender, demonstrated a significant positive relationships between organizational commitment, organizational citizenship behavior, and leader-member exchange.

The affects of age on relationships between organizational commitment and leader-member exchange, and between organizational citizenship behavior and leader member exchange were higher for Generation Y respondents than for respondents in Generation X and Baby Boomer categories. Findings demonstrate that age of respondent has a significant effect on strength of correlation coefficient for relationships between organizational commitment and leader-member exchange and organizational citizenship behavior and leader-member exchange.

Both male and female respondents indicate significant positive correlations between organizational commitment and leader-member exchange and between organizational citizenship behavior and leader-member exchange, however the analysis demonstrates that while male and female employees have similar attitudes toward organizational commitment and citizenship behavior, the correlation values are higher for male respondents than for female respondents.

While findings from previous studies did not include age and gender as moderators of organizational commitment and organizational citizenship behavior, this study establishes perception of organizational commitment and organizational citizenship behavior as antecedents of leader-member exchange and that the strength of relationships are different for male and female respondents.

Outcomes from this study demonstrate, that as relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior, change with dyadic duration, the relative strength of the relationships is significantly affected by the age and gender of respondent. While relationships between leader-member exchange, organizational commitment, and organizational citizenship behavior develop early in dyadic and near dyadic relationships, the strength and tenacity of relationships tend to decline as the age and tenure of respondents increase. By collecting data from followers in direct and near direct dyadic relationships in 183 small businesses, with different context and leader-follower paradigms, the findings of this study can be generalized to small businesses.

Although the data was collected from followers in direct and near direct dyadic relationships in 183 small businesses using pre-constructed survey instruments tested for evaluating relationships of

organizational commitment and organizational citizenship behavior with leader-member exchanging, it is noted that the study results are limited to one geographic location.

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# RESILIENCE IN CRISIS COMMUNICATION

**Curtis Johnson**
**Office of Support Services**
**Jackson State University**
**Jackson, MS 39204**
**curtis.johnson@jsums.edu**

**Mary M. White**
**Department of Entrepreneurship and Professional Development**
**Jackson State University**
**Jackson, MS 39217**
**mary.m.white@jsums.edu**

**Alisa L. Mosley**
**Center for University Scholars**
**Jackson State University**
**Jackson, MS 39217**
**alisa.mosley@jsums.edu**

## Abstract

Colleges and universities have had to consider the role of emergency management in higher education. The problem intensifies for institutions of higher learning, public or private, which interact with and have a responsibility to protect a community at risk from natural or technological disasters. University resilience is the capacity of the organization to respond to emergency and disruptive challenges - whether natural, accidental or deliberate - through the provision of relevant education, training, research and operational support. Institutions of higher learning must evaluate the extent to which they are prepared to handle emergency events. To that end, a study was done to assess the viability of institutions to address crisis incidents. The purpose of this study was to provide data describing the emergency preparedness and resilience of Mississippi's private and public institutions of higher learning. A sample of public and private institutions was surveyed using a questionnaire. This chapter has reported the data analysis for this study. Of the eight sections tested, only two were found to be statistically significant. For the emergency management and disaster preparedness construct, it was shown that in confidence and knowledge of emergency and disaster preparedness was comparable between Mississippi's public and private institutions of higher learning. Future directions in this field were discussed.

**Keywords:** Emergency management, Higher education

## Introduction

Confronted with increasing risk and uncertainty from disruptive change, businesses seek methods to strengthen the capacity of their organizations to anticipate risk and demonstrate resilience in response to threats (Comfort, Sungu, Johnson & Dunn, 2001; Lundquist & Shackelford, 2011; McClure, 2010). While most organizations are aware of the need for business continuity and the majority of companies have some sort of disaster recovery plan, many companies focus on risks

from physical events and not network infrastructure or information systems disasters (AT&T, Foundation, 2004).

The problem intensifies for institutions of higher learning, public or private, which interact with and have a responsibility to protect a community at risk from natural or technological disasters. University resilience is the capacity of the organization to respond to emergency and disruptive challenges - whether natural, accidental or deliberate - through the provision of relevant education, training, research and operational support (Defense College of Management & Technology, Cranfield University, 2006).

A resilient university aims to reduce the negative impact on the university's community, property, and environment resulting from emergencies and disasters, and to expeditiously and efficiently restore academic programs and university operations (Sullivan, 2010; University of British Columbia Disaster Management Policy, 2000). In the article, "*Complex Systems in Crisis: Anticipation and Resilience in Dynamic Environments,"* the authors found that resilience reflects the constraints placed upon human decision processes in complex environments by limited cognitive capacity, and illustrates the persistent difficulty in achieving coordination among multiple organizations with different responsibilities in different locations in serving the public interest (Comfort, Sungu, Johnson & Dunn, 2001).

Mississippi is at the center of one of the most active weather regions in the world (Trumbla, 2003). Geographically the state of Mississippi is bordered by the Mississippi River which is infamous for periodic flooding. Events such as hurricanes, tornadoes, severe thunderstorms, and flash floods can truly be life-threatening events and Mississippi has had its share. In the immediate aftermath of Hurricanes Katrina, Rita, and Wilma, issues of preparedness and recovery are at the forefront of the public policy agency (Murchison, 2010; Rivera & Miller, 2009; University of Pennsylvania, 2005). Twenty-seven institutions of higher learning in affected areas of Louisiana, Mississippi and Alabama suffered extensive losses (Lederman, 2005).

Universities have thousands of stakeholders who must be quickly alerted, mobilized and/or evacuated in an emergency situation. The ability of a college or university to continue operation during disastrous events is contingent upon the institution's plan to minimize the impact of these events. The impact can be minimized through emergency preparedness plans and well-developed business continuity plans. There is a need to analyze Mississippi's institutions of higher learning for emergency crisis management in terms of (1) level of preparedness for man-made and natural disasters/hazards, and (2) business continuity to determine university resilience.

Crises on university campuses may involve violence, terrorism, or a natural disaster. University officials have a moral and legal responsibility to protect students, staff, and facilities as reasonably as possible. The purpose of this study is to provide data describing the emergency preparedness and resilience of Mississippi's private and public institutions of higher learning. The information gathered through this study will be used determine what types of technical assistance and training that needs to be provided to Mississippi's public and private institutions of higher learning to improve the level of emergency preparedness.

**Research Questions**

Three research questions will guide this study:

1. How knowledgeable and confident are Mississippi's university/college officials at public and private institutes of higher learning about their school's emergency crisis plan?
2. What is the level of preparedness for public and private institutions of higher learning in Mississippi to handle system failures and technological hazards including those that include evacuation?
3. What are Mississippi's public and private institutions of higher learning capacity to respond to an emergency in such a manner that critical business functions continue?

**Hypotheses**

1. There will be no statistically significant difference between the mean score of public and private university/college officials' knowledge and confidence in their institution school's emergency management and disaster preparedness.
2. There will be no statistically significant difference between the mean score of Mississippi's public and private institutions of higher learning level of preparedness to handle system failures.
3. There will be no statistically significant difference between the mean score of Mississippi's public and private institutions of higher learning level of preparedness to handle system technological hazards including those that include evacuation.
4. There will be no statistically significant difference between the mean score of Mississippi's public and private institutions of higher learning on the business contingency/resiliency plan construct.
5. There will be no statistically significant difference between the mean score of Mississippi's public and private institutions of higher learning capacity to respond to an emergency in such a manner that essential operations continue.

When the field of disaster research began in the 1940s and early 1950s, studies first focused on post-events activities engaged in by communities, organizations, and individuals (Tierney, 2001 cited in Baker, 2005). MacGrandles (2005) found that some form of emergency management legislation has been in place in the United States for over 200 years. Traditionally, disaster management in the past has been primarily under the purview of individuals with military backgrounds with a focus based equally on war readiness and disaster planning (Tierney, 2001 cited in Baker, 2005). Today's professionalization goes far beyond this limited view and is reflected in the development of specialized skills under disaster preparedness that include aspects of community organization, community outreach, credentialing processes, specific training, and post-disaster evaluation (Baker, 2005).

**Organization of Emergency Preparedness Team**

University leaders should also communicate to their school community that they are taking steps to reduce security risks and prepare for managing crises if they occur. Most importantly, school officials should be engaged in genuine and meaningful emergency preparedness planning activities with police, fire, emergency medical and emergency management agencies so the working

relationships and basic guidelines are in place for dealing with emergencies before the crises actually occurs (Trump, 2004). To facilitate development of an effective emergency preparedness program, according to Knudsen (2005), key partners must be drawn together from the public and private sectors at the local level. Responders from all disciplines –fire fighting, emergency medical services, law enforcement, public works, health, physical plan environment, and volunteer organizations should be provided with a forum to plan, train, work together, demonstrate skills, and discover opportunities for improvements in preparedness and response to the local community (Knudsen, 2005).

Although it is impossible to predict most disasters and their resultant impact upon a community, it is certain that the single most critical aspect of both preparation and response is the provision of effective and timely medical care to victims and assistance for families and other community members (Baker, 2005). Planning an appropriate response to a crisis event helps to ensure that resources are available for disaster assistance and provides the best chance that they will be used in the most efficient way to obtain specific objectives in response to disaster (Fogal, 2005). A disaster response plan establishes the organization of emergency efforts by pre-assigning known tasks, specifying in advance agreed upon policies and general procedures, and outlines the effort required from various emergency staff and service elements needed in order to provide the maximum benefits to a community in times of emergency. This preparation may require coordinating relief services from both internal resources as well as external sources. Therefore, preparation for what if events is at the core of emergency operations planning because it takes into account the immediate emergency steps needed in order to reduce danger when a crisis occurs (Fogal, 2005).

Policies and procedures are helpful and there is an abundance of information that can be easily obtained for almost any disaster/emergency situation. But these methods of preparation are meaningless unless personnel and organizations can rapidly move to action, know their roles, and respond competently in a routine manner (Baker, 2005). Once the plan has been written, the focus shifts to adoption by appropriate administrative and instructional units and the implementation of its objectives. Even the best plans are inadequate if they are no implemented with vigor and aligned with the campus strategic or master plan. (FEMA, 2003)

Communication and collaboration are the key areas of needed improvement across all levels of emergency preparedness management (Knudsen, 2005). There must be a development of a system to allocate and deliver the necessary tools to the communities is necessary to ensure communities have the resources at the time they need them. An education standard for all levels of emergency preparedness personnel that appropriately identified the capabilities of the response personnel is also necessary (Knudsen, 2005).

**University Resiliency and Business Continuity**

Resilience is a term increasingly used in reference to both civil society and the emergency services and is defined as the ability at every level to detect, prevent, prepare for and if necessary handle and recover from disruptive challenges (O'Brein & Read, 2005). Resilience as a concept was initially used in ecology to describe the ability of ecosystems to resist and recover from external negative impacts. The term is increasingly used in the disaster management sphere and reflects a trend

towards a holistic and proactive approach that has the community, and its ability to resist and recover, as its focus. The term resilience brings together the components of the disaster cycle – response, recovery, mitigation and preparedness, utilizing a range of structural and non-structural approaches.

More generally, resilience can be understood as the ability of one or more physical, economic or community systems to: (1) reduce the probability of a major disaster-induced shock through effective mitigation measures; (2) cope with a disaster when it occurs by launching an effective response; (3) and recover quickly following disaster impact. A resilient system exhibits (a) reduced failure probabilities; (b) reduced consequences from failures, in terms of lives lost, damage, and negative economic and social consequences; and (c) reduced time to recover, with recovery defined as a return either to pre-disaster levels of performance or to levels that would have been achieved had the disaster event not occurred (Tierney, 2003).

The ability of the University to continue operation during disruptive events is determined by the University's plan to minimize the impacts of these events. These impacts can be minimized by two main strategies: (1) develop emergency preparedness plans and (2) develop business continuity plans (Department of Health, Safety and Environment, 2004). The leadership of a higher education institution must understand the need to sustain the university's teaching, research, and public service responsibilities in light of damage, repair delays, and financial difficulty that disasters can bring to a community. The goal is to withstand the effects of probable hazard events without unacceptable losses or interruptions; in other words, to be resilient (FEMA, 2003).

Institutions must understand the potentially devastating impact if they are unable to return to functionality within a reasonable time. The associated operational and financial issues can easily become terminal as services and functions cease, courses are cancelled and student enrollments disappear. An institution must return to its academic mission and to financial subsistence before it is critically and irreversibly damaged. This narrow window of opportunity, at the micro level for each functional area, as well as the macro level for the institution at large, is crucial (Dodd, 2006).

**Methodology Overview**

This study was a mixed model of both quantitative and qualitative research design. The quantitative data was collected through a survey entitled *Critical Incidents/Emergency Planning for Institutions of Higher Learning.* One of the authors conducted qualitative interviews with the Emergency Management Contact person from a public and private institution of higher learning in central Mississippi.

Thirty institutions in the state of Mississippi were selected to participate in this study. Of the schools selected, fourteen were 4-year colleges and sixteen were 2-year colleges. Twenty-four schools were public institutions and six schools were private institutions. Two participants, who were responsible for emergency management, were selected from each institution, for a total of 60 participants. Of the 60 participants selected to participate, 45 (75%) returned their questionnaires. Of that sample, 33 (73.3%) of the participants were from public universities, and 12 (26.7%) were from private institutions.

The institutions varied in the student enrollment at the institution. Of the 33 public institutions, (a) 3 had enrollments of less than 250, (b) 2 had enrollments of 501-1000, (c) 23 had enrollments of 1001-5000, (d) 4 had enrollments of 5001-10000, and (e) 1 had an enrollment of 10000 – 15000. Enrollment at the private schools consisted of (a) 5 with enrollments of 250-500, (b) 3 with enrollments of 501-1000, and (c) 4 had enrollments of 1001-5000. .

**Description of Emergency Crisis Management Plan**

Section A of the survey questionnaire asked participants to answer questions describing their institution's emergency crisis management plan. All institutions responded to having a critical incident/emergency plan. Almost all of the participants had a team or group to develop the institution's plan (88.9%). There were only five responses, which stated the plan was not team developed, but was developed by the police chief in four cases, and by the vice-president of student affairs in one case. When asked what percentages of funds were spent on emergency management, almost all, with the exception of two institutions, responded that their institution spends less than 5% on emergency management.

Public institutions and private institutions had various agencies and organizations to participate in the planning process. Almost all institutions, 95.6%, included the campus police in the planning process. Local law enforcement was included in the planning process for 83.3% of the private institutions, but only two-thirds of the public institutions included low local enforcement. The data showed that the faculty and students participated at various rates. The faculty senate was not important in planning emergency crisis plans at public institutions, only 25% where 50% of the private institutions used the faculty senate in the emergency planning process. About half of all respondents used students in the planning process; however, this number was higher, three-fourths at private institutions.

When asked who participated in preparing your school emergency plan, participant respondents selected (a) university officials - 95.6%, (b) building/ plant management - 68.9%, (c) students – 66.7%, (d) academic deans – 53.3%, (e) faculty 33.3%, and (f) teachers – 33%. While only half of the participants used students to participate in emergency planning, over two-thirds used students to prepare the emergency plan documents. Participants were asked to report on how many critical incident/emergency drills or exercises the school conduct each year. The responses were (a) 16, or 35.6% conducted 1 to 5 drills per year; (b) 16, or 35.6% conducted 6 to 10 drills per year; (c) 10, or 22.2% conducted 11 to 15 drills per year; (d) 2, or 4.4% conducted 16 to 20 drills per year; and (e) there was no response from one private school participant.

**Hypotheses Testing**

A *t* ratio was calculated for the following constructs based upon the survey questionnaire: emergency management and disaster preparedness; systems failure disaster; technological hazards/evacuation; business contingency/resiliency plan, and essential operations. The alpha level to reject or fail to reject the null hypothesis was set at 0.05. All sections with a p-value less than or equal to 0.05 revealed that there were statistically significant differences between the mean scores

for the groups and the hypotheses of no differences were rejected for those areas. All sections with a *p* value greater than 0.05 revealed that no statistically significant differences existed between the mean scores for the groups and the hypotheses of no difference were not rejected for those sections.

The null hypothesis for this construct was: there will be no statistically significant difference between the mean score of public and private university/college officials' knowledge and confidence in their institution school's emergency management and disaster preparedness. Table 1 reflects a finding of $p>0.05$. The researcher failed to reject the hypothesis of difference for this section. There was no significant difference in the mean scores on the emergency management and disaster preparedness construct as reported by public and private university/college officials. The researcher assumed that the level of confidence in both public and private institutions were at comparable levels.

Table 1.
*Emergency Management and Disaster Preparedness Construct*

| **Group** | **N** | **Mean** | ***t*** | **p** |
|---|---|---|---|---|
| Public Institution | 34 | 26.41 | 0.654 | 0.517 |
| Private Institution | 12 | 25.00 | | |

The systems failure disaster construct on the questionnaire was organized into six items: (a) electrical systems failure, (b) heating systems failure, (c) building structural damage, (d) water/sewage system failure, (e) computer/information system failure, and (f) computer hackers invading the information system. Participants responded to these items using a checklist. To calculate the *t* ratio, the checklist was ranked from 1-5, with 5 being the number to represent the highest level of confidence in the institution's preparedness in the event of a systems failure disaster, 4 representing a good level of confidence in the institution's preparedness in the event of a systems failure disaster, 3 representing a moderate level of confidence in the institution's preparedness in the event of a systems failure disaster, 2 representing a small level of confidence in the institution's preparedness in the event of a systems failure disaster, and 1 representing a low level of confidence in the in the institution's preparedness in the event of a systems failure disaster. The highest score participants could receive on this section was 30.

The null hypothesis for this construct was: there will be no statistically significant difference between the mean score of Mississippi's public and private institutions of higher learning level of preparedness to handle system failures. Table 2 reflects a finding of $p>0.05$. The researcher failed to reject the hypothesis of difference for this section. There was no significant difference in the mean scores on the systems failure disaster construct as reported by public and private university/college officials. The researcher assumed that the level of confidence in both public and private institutions were at comparable levels.

Table 2.
*Systems Failure*

| Group | N | Mean | *t* | p |
|---|---|---|---|---|
| Public Institution | 34 | 19.18 | 0.820 | 0.417 |
| Private Institution | 12 | 17.83 | | |

The technological hazards/evacuation construct on the questionnaire was organized into six items: (a) nuclear materials leak or a radiological incident; (b) nuclear materials/radiological leak requiring evacuation; (c) water emergency requiring relocation; (d) chemical release; (e) chemical release that requires evacuation; and (f) a gas leak that requires evacuation. Participants responded to these items using a checklist.

To calculate the *t* ratio, the checklist was ranked from 1-5, with 5 being the number to represent the highest level of confidence in the institution's preparedness in the event of a technological hazards/evacuation, 4 representing a good level of confidence in the institution's preparedness in the event of a technological hazards/evacuation, 3 representing a moderate level of confidence in the institution's preparedness in the event of a technological hazards/evacuation, 2 representing a small level of confidence in the institution's preparedness in the event of a technological hazards/evacuation, and 1 representing a low level of confidence in the in the institution's preparedness in the event of a technological hazards/evacuation. The highest score participants could receive on this section was 30.

The null hypothesis for this construct was: there will be no statistically significant difference between the mean score of Mississippi's public and private institutions of higher learning level of preparedness to handle system technological hazards including those that include evacuation. Table 3 reflects a finding of $p>0.05$. The researcher failed to reject the hypothesis of difference for this section. There was no significant difference in the mean scores on the technological hazards/evacuation construct as reported by public and private university/college officials.

Table 3.
*Technological Hazards/Evacuations Construct*

| Group | N | Mean | *t* | p |
|---|---|---|---|---|
| Public Institution | 34 | 16.97 | 0.917 | 0.366 |
| Private Institution | 12 | 15.67 | | |

The researcher assumed that the level of confidence in the institutions' level of preparedness to handle system technological hazards including those that include evacuation were comparable.

The business contingency/resiliency plan construct on the questionnaire was organized into ten items questioning the institution's contingency plan. Participants used the following to respond: (a)

yes, (b) in process or partially, (c) no applicable to the facility, (d) no, and (e) do not know. To calculate the *t* ratio, respondents were assigned the score of 2 for selecting yes, the score of 1 for selecting in process or partially, and the score of 0 for selecting not applicable to the facility, no or don't know. The highest score participants could receive on this section was 20.

The null hypothesis for this construct was: there will be no statistically significant difference between the mean score of Mississippi's public and private institutions of higher learning on the business contingency/resiliency plan construct. Table 4 reflects a finding of $p>0.05$. The researcher failed to reject the hypothesis of difference for this section. There was no significant difference in the mean scores on the business contingency/resiliency plan construct as reported by public and private university/college officials. The researcher assumed that the business contingency/resiliency plans were being implemented at comparable levels.

Table 4.
*Business Contingency/Resiliency Construct*

| Group | N | Mean | *t* | p |
|---|---|---|---|---|
| Public Institution | 34 | 13.56 | 1.175 | 0.246 |
| Private Institution | 12 | 12.00 | | |

The essential operations construct on the questionnaire consisted of four questions relating to whether the institution has contingencies in place to continue essential operation in the event that the worksite cannot be occupied for an extended period (4 days or more). Participants used the following to respond: (a) yes, (b) in process or partially, (c) no applicable to the facility, (d) no, and (e) do not know. To calculate the *t* ratio, respondents were assigned the score of 2 for selecting yes, the score of 1 for selecting in process or partially, and the score of 0 for selecting not applicable to the facility, no or don't know. The highest score participants could receive on this section was 8.

The null hypothesis for this construct was: there will be no statistically significant difference between the mean score of Mississippi's public and private institutions of higher learning capacity to respond to an emergency in such a manner that essential operations continue. Table 5 reflects a finding of $p<0.05$. The hypothesis of difference was rejected for this construct. Public and private institutions varied in their ability to maintain essential operations for extended period outside of the institutional workplace beyond 72 hours.

Table 5.
*Essential Operations*

| Group | N | Mean | *t* | p |
|---|---|---|---|---|
| Public Institution | 34 | 3.76 | 1.789 | 0.48* |
| Private Institution | 12 | 2.50 | | |

$H_o$ significant at *p<0.05

**Summary**

For the emergency management and disaster preparedness construct, it was shown that in confidence and knowledge of emergency and disaster preparedness was comparable between Mississippi's public and private institutions of higher learning. On the other hand, the confidence level in the level of preparedness for systems failure, and technological evacuations were comparable between public and private institutions of higher learning in Mississippi. However, the mean scores were in the middle range of the possible available scores for each of the construct. The assumption is made that neither the public or private institution had overall high levels of confidence in their institution's ability to handle emergencies on campus for any of the disaster preparedness construct in Section C of the questionnaire listed above.

Although the results of the business contingency/resiliency plan construct show comparable level of implementation of the business contingency plan, the mean scores of the public institution, 13.56, and the mean scores of the private institution, 12.00 show that of 10 recommendation strategies the institutions are only following 6 to 7 on average. Significance was also found in the essential operations construct. Public school officials have contingencies in place to continue operations remote from the institutions for a period of 4 days or more, whereas private schools could not.

While every campus may not be susceptible to four major hurricanes during the course of six weeks, all officials share the possibility of other forms of emergencies on higher learning campuses. How universities are set up to deal with these events can be the difference between a major loss of some sort, or tremendous success in the face of adversity (Steger, 2005). College and university campuses often provide a safer environment than many other settings. When lives are lost because of accidents, acts of violence and other situations on campuses around the nation, one constantly hears the words "we never thought that it could happen here."

After a closer look, often a lack of adequate prevention, mitigation, preparedness and response measures were in place where those in charge really did not believe that "it" could happen. How many tragedies will it take to arouse those who are still dangerously unaware? How many more lives must be lost before safety is a serious consideration at every college and university in our great nation? (Dorn, 2004).

Administrators, faculty, and personnel at institutions of higher learning should recognize and work towards improving their campus' emergency, crisis management, and resiliency plans in face of hazards and disasters. This is necessary to protect the lives of stakeholders and for the protection of instructional research and services to the community. While no plan can completely prevent death and destruction, good disaster plans carried out with knowledgeable and well-trained personnel can and will minimize losses and speed up the disaster recovery process (Fogal, 2005). Many communities within the state of Mississippi depend upon institutions of higher learning for their existence, and post-disaster business continuity is paramount.

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# COMPARATIVE CRITICAL SUCCESS FACTORS (CSF) IN ENTERPRISE RESOURCE PLANNING SYSTEMS (ERP) IMPLEMENTATIONS: SMES VS. LARGE-SCALE ORGANIZATIONS

**Robert Kachur**
**School of Business**
**Richard Stockton College of New Jersey**
**Galloway, NJ 08205**
**robert.kachur@stockton.edu**

**Warren Kleinsmith**
**School of Business**
**Richard Stockton College of New Jersey**
**Galloway, NJ 08205**
**warren.kleinsmith@stockton.edu**

**Abstract**

Enterprise Resource Planning Systems (ERP) became the de facto management information systems standard during the decade for major corporations and are expected to recognize significant gains in the Small and Middle-sized Enterprises (SME) market segment. ERP implementations are now beginning their "Third Wave" in large-scale corporations, but contrastingly, only beginning to penetrate the SME market. This study specifically addressed the Critical Success Factors (CSF) in large-scale installations established by Somers and Nelson, subsequently condensed by Loh and Koh, and compared them to similar SME findings. The findings presented utilize the Cooper and Zmud structured process theory model establishing CSFs relative to an ERP implementation life cycle.

**Keywords:** Critical success factors, Enterprise resource planning systems

## Introduction to the Study

From an enterprise research perspective, small and medium sized enterprises (SMEs) are the leading segment of organizations that provide a wide variety of researchable theories and experiences. Not only are these organizations crucial to industrial economies, but also demonstrate operational qualities that promote cause and effect relationships that are proving to be enormously interesting to researchers (Katz, Aldrich, Welbourne and Williams, 2000).

Relating SME business needs to an informational systems perspective, Davenport (1998) has been widely quoted regarding the nature and purpose of Enterprise Resource Planning (ERP) systems: "An enterprise system imposes its own logic on a company's strategy, culture and organization". The essence of this quote is that unlike the traditional custom developed software solutions (legacy systems) that are created to precisely meet an organization's data and information needs, ERP systems are unlikely to be a perfect fit for all organizations and are quite likely to provide problems and difficulties for the adopter (Parr & Shanks, 2000; 2003).

Even considering the highly configurable nature of ERP systems (Bancroft, Seip & Spregel, 1998), the inherent data structures, programming code, and existent assumptions about business processes can impose a behavior on organizations that many management teams will find difficult to adopt (Piszczalski, M., 1997; Al-Mashari, Al-Mudimigh & Zairi, 2003). This imposition refers to the difficult process of reengineering the organization's work processes to comply with the ERP programming functionality. ERP is structured around best practices related to these work processes and many organizations try to either work around these discrepancies, or modify the program codes to meet their existing work processes instead. Often this leads to severe challenges to the successful implementation of ERP systems. (Bernroider & Koch, (2002); Colmenares, (2004); Das Neves, Fenn & Sulcas, (2004).

Without due diligence, many organizations will find the ERP software system dictating the operational aspects of the business (Bajwa, Garcia & Mooney, 2004). In some circumstances, even with appropriate due diligence, this operational dictating still occurs. Consequently, the challenge for the adopting organization is to properly choose how various processes will be implemented within the programmatic (configuration) options. Furthermore, it is critical how these options are selected to maximize the efficiencies and effectiveness of the organization (Shanks, Parr, Hu, et. al., 2000). Given these factors, issues related to user satisfaction and perceived usefulness in the ERP implementation must be considered (Zviran, Pliskin, & Levin, 2005).

A critical element of ERP systems is the configuration or parameter settings (Bancroft, Seip & Spregel, 1998) established during implementation to convert a "semi-finished" software product to an operational system for the organization (Seddon, Shanks & Wilcocks, 2003). Configuration difficulties can occur when adopters neglect or minimize the need for cross-functional project team representation (Koh, Soh, & Markus, 2000). A final element of ERP systems is customization, which is the process of writing new program code or modifying existing program code to augment the system with nonstandard features (Brehm, Heinzle, & Markus, 2001).

**Research Introduction and Description**

This research effort addressed the adoption and integration of Enterprise Resource Planning Systems (ERP), and their effect/impact on small and medium sized enterprises (SME). This study determined the critical success factors (CSF) affecting the successful implementation of an ERP system in SMEs, and provided analysis and comparison to the factors previously identified in studies directed at large-scale companies. The CSFs utilized in this study (see Table 12) were identified in 2001 (Somers & Nelson) and are extensively referenced in ERP literature. These CSFs are indicative of predictions of success in large-scale ERP implementations. A widely accepted definition in academic and professional arenas of CSFs in ERP implementations is: "those few critical areas where things must go right for the business to flourish" (Rockhart, 1979).

In a case study of fourteen SME organizations in Ireland adopting ERP, researchers concluded that ERP implementations would be more attractive to both users and vendors/consultants because the project duration and costs should be significantly less; consequently CSFs should be easier to attain (Adam & O'Doherty, 2000). Other studies related to this issue support other elements of ERP implementations in SME (Snider, da Silveira & Balakrishnan, (2009); Loh & Koh, (2004).

This study examined through data collection and analysis, a series of recommendations for SME companies in their implementation efforts relative to CSFs, and identify if significant differences in CSFs existed from the large-scale company market segment. The basis of this study will draw on the findings of previous studies conducted by ERP researchers addressing CSFs. These studies created the collective basis for implementation success in large-scale organizations (Bulkeley, 1996; Davenport, 1998; Bingi, Sharma, & Godla, 1999; Esteves, & Pastor, 1999, 2004; Markus & Tanis, 2000; Ross & Vitale, 2000; Shang, & Seddon, 2000; Davenport, 2000; Umble, & Umble, 2002; Holland & Light, 1999; Weston, 2001; Ahituv, Neumann & Zviran, 2002; Sumner, 1999; Nah, Lau & Kuang, 2001; Parr & Shanks, 1999; Parr, Shanks & Darke, 2003; Sarker & Lee, 2003; Huang, Hung, Chen & Ku, 2004; Plant & Willcocks, 2007).

As stated above, a great deal of research has been done on CSFs for large enterprises. SME organizations possess unique characteristics vs. large enterprises that may lead to a different set of CSFs or a reevaluation of the ranked importance of these within SMEs. SMEs are certainly more challenged than large enterprises to various constraints such as financial resource limitations, inability to maintain large support groups for systems, the inability to attract and sustain long-term its best talent in the implementation process (financial, operational, support, and IT professionals) due to competitive pressures, resources to sustain world-class IT infrastructures, among others (Umble, Haft & Umble, (2003); Mabert, Soni & Venkataramanan, (2003); Equey & Fragniere, (2008).
The first goal of this study was to determine the Critical Success Factors (CSF), compared with large-scale implementations, and note if there are differences. It is anticipated that since SME have fewer resources available, including financial, technical, human, scalability issues, etc., their CSF can be different and probably are different in ranking regards. Therefore, this study aims to complement and extend the work of Somers and Nelson (2001) by addressing the SME factors.

The second goal of the study was to apply the CSFs found in SMEs by ERP lifecycle ranges. In addition, the study determined the importance of these factors by lifecycle ranges. Using the Cooper & Zmud (1990) process theory approach including six stages of implementation: 1) initiation, 2) adoption, 3) adaptation, 4) acceptance, 5) routinization and 6) infusion, the analysis for SMEs will indicate the relative importance relationship of the CSFs to the various stages. Somers and Nelson utilized this model and provided the top five CSFs for each stage of the model.

Other organizations, for any number of existing legitimate managerial reasons: financial, personnel, infrastructure resource limitations, etc. have not considered adoption of a new or upgraded system (Adam and O'Doherty, 2000). It is important to note that simply having an accounting information system (AIS) is not the equivalent of implementing a true ERP for the enterprise. AIS are typically a component, module, or subsystem of a complete ERP system.

There are numerous factors affecting successful implementation of ERP programs into any organization. These have not been fully identified and described for the SME market, although many studies have addressed these factors for the larger scale market (Foster, Hawking & Stein, (2004). A research effort (Argyropoulou, Ioannou, & Prastacos, 2007) specifically addressing SME implementations, reported that these organizations were much more likely not to use a structured methodology for implementation. Further the study reported that SMEs were not familiar or were

unsophisticated with techniques such as business process reengineering (BPR) and change management.

The structure to this research is a process theory approach related to ERP lifecycle models, specifically utilizing the Cooper and Zmud model (1990). This approach is similar to prior work done on large-scale ERP implementations at major global enterprises (Somers & Nelson, 2001). Using this approach aide in understanding the various CSFs, segregated by lifecycle stages, and this approach addresses both original and upgraded implementations. Several authors (Shanks et. al., 2000; Markus & Tanis, 2000; Nah & Delgado, 2006; Plant & Willcocks, 2007) stress the point that an ERP implementation project is best conceptualized as a business project and not simply the installation or update of an innovative technology.

*ERP implementation – life cycle models*

Cooper and Zmud (1990) developed a model that includes the following six lifecycle stages in an ERP implementation: initiation, adoption, adaptation, acceptance, routinization, and infusion. These stages have similarities to other researcher-developed models. There are numerous highly referenced alternative ERP lifecycle models that emanate from, Bancroft, (1996); Bancroft, Seip and Sprengel, (1998); Esteves and Pastor, (1999); Holland and Light (1999); Holland, Light and Gibson, (1999); Parr, Shanks and Darke, (1999); Markus and Tanis (2000); Parr and Shanks, (2000); Ross and Vitale, (2000); and Ahituv, Neumann and Zviran (2002), and these are discussed in greater detail later. Essentially, all of the above models distinguish similar, but not entirely identical phases; however, they group and name these phases differently.

Referring to Cooper and Zmud (1990), a brief synopsis of the phases include: 1) *initiation phase* – establishing the business case and identifying the problems and opportunities, 2) *adoption phase* – gain organizational support for the implementation effort, 3) *adaptation phase* – acquire the system, installation, maintenance, and 4) *acceptance phase* – system has complete functionality and user training completed, 5) *routinization phase* – normal operations in daily activity, and 6) *infusion phase* –incremental organizational effectiveness. Each of these phases' success can be gauged and evaluated by a series of defined metrics including factors of human and organizational learning.

**Data Analysis and Discussion**

*Survey Process Overview*

This section discusses the results of the survey instrument completed by participants targeted by this research. A commercial database company was engaged to distribute an email including a link to the survey that was conducted using Zoomerang online. Additionally, participants at a national accounting conference were invited to participate. This accounting conference had a significant ERP theme to the sections, and most participants had an interest in current or potential ERP implementations and conversions.

The researcher included a survey instrument of thirty questions with a number of sub-questions within each survey. Survey questions were demographic type and Likert scale categorical questions. The questions were to support the research of two "business research questions" in the research

project. The participants were randomly selected from a continually maintained and updated commercial database meeting the selection criteria.

The survey participants were various high level executives from organizations who met the following: 1) revenues not exceeding $500 million annually, and 2) employees not exceeding 500 full time. This group is typically referred to as the SME or SMB market sector, i.e. Small and Mid-size Enterprises or Small and Mid-size Businesses. The executives targeted included titles such as: CEO, COO, President, CFO, Vice President of Finance, Controller, CIO, MIS Director, ERP Project Manager, Director, and similar positions. The total number of companies identified by the provider numbered approximately 88,000, all in the United States. No organization outside the United States was included in the research study. The organizations were all types of business organizations including for-profit, not-for-profit, education, government, and proprietorships.

Organizationally, potential respondents were corporations, partnerships and proprietorships. All selection was made randomly by the commercial database provider using sophisticated selection algorithms, and this was a blind process to the researcher. The survey was conducted by the commercial database provider. The operational criteria also included that only one person per organization would be the recipient of these survey solicitations. If a participant attempted to enter a second survey or forwarded/passed the survey to another person after accessing the system to participate, the subsequent persons were locked out of the system with messages indicating that they had previously participated and were thanked for their interest.

*Survey Participation*

The 15,000 participants generated 577 survey hits, with approximately 135 attempted/completed surveys. The final count of acceptable surveys was 123, i.e. 12 were eliminated for any number of reasons including: blank surveys, significant errors in answering the survey or omissions in the questions, indications of annual revenues or employees outside the accepted parameters. The 123 acceptable surveys were generally complete, or sufficiently complete as to be statistically significant within the study. These acceptable surveys represent a response rate of approximately 1% of survey "hits", (123 out of 15,000). This is a typical response rate for online email solicitations. The overall "survey hit rate", was approximately 4% (577 out of 15,000), and again typical of email surveys to business executives.

*Demographic Descriptions*

The survey instrument gathered a series of descriptive statistics regarding respondents and their respective organizations. These statistics are related to revenue levels, number of employees, position title of responder, type of organization business activity, infrastructure platform for implementation, ERP system selected/implemented, ERP modules implemented, status of ERP implementation, and impediments for further implementation efforts.

*Revenues Generated and Employment Levels*

This study was directed at SME organizations. Although no official government guidelines exist for this market segment, the generally accepted de facto definition is that SME organizations have five hundred million or less in annual revenues, and less than five hundred employees (ref). This filtering mechanism defined the survey responses accepted into the statistical analysis of this research effort.

The majority of organizations responding reported revenues of one hundred million to one hundred ninety-nine million dollars of revenues; this represented 51.2% of all responses. The next largest group was two hundred million to two hundred ninety-nine million dollars; this represented 19.5% of responders. These first two groups represented over 70% of the total number of responders and indicated that a majority of the organizations were smaller in overall revenue volume and significantly smaller than the large-scale organizations that were previously identified in prior CSF studies.

A group who could not answer represented seventeen surveys, and 13.8% of the total. There are legitimate reasons for this inability including: 1) the responder was unable to provide the information because of organizational guidelines preventing this disclosure, 2) concerns over Sarbanes-Oxley potential violations, 3) the responder was not privy to the information, 4) the responder was uncomfortable disclosing the information. Since these organizations were prequalified by the research firm providing the list, these responses were included in the acceptable surveys.

This analysis presents an interesting revelation that most responders were either in the smallest category one hundred to one hundred ninety-nine (51.2%) or the largest category of four hundred to five hundred employees (37.4%). These two groups represent 88.6% of all responders. Only 13 responses were in the overall combined group of two hundred to three hundred ninety-nine employees and represented 10.6% of all responses. Only one response was listed in the "cannot answer" category.

*Position Title of Responder*

The responder was offered a series of possible position titles to identify, but could also self-identify another position title under the "other" category choice. Four position title categories indentified the majority of responses, these included: CIO/MIS/IS Director (39.0%), CEO/COO/President (22.0%), ERP Project Manager (17.9%), and CFO/Controller (12.2%). These four categories in total represent 91.1% of all responders. When the groups of the largest responders are combined in similar functional areas, MIS/ERP related responders represented 56.9% and given the subject area under research, namely ERP system implementations, this large response is certainly reasonable. Combining executive management responders, i.e. CEO and CFO categories, 34.2% of responders were represented. The Chief Administrator position could also be included in this executive management group if they represented the highest executive in a not-for-profit organization. However, these responders could not be further identified; therefore they are isolated in a separate category.

*Infrastructure platform for implementation*

The following table includes the composition of IT platform that the ERP system was implemented or will be implemented. The total number of platforms actually exceeds the total number of survey responses. This anomaly exists as a result of the option to answer more than one choice. This is entirely possible for example in organizations needing a complex infrastructure platform for various security or reporting conditions, or organizations in upgrade situation, converting from one platform to another.

The in-house host choice represents the classical approach where an organization maintains total control over all hardware and software system within physical custody situations. All systems are operated normally with a resident computer system in a classic data center structure. Cloud/ASP (SaaS) software platforms are unique operations. The original nomenclature was ASP – Application Service Provider, which slowly evolved into SaaS – Software as a Service, and now these operations are referred to as Cloud implementations. Cloud operations essentially mean that all data, software and hosting activities, including system backup and upgrades are handled off-site. License agreements are enacted to give the Cloud organization the responsibility to maintain all ERP systems in working order and maintain a high degree of "uptime" processing. Users link to their data and systems via an internet access.

| Platform/Infrastructure | # | % of total |
|---|---|---|
| In-house host | 84 | 63.2% |
| Cloud /ASP | 19 | 14.3% |
| Cloud /ASP and in-house legacy systems | 16 | 12.0% |
| Cannot answer | 14 | 10.5% |
| Total | 133 | 100.0% |

The results of this survey indicate that the majority of responses were in the "in-house host" category (63.2%). This number is expected, since most organizations have traditionally maintained all systems in-house under their physical custody. Cloud responders (14.3%) have shifted all IT operations related to their ERP to an outside provider. Cloud with in-house legacy (12.0%) indicated that they have shifted their ERP operations to an outside Cloud provider, but maintain older legacy systems in-house. This could be a temporary situation where the legacy systems will be converted in the future, or they may be operated continually in this manner for the foreseeable future. No questions addressed this possibility in the survey instrument. Overall, 26.3% of responders indicated that some type of Cloud operations were present in their operations.

*ERP System Selected/Implemented*

Responders to the survey instrument were asked to identify the ERP system either implemented or chosen for implementation. The participants were given a list of ERP systems that were listed in market studies of the most frequently installed systems in SME organizations. Additionally, an Other category was listed where the responder could add a system not listed. The most frequently listed system in the Other category was Banner.

| ERP System | # | % of total | Cumulative % |
|---|---|---|---|
| Microsoft Dynamics | 39 | 30.7% | 30.7% |
| Banner | 24 | 18.9% | 49.6% |
| Oracle | 20 | 15.7% | 65.4% |
| SAP | 16 | 12.6% | 78.0% |
| Net Suite | 10 | 7.9% | 85.8% |
| Jenzabar EX | 6 | 4.7% | 90.6% |
| Lawson | 5 | 3.9% | 94.5% |
| Sage | 3 | 2.4% | 96.9% |
| CDC | 2 | 1.6% | 98.4% |
| Datatel | 2 | 1.6% | 100.0% |
| Total | 127 | 100% | |

Overall, five ERP systems comprised 85.8% of all implementations. These five systems: Microsoft Dynamics (30.7%), Banner (18.9%), Oracle family of products (15.7%), SAP (12.6%) and NetSuite (7.9%) are products typically highly ranked in various professional market studies of ERP products, such as the annual Gartner reports.

SAP and Oracle are the two products that dominate the large-scale organization marketplace, yet still indicated significant strength in this SME study. This study did not attempt to distinguish which scale of the products were implemented, i.e., did respondents implement the high-end products marketed to large organizations or the vendor's scaled down products for a smaller organization. Microsoft Dynamics is the leading ERP product implemented in this study and generally shows significant strength in all market surveys. Banner ranks second in this survey as a result of a high response rate from educational institutions included within the SME parameters of the study. Banner and PeopleSoft (Oracle family of products) are the two most dominant products used in higher education implementations. The remaining five products listed: Jenzabar EX, Lawson, Sage, CDC, and Datatel comprise the final 14.2% of all responding organizations. These represent a variety of specialized applications to the educational, manufacturing and similar markets. Sage and Lawson are full featured systems normally competing with Microsoft Dynamics with similar ERP module offerings. Many of these systems are implemented in a in-house hosting situation, but third-party vendors may also provide a Cloud platform.

*ERP Modules Implemented*

Respondents were given the choice of many modules when asked to identify what their organizations were utilizing in their ERP implementation. The only module appearing in the table above identified by those responding that was not listed was the Student Information Systems (SIS). This module was identified by six organizations, presumably educational institutions, and was included in the Other choice. Other also gave the responder the ability to identify the module.

Three modules, AIS (34.0%), Human Resources (20.4%) and Supply Chain Management (17.0%) comprised 71.3% of all responses. The fourth choice of Customer Relationship Management (9.1%) is also typical and this fourth system brings the overall implementation rate to 80.4% of all responding organizations. This is not surprising, given the nature of the SME marketplace and market studies conducted by independent third parties such as Gartner and the major consulting organizations. (enter comparison numbers from large-scale studies here for comparative purposes).

Table 1

| **Modules Implemented** | **#** | **% of total** | **Cumulative %** |
|---|---|---|---|
| Accounting Information Systems / Financial | 90 | 34.0% | 34.0% |
| Human Resources | 54 | 20.4% | 54.3% |
| Supply Chain Management (SCM) | 45 | 17.0% | 71.3% |
| Customer Relationship Management (CRM) | 24 | 9.1% | 80.4% |
| Operations | 21 | 7.9% | 88.3% |
| Manufacturing / MRP I & II | 18 | 6.8% | 95.1% |
| Job Costing | 7 | 2.6% | 97.7% |
| Student Information Systems | 6 | 2.3% | 100.0% |
| Total | 265 | 100.0% | |

*Organization business activity*

Each respondent was asked to identify the most appropriate or primary category of business activity that the organization participates. There were fourteen choices plus an Other category for activities not listed. The largest group participating was Education (23.2%), followed by High Technology (13.4%), Distribution (12.7%), Manufacturing (12.0%), and Health Care (12.0%), comprising 73.2% of all responding organizations. Professional Services (6.3%) and Service (4.9%) combine for an additional 11.2% and this brings the total composite to 84.5%. Professional Services would refer to CPA, law, consulting, IT consulting, architecture, etc. types of organizations providing a service to organizations or individuals. The remaining 15.5% of responders were spread across the remaining categories, all less than 5% of the total.

Table 2

| **Organization business activity** | **#** | **% of total** | **Cumulative %** |
|---|---|---|---|
| Education | 33 | 23.2% | 23.2% |
| High Technology | 19 | 13.4% | 36.6% |
| Distribution | 18 | 12.7% | 49.3% |
| Manufacturing | 17 | 12.0% | 61.3% |
| Health Care | 17 | 12.0% | 73.2% |
| Professional Services | 9 | 6.3% | 79.6% |
| Service | 7 | 4.9% | 84.5% |
| Financial Services | 6 | 4.2% | 88.7% |
| Retail | 5 | 3.5% | 92.3% |
| Transportation | 3 | 2.1% | 94.4% |
| Government / Not-for-profit | 3 | 2.1% | 96.5% |
| Construction | 3 | 2.1% | 98.6% |
| Agriculture | 2 | 1.4% | 100.0% |
| Total | 142 | 100.0% | |

The business categories listed generally correspond with the ERP systems chosen and the modules implemented. For example, Education was identified by 33 organizations. Banner was listed as the primary ERP system in 24 organizations, and Jenzabar was listed by another 6 Education organizations, and Datatel was listed by 2 Education organizations, or 32 of the 33 organizations responding. Each of these ERP systems has a primary business focus on the Education marketplace. Similar trends can be found in other business categories.

*Status of ERP implementation*

Each responder was asked to identify the current status of their existing or planned ERP implementation. 18.3% of responses indicated that their organizations were activity involved in an ERP project, at various levels of completion. This response indicated that the organization could have been in any of the six implementation stages of the process model (Cooper & Zmud) used in this research study. The responders were not asked to identify the actual stage of completion, and depending on the process and the organization, the responder may not have been able to convert their experience accurately to the process model used.

Table 3

| ERP Implementation status | # | % of total | Cumulative % |
|---|---|---|---|
| Implementation in process - various stages | 22 | 18.3% | 18.3% |
| Implementation complete | 39 | 32.5% | 50.8% |
| Implementing additional modules | 32 | 26.7% | 77.5% |
| Replacing original ERP | 6 | 5.0% | 82.5% |
| Not considering ERP implementation at this time | 6 | 5.0% | 87.5% |
| Cannot answer | 15 | 12.5% | 100.0% |
| Total | 120 | 100.0% | |

The largest responding category: Implementation Complete (32.5%), represents organizations that have installed, implemented, tested and have operational systems. An additional 26.7% of responses indicated that they were complete in their implementations, and now are adding one or more additional ERP modules. This could be additional modules added later for increased enterprise functionality, or modules added after a core of the ERP was complete. Both of these implementation strategy models are used extensively by consulting firms assisting organizations in the process. The survey did not ask for this information. Fully, 59.2% of organizations had successfully implemented their ERP with some organizations adding modules.

Other organizations were replacing their ERP system originally installed. This trend was also seen in the large-scale organization from the early 1990s to the mid 2000 time frame. Microsoft and others replaced their systems when the functionality and benefits expected did not occur. In the SMEs, this group represented 5.0% of total responders. An additional 5.0% of responders indicated that they have delayed action on their ERP implementation. Finally, 12.5% of responders indicated that they could not answer the question. These may have had restrictions against divulging such information, or were not privy to this information, or were not active participants in the management of the ERP systems or their implementation process.

*Impediments for Further Implementation Efforts*

Survey participants were asked to respond to a number of factors that could be contributory to management postponing or cancelling current or future implementations. This could be ERP implementation currently in process, planned for the near or intermediate time frames. These factors covered a wide range of potential conditions including cost, profitability, business priorities, technical concerns, functionality concerns, organizational resistance or cultural factors, or technical factors.

The responses included five predominate factors, comprising 85.6% of all responses. These factors include: 1) concerns related to the organizational costs of infrastructure, software and implementation costs of new or upgraded systems (22.2%), 2) the identification of new or reprioritized organizational/management initiatives for the deployment of financial or other organizational resources (21.7%), 3) concerns over global and domestic economic conditions (20.0%), 4) senior management has unclear understanding or confidence in technology leveraging benefits caused by technical complexity, concerns with past organizational experiences, unfulfilled promises for ROI expectations or new technologies that may not have a sufficient successful track

record (13.9%), and 5) experienced, observed, researched technical deficiencies in IT systems and infrastructure (7.8%). Five other factors were cited, but all were less than 5.0%.

Table 4

| ERP Implementation Postpone/Cancel Factors | # | % of total | Cumulative % |
|---|---|---|---|
| Anticipated cost of new systems and implementation project | 40 | 22.2% | 22.2% |
| Other business priorities may take precedence | 39 | 21.7% | 43.9% |
| Current global/domestic economic conditions | 36 | 20.0% | 63.9% |
| Senior management has unclear understanding or confidence in technology leveraging benefits | 25 | 13.9% | 77.8% |
| Technical shortcomings in IT systems and infrastructure | 14 | 7.8% | 85.6% |
| Employee resistance to change | 8 | 4.4% | 90.0% |
| Concerns/risk of business disruption from a failed IT project | 6 | 3.3% | 93.3% |
| Need to amortize existing technology investments | 6 | 3.3% | 96.7% |
| Deficiency of employee technical skills to utilize the technology | 3 | 1.7% | 98.3% |
| Ineffective operational management | 3 | 1.7% | 100.0% |
| Total | 180 | 100.0% | |

These factors may be contributory to the previous question related to ERP implementation status. A number of responses indicated that they were planning no activity at this time. A number of these impediment factors were found in the respondents, along with those in all other categories of ERP implementation status.

**Research Questions**

The mission of this study was to describe and identify critical success factors (CSF) that positively and negatively affect the successful implementation of ERP systems into SME organizations. The following research questions were addressed to help identify the various factors that affect the implementation of ERP systems.

*Research question 1: CSFs importance in predicting ERP project success*

Given the process theory model of ERP implementation fostered by Cooper & Zmud, can a project's success be predicted by the level of importance placed on the various CSFs by management?

Table 5

Satisfaction Levels with ERP Implementation

| Critical Success Factor | Mean | Std. Dev. | Variance | $R^2$ - to overall system values |
|---|---|---|---|---|
| Functionality fit | 3.434 | 1.469 | 2.159 | 0.868 |
| System performance fit | 3.118 | 1.406 | 1.977 | 0.731 |
| Operational fit | 3.389 | 1.448 | 2.097 | 0.900 |
| Overall system fit | 3.372 | 1.447 | 2.093 | |

*Research question 2: importance of CSFs identified for Cooper & Zmud process theory phases*
What CSFs are identified in the various process theory phases of the SME organization ERP implementation project, utilizing the Cooper & Zmud model structure, and their relative ranked importance in those phases for management's perceived implementation success?

Survey participants were asked to identify by the six phases of the Cooper & Zmud model structure the relative importance of each of the ten Critical Success Factors. The Cooper & Zmud process model had six phases. These phases were identified as: Phase 1 - Build initial business case for the ERP system, Phase 2 - Acquire ERP system and build organizational support, Phase 3 - The ERP system is installed and tested, Phase 4 - The ERP system begins operations, Phase 5 - The ERP system achieves normal operations and acceptance, and Phase 6 - The ERP system at full integrated/upgraded potential.

These factors and phases were presented in a matrix format and the participants chose the relative strength factor based on a 1-5 scale: 5 - extremely important, 4 – very important, 3 – important, 2 – somewhat important, 1 – not important. Participants could chose the CSF importance only once per implementation phase.

The following tables are structured to show the ranked results of CSF importance within the Cooper & Zmud process model by phase. The rank was generated by using the calculated Mean for each CSF within the phase, based on a highest to lowest ranking. Prior studies for large-scale organizations, namely Somers & Nelson and Nah & Delgado utilized similar ranking structures, based on calculated Means and Standard Deviations. Prior studies generally focused on the first three ranked CSFs as important.

*Phase 1 - Build initial business case for the ERP system*
This initial phase of the process creates all of the substantive planning for the ERP implementation process. An initial business case is built to justify the process and expenditures. The SME participants identified Business plan and vision (3.61) as the most important factor followed closely by Top management support (3.34), and the need for Effective communications (3.31) as necessary for successful implementations. A fourth factor, the role of the Project champion (3.24) was ranked just slightly lower than the top three factors. The remaining six CSFs were ranked significantly lower than the top four choices.

The factors low ranked in this analysis are reasonable since the process at this point is still in the planning mode. The lowest ranked five CSFs are related to the actual ERP implementation process, after a system has been chosen and the process begun.

The Project champion (3.24) listed as fourth is a reasonable factor at this phase. Managements would want a Project champion chosen as early as possible in the process and visible to all members of the organization.

Table 6

| Phase 1 - Build initial business case for the ERP system. | | | | |
|---|---|---|---|---|
| **Critical Success Factor** | **Rank** | **Mean** | **Std. Dev.** | **Variance** |
| Business plan and vision | 1 | 3.61 | 1.27 | 1.61 |
| Top management support | 2 | 3.34 | 1.07 | 1.14 |
| Effective communication | 3 | 3.31 | 1.21 | 1.45 |
| Project champion | 4 | 3.24 | 1.26 | 1.58 |
| Change management program and culture | 5 | 2.82 | 1.14 | 1.30 |
| Project management | 6 | 2.76 | 1.27 | 1.61 |
| Business Process Reengineering (BPR) and minimum customization | 7 | 2.66 | 1.38 | 1.91 |
| ERP teamwork and composition | 8 | 2.65 | 1.21 | 1.47 |
| Software development, testing, and troubleshooting | 9 | 2.36 | 1.19 | 1.42 |
| Monitoring and evaluation of performance | 10 | 2.13 | 1.32 | 1.76 |

*Phase 2 - Acquire ERP system and build organizational support*

The second phase of the Cooper & Zmud process model differentiates the activities to select and acquire the appropriate ERP system. This is also the phase where decisions are made related to platform, e.g. in-house hosting or using Cloud/ASP provider. Additionally, this phase is typically characterized by open and meaningful organizational communications, and gaining organizational support for the process that will tax organizational resources.

The participants chose the same three CSFs as Phase 1, but in a slightly different order. Again, Business plan and vision (3.58) was clearly the most important CSF. Effective communications (3.43) placed secondly barely showing more significance than Top management support (3.42). Project Champion (3.21) and Project Management (3.13) CSFs also placed significantly higher than other factors, and logically given the nature of the activities of this phase, these results could be expected.

Table 7

| Phase 2 - Acquire ERP system and build organizational support. | | | | |
|---|---|---|---|---|
| **Critical Success Factor** | **Rank** | **Mean** | **Std. Dev.** | **Variance** |
| Business plan and vision | 1 | 3.58 | 1.22 | 1.48 |
| Effective communication | 2 | 3.43 | 1.12 | 1.26 |
| Top management support | 3 | 3.42 | 1.14 | 1.29 |
| Project champion | 4 | 3.21 | 1.21 | 1.47 |
| Project management | 5 | 3.13 | 1.16 | 1.35 |
| ERP teamwork and composition | 6 | 3.03 | 1.19 | 1.42 |
| Change management program and culture | 7 | 2.94 | 1.20 | 1.45 |
| Business Process Reengineering (BPR) and minimum customization | 8 | 2.90 | 1.32 | 1.75 |
| Software development, testing, and troubleshooting | 9 | 2.66 | 1.26 | 1.60 |
| Monitoring and evaluation of performance | 10 | 2.29 | 1.42 | 2.03 |

*Phase 3 - The ERP system is installed and tested*

In Phase 3, the organization completely installs and tests the ERP system. Additionally, modifications if necessary were implemented. This phase requires the extensive efforts of an implementation team, dealing with some measure of project management.

The participants clearly ranked Project management (3.69) and ERP teamwork and composition (3.62) as the two most important factors, almost in a tie for significance. The third factor dealt with software development, testing and troubleshooting efforts (3.55), also near the rankings of the first two factors. This would clearly be an important factor in the installation stage. The next factors, Effective communications (3.39), BPR efforts (3.34) a factor identified in large-scale implementation as crucial due to the very nature of ERP systems, the automation of best practice processes, and finally Project champion (3.23) hold significant roles.

Table 8

**Phase 3 - The ERP system is installed and tested.**

| Critical Success Factor | Rank | Mean | Std. Dev. | Variance |
|---|---|---|---|---|
| Project management | 1 | 3.69 | 1.21 | 1.47 |
| ERP teamwork and composition | 2 | 3.62 | 1.35 | 1.83 |
| Software development, testing, and troubleshooting | 3 | 3.55 | 1.16 | 1.36 |
| Effective communication | 4 | 3.39 | 1.31 | 1.72 |
| Business Process Reengineering (BPR) and minimum customization | 5 | 3.34 | 1.26 | 1.60 |
| Project champion | 6 | 3.23 | 1.13 | 1.29 |
| Change management program and culture | 7 | 3.21 | 1.21 | 1.47 |
| Business plan and vision | 8 | 3.20 | 1.21 | 1.47 |
| Top management support | 9 | 3.12 | 1.17 | 1.36 |
| Monitoring and evaluation of performance | 10 | 3.08 | 1.06 | 1.13 |

*Phase 4 - The ERP system begins operations*

In Phase 4, the presumption is that the system has been installed along with modifications, and enters normal operations throughout the organization. This phase also requires adequate training, both functional screen training and overview training indicating how the system impacts all areas of the organization.

Due to the critical nature of interorganizational cooperation and communications as all units of the organization come “on-line”, the highest ranked CSF in this phase is Effective communications (3.69). Also logically, project management (3.57) and ERP teamwork (3.55) also rank in the top three factors. Prior research indicates that the next factor, Change management and culture (3.53) are also very important for success. The only surprising result is the low ranking of the Project champion (3.32) as the eight CSF factor. Typically in this phase, there are often conflicts and also the need for an overall “tie-breaker” or “ruffled feathers soother”, i.e. the role of the Project champion.

Table 9

| Phase 4 - The ERP system begins operations. | | | | |
|---|---|---|---|---|
| **Critical Success Factor** | **Rank** | **Mean** | **Std. Dev.** | **Variance** |
| Effective communication | 1 | 3.69 | 1.15 | 1.32 |
| Project management | 2 | 3.57 | 1.35 | 1.83 |
| ERP teamwork and composition | 3 | 3.55 | 1.40 | 1.96 |
| Change management program and culture | 4 | 3.53 | 1.30 | 1.70 |
| Business Process Reengineering (BPR) and minimum customization | 5 | 3.39 | 1.26 | 1.60 |
| Top management support | 6 | 3.35 | 1.06 | 1.12 |
| Monitoring and evaluation of performance | 7 | 3.35 | 0.99 | 0.98 |
| Project champion | 8 | 3.32 | 1.15 | 1.33 |
| Software development, testing, and troubleshooting | 9 | 3.11 | 1.11 | 1.24 |
| Business plan and vision | 10 | 3.04 | 1.21 | 1.47 |

*Phase 5 - The ERP system achieves normal operations and acceptance*

The fifth phase relates to the stage when an organization reaches normal operations of all ERP modules, all modifications were working as defined/designed, and the organization proceeds through the formal "acceptance" process, agreeing with all systems programming and consulting groups, and the ERP vendor, that the system operates as identified in the original functional specifications. This is a technical and legal phase, identifying that all work has been completed as specified.

Change management and culture (3.57) is identified as most significant. This is reasonably consistent with large-scale organizations. In this phase, users often take on different roles and work flows; hence the need for the organization to effectively monitor and train users in new roles. Effective communications (3.50) would reasonably follow as a second CSF, with the need for all organizational units to cooperate for successful implementation efforts. BPR efforts (3.46) is ranked third. BPR would have normally been accomplished in an earlier phase. This could be explained by the organizations' review and full understanding of how the ERP system requires the modifications of existing business processes or the introduction of new processes into the manual and functional systems as dictated by the ERP system.

*Phase 6 - The ERP system at full integrated/upgraded potential*

The final phase of the ERP process as defined by Cooper & Zmud deals with the ERP system post implementation. In this phase, the organization has declared success with the implementation, and time frame here is possibly 1-3 years post implementation. The organization operates the system effectively with few functional errors. Additionally, ROI expectations are met and future upgrades come into the planning reality.

Table 10

| Phase 5 - The ERP system achieves normal operations and acceptance. | | | | |
|---|---|---|---|---|
| **Critical Success Factor** | **Rank** | **Mean** | **Std. Dev.** | **Variance** |
| Change management program and culture | 1 | 3.57 | 1.32 | 1.75 |
| Effective communication | 2 | 3.50 | 1.04 | 1.09 |
| Business Process Reengineering (BPR) and minimum customization | 3 | 3.46 | 1.21 | 1.47 |
| Monitoring and evaluation of performance | 4 | 3.42 | 1.02 | 1.03 |
| ERP teamwork and composition | 5 | 3.34 | 1.41 | 1.98 |
| Top management support | 6 | 3.30 | 1.16 | 1.36 |
| Project management | 7 | 3.17 | 1.36 | 1.84 |
| Business plan and vision | 8 | 3.09 | 1.13 | 1.28 |
| Project champion | 9 | 3.01 | 1.46 | 2.14 |
| Software development, testing, and troubleshooting | 10 | 3.00 | 1.17 | 1.38 |

Again, Change management and culture (3.37) are ranked first. This is the lowest leading ranked CSF of all phases. BPR (3.28) and Top management support (3.22) comprise the top three ranked CSFs. BPR could be ranked highly as executive management and project teams further modify business processes to achieve leveraged ERP benefits. The final four ranked CSFs are positioned very similar to large-scale organizations. These CSFs had prominence in earlier implementation phases, but have little significance as the project moves past acceptance and reaches its operational potential. Monitoring and evaluation of performance (3.18) would normally be ranked higher in this phase as management looks to maximize leveraged benefits and full functionality. Ongoing operations would normally be tracked and monitored. Various IT/IS operating metrics would be important at this time along with financial metrics such as continuing ROI evaluation, etc.

Table 11

| Phase 6 - The ERP system at full integrated/upgraded potential. | | | | |
|---|---|---|---|---|
| **Critical Success Factor** | **Rank** | **Mean** | **Std. Dev.** | **Variance** |
| Change management program and culture | 1 | 3.37 | 1.46 | 2.13 |
| Business Process Reengineering (BPR) and minimum customization | 2 | 3.28 | 1.31 | 1.70 |
| Top management support | 3 | 3.22 | 1.10 | 1.21 |
| Business plan and vision | 4 | 3.19 | 1.15 | 1.32 |
| Monitoring and evaluation of performance | 5 | 3.18 | 1.10 | 1.22 |
| Effective communication | 6 | 3.15 | 1.09 | 1.18 |
| ERP teamwork and composition | 7 | 3.12 | 1.34 | 1.80 |
| Project champion | 8 | 2.81 | 1.32 | 1.74 |
| Software development, testing, and troubleshooting | 9 | 2.79 | 1.40 | 1.97 |
| Project management | 10 | 2.77 | 1.24 | 1.54 |

*CSF similarities and differences between SME and large-scale organizations*

What are the similarities and differences of CSFs between ERP systems implementation experiences for large-scale organizations vs. SME marketplace organizations considering organizational size and phase of implementation?

The large-scale organization sector of the overall ERP marketplace has been in existence for almost twenty years with development beginning in the early 1990s, and research has demonstrated significant advancement for the analysis of CSFs in ERP implementations.

SMEs may demonstrate differences in CSF emphasis due to a number of different factors including but not limited to: different levels of resources related to financial constraints, human resource constraints, infrastructure constraints, different markets in size and scope and location, plus other factors. Below, CSF importance is compared between large-scale using Somers & Nelson (2002) reported levels and the results of this research effort.

Table 12

| | **SME organizations - Research Project** | | **Large-scale organizations – Somers & Nelson** | |
|---|---|---|---|---|
| Critical Success Factor (CSF) | Mean | Std Dev. | Mean | Std Dev. |
| Project champion | 4.15 | 1.20 | 4.03 | 1.58 |
| Project management | 4.28 | 1.05 | 4.13 | 0.96 |
| Business plan and vision | 3.94 | 1.10 | 4.15 | 1.14 |
| Top management support | 3.99 | 1.18 | 4.29 | 1.16 |
| Effective communication | 4.27 | 1.01 | 4.09 | 1.33 |
| ERP teamwork and composition | 3.91 | 1.04 | 4.20 | 1.07 |
| Business Process Reengineering (BPR) and minimum customization | 3.82 | 1.16 | 3.68 | 1.26 |
| Change management program and culture | 4.09 | 1.03 | 3.43 | 1.34 |
| Software development, testing, and troubleshooting | 3.83 | 1.35 | 3.89 | 1.06 |
| Monitoring and evaluation of performance | 3.51 | 1.14 | 4.06 | 1.37 |

**Summary**

As the data presented above indicates, critical success factors are essential to successful implementation of ERP systems. The results for SME organizations were not very different from large-scale organizations. Although the order of the CSFs may be slightly different and a higher emphasis is put on various CSFs, all the factors were significant in the results, and generally mirrored the prior study results. Comparison data was not available for the phases of the process theory approach, only for the overall CSFs. Consequently no comparison could be generated between the two market segments. Logic could have predicted a great number of the CSF as indicated within the various phases of the process theory model. Furthermore, most factors received a fairly high significance as indicated by the mean scores primarily in the 3.0-5.0 range. Most of the differences noted between SMEs and large-scale organizations could be explained by the constraints that SMEs

generally work under, namely: less financial and personnel resources than the large-scale organization. SMEs are under greater pressure to accomplish the same results with fewer resources and in a faster time frame because their very existences are on the line. There are some indications that SMEs may be more prone to consider Cloud applications rather than the large-scale companies because the pricing and support parameters are structured to assist these organizations to achieve successful ERP implementations.

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# CONFLICT RESOLUTION IN EDUCATION

**Joan M. Kern**
**Cedar Crest College**
**Allentown, PA**
**Allentown, PA 18104**
**jmkern@cedarcrest.edu**

## Introduction

The topic of school violence has become quite prevalent in the media within the last ten years. The shootings at Columbine High School bring national attention to school violence and bullying in April 1999. Two recent teen suicides in 2010, one a Rutgers University student and the other a Massachusetts high school girl, gain publicity for incidences of bullying.

In 2009 a nationwide survey by the Center for Disease Control Violence Prevention Program finds that 32% of high school students report being involved in a physical fight in the twelve months before the survey (http://www.cdc.gov/violenceprevention). Six percent of these students report taking a gun, knife, or club to school in the 30 days before the survey and 20% report being bullied on school property (http://www.cdc.gov/violenceprevention). Bullying is often the antecedent to violent actions (Meyer-Adams & Connor, 2008).

In an effort to curtail acts of aggression and violence, schools adopt programs using conflict resolution to educate faculty, staff, and students in peaceful solutions to confrontations and disagreements. There are many programs in use throughout the United States; the four common approaches are (a) process curriculum, (b) mediation programs, (c) peaceable classrooms, and (d) peaceable schools (Garner, 2008).

Research is conducted to examine whether or not these programs have an effect on incidents of school violence. Current literature is divided on the impact of Conflict Resolution Education (CRE). This paper analyzes CRE and suggests means for implementing positive change in today's classrooms and the need for further research on existing programs.

## Current Research on CREs

Previous research produced varied results concerning the most successful type of program and the effectiveness of these programs. At the early childhood level, where theorists such as Piaget, Erikson, and Vygotsky claim that children are too young to take another child's perspective, prosocial skills are modeled by the teacher. With young children conflicts often develop in regards to space and materials in preschool environments. The teacher assumes the role of peacemaker by helping children to stretch their thinking beyond the possession of an area or material and talk through a dispute (Van Hoorn, Monighan-Nourot, Scales, & Rodriguez-Alward, 2011). Conflict resolution management is taught in early childhood classrooms by reading stories with prosocial behaviors, teaching taking turns and sharing, modeling resolutions, and talking over problems (Morrison, 2011).

Other researchers consider early childhood a time for planting the seeds of social-emotional skills to promote problem-solving and appropriate interpersonal communications. Sandy and Boardman from Columbia University evaluate the early childhood component of Peaceful Kids Educating Communities in Social Emotional Learning (ECSEL) finding that including a parental education aspect is important to teaching conflict resolution with young children (Crawford & Bodine, 2005). Modifying parenting styles from permissive or authoritarian to a more authoritative approach is beneficial to promoting prosocial behaviors in young children (Crawford & Bodine, 2005).

A meta-analysis of 26 CRE programs involving randomly assigned students in grades 1-11 finds no significant differences between the types of CRE (Park-Higgerson, Perumea-Chaney, Bartolucci, Grimley, & Singh, 2008). In this study non-theory-based interventions, which focused on at-risk, older children, and include internet-based activities, demonstrate a slightly stronger effect in reducing aggressive and violent behaviors (Park-Higgerson et al., 2008).

Another review of the current literature reveals that 63% of U.S. students are victims of violence at school making research on school violence and conflict resolution a priority (Lindstrom-Johnson, 2009). This literature review indicates that schools which have shown success in lowering the rate of school violence are associated with positive student-teacher relationships, students that demonstrate awareness of school rules and ownership of the school, positive classroom and school environments, address individual and school risk factors, and focus on improving school safety (Lindstrom-Johnson, 2009). These results indicate that schools need to implement a program that promotes prosocial behaviors, and theory-based CRE includes these components.

More supporting evidence for teaching prosocial behavior is presented in a study of bullying behaviors and their effect on the psychosocial school environment. Over 7500 school students in the Philadelphia School District are surveyed about aggressive behavior in school. The results find that when students fall victim to bullying or contribute to bullying behaviors their perception of the psychosocial environment of the school is negative (Meyer-Adams & Conner, 2008). Negative feelings about school environment increase the likelihood that one will react aggressively. Students indicate that early intervention strategies such as those taught in CREs help improve students' interpersonal and academic experience (Meyer-Adams & Conner, 2008).

Project WIN is an example of a conflict transformation program that utilized the 1960 Transforming Power Theory of Larry Apsey (Roberts, Yeoman, & Ferro-Almeida, 2007). His theory includes teaching students the concepts of compassion, empathy, and optimism to cultivate a cooperative classroom (Roberts et al., 2007). Project WIN consists of 17 lessons in conflict transformation which include sessions on anger management, listening skills, I messages, expressing one's needs, and generating solutions that meet the needs of self and others (Roberts et al., 2007). Teaching classroom students empathy, compassion, and appropriate social responses are important life skills.

Two of the four types of current CREs used in schools, Peaceable Classrooms and Peaceable Schools are founded on the ideals of William J. Kreidler. His approach to conflict resolution entails the integration of teachable moments and learning activities into classrooms (Crawford & Bodine, 2005). Kreidler describes the peaceable classroom environment as one which teaches cooperation, communication, emotional expression, respect for diversity, and conflict resolution (Crawford &

Bodine, 2005). The peaceable classroom system is employed by the classroom teacher and the peaceable school approach applies the same principles to a comprehensive, whole-school method (Crawford & Bodine, 2005).

Between 1988 and 2000 David and Roger Johnson conduct seventeen studies which examine students who have been trained in a program called Teaching Students to Be Peacemakers (Crawford & Bodine, 2005). This curriculum supports the peaceable classroom and peaceable school approaches by focusing on problem-solving theories rather than competitive results or win-lose negotiations (Crawford & Bodine, 2005).

Existing literature indicates support for theory-based CREs in school systems. Programs have been structured around the historical theorists such as Piaget, Erikson, and Vygotsky basing programs on the knowledge that children's cognitive abilities require them to be able to be empathetic to others in order to demonstrate problem-solving skills in conflict resolution. Constructivist theories lay the groundwork for current experts in the fields of psychology, sociology, and education to develop CREs to promote prosocial behavior in schools in the hopes of reducing the number of aggressive and violent incidents in schools.

**Putting Theory into Practice in Schools**

There are many CREs currently in use in schools, these programs fall into the four classifications previously mentioned. Existing literature has not produced one clear method of delivery which indicates a strong positive relationship between CREs and decreasing aggressive and violent behavior in schools.

Stage models of conflict resolution and negotiation are a means of introducing the concepts of dispute resolution to children. Peer mediation follows a three-stage process similar to one developed by Morley & Stevenson. In the first stage, referred to as distributive bargaining both sides and the mediators assess the conflict, possible outcomes, and the power of each side. In the next stage, problem-solving, the parties explore the possible solutions, and in the final stage of decision-making, the parties reach a solution (Folger, Poole, & Stutman, 2009).

Teaching proper communication skills is important to the success of CRE in today's classrooms. Demonstrating and modeling appropriate verbal communication is necessary to impart these techniques on students. Expressing your point of view in a nonthreatening and respectful manner is an important social skill (Nagle-Lechman, 2008). Listening skills are equally important and teaching active and reflective listening is also necessary. Role plays and class meetings are excellent means of demonstrating and practicing these skills in the classroom. Nonverbal communication and learning to interpret body language are useful skills for students to learn about interpersonal relationships.

Administrators, school faculty, and staff need to model appropriate social and communication skills at all times. It is inappropriate for adults to discuss disputes with coworkers, parents, or children in front of students. Students are both perceptive and aware of adults' behavior and school personnel should always be mindful of this.

**Prescriptive Advice for Educators**

Until more research can be conducted to measure the effectiveness of CREs in this country, schools should remain committed to finding methods to teach students to deal with conflict. There are four ways in which administrators can improve conflict resolution in schools (a) implement research-based CREs in schools, (b) provide staff with training and support, (c) support teachers' work on creating a positive rapport with their students, and (d) elicit feedback from parents, teachers, and students in order to find a CRE which fits the population. Conflict resolution, problem-solving, and open dialogue are necessary skills for students to learn in life and in dealing with aggressive and violent behavior in schools.

The principle ideal fueling CREs is that students are taught how to handle disputes and resolve conflicts before they escalate to acts of aggression and violence. The difficulty is in finding and implementing the right program for the population. This requires research on existing programs seeking one with previous data and feedback collected from schools. The district or building administrator needs to investigate the programs that are available, read the literature, and even contact schools which used the program to be sure that the CRE contains lessons and components matching the needs of the school population. The material must be meaningful and relevant to the students in order for them to be engaged in the learning process.

The best advice is to have the school administration and faculty research CREs, receive training, and implement several types within a district. Training must be provided as personnel need to be comfortable and knowledgeable about conflict resolution before presenting the material. Since many of these programs are scripted, it is imperative that the people delivering the lessons be familiar with the format so that it does not appear stiff. Students are encouraged by teachers who demonstrate a caring and reassuring demeanor; they are not invested in a program in which they are not active or feel lacks sincerity. Another important aspect of the chosen CRE is support for teachers and professional staff. There should be a means of contacting the program developers either by phone or electronic mail to answer questions or receive assistance with the program. It is important for teachers to know that expert assistance is readily available with the program. In 2007 Winkelspecht writes about a school district creating a partnership with a community justice organization whose staffers deal with troubled youth becoming a resource for the school district (Winkelspecht, 2007).

Teachers should create positive classroom environments for their students by stating rules, providing consistency, modeling prosocial behavior, demonstrating problem-solving skills in academics and in social contexts, and encouraging students to have a voice in the classroom. Class meetings teach students how to listen to one another, how to express their feelings in an appropriate manner, and how to work as a team. Students need to learn that negative behaviors have consequences and that inappropriate, aggressive, and violent behaviors have an adverse affect on the other party involved. There are many books and journal articles on the effects of positive discipline and positive classroom environment to guide teachers in implementing such strategies.

The students' interpretation of a school's psychosocial environment has been shown to impact their learning and the likelihood that they will be involved in acts of aggression or violence in school

(Meyer-Adams & Connor, 2008). School safety becomes a concern for students and parents especially in the aftermath of school shootings and bullying incidents ending in tragedy. In 2010 Graham finds that a known predicator of victimization is being labeled as different from the larger peer group (Graham, 2010). Schools are becoming increasingly diverse and providing diversity training for faculty and staff is a positive directive.

The last prescriptive element to aid schools in adopting the best CRE program for their district is to solicit feedback from parents, teachers, support staff, and students after the first year of instruction. Schools would conduct individual interviews and hold focus group and discussion forums with teachers, students, and parents to hone in on the elements of CRE which are useful to young people in interpersonal relationships. This is done voluntarily in order to extract freely given opinions from participants. Students share positives and negatives about CREs with counselors and administrators. This information is used to help develop and implement programs which employ strategies that are useful to students.

Schools are dependent upon students and teachers to provide them with the necessary feedback in choosing future programs which are deemed worthwhile. Teachers provide the information on lesson plans and delivery of conflict resolution strategies and students supply the key to what information they retain and utilize to help them with solving disputes in their complex social worlds.

Teachers and students furnish administrators and researchers with the feedback to modify CREs to give students the tools for successful peer relationships. Teachers should be honest concerning the lesson plans and materials included in the program they use in their classrooms. Many programs contain video clips that feature scripts; teachers supply school officials with the descriptive data on the effectiveness of such formats. Administrators and program developers need to know the most useful and successful components of CREs as well as those that are outdated and trite. Improvements cannot be made if administrators do not receive evaluative information from those implementing the programs.

Psychologists and educators who develop CREs for schools should elicit feedback from the people currently using the programs in the schools seeking ways to adopt new methods increasing their success rates. These professionals should also review research to gain credible data to assist them in finding the most effective method of instructional delivery for this important topic. It is necessary to work together to adapt CREs to be effective in helping students resolve conflict and creating positive learning environments; the collection of qualitative data is a vital stage in this effort.

The key to increasing the effectiveness of CREs in schools is to solicit the assistance of the stakeholders to gather feedback. This information is vital to improving CREs and determining the most effective methods to prevent aggressive and violent behaviors in schools. Teaching students to use a harmonious model leads to the development of life skills which are necessary both in their personal and professional futures (Folger et al., 2009).

**Importance of Research in CREs**

It is important that research on CREs continue in the United States. School violence is a problem in the school system and a threat to students' feeling of safety. Students need to feel safe in their environment to be able to learn. The media informs the general public about incidents in schools that involve large numbers of students and social media has become a means of spreading news stories quickly as in the recent suicide of a New Jersey college student. Bullying is often mentioned as the antecedent to violent episodes and incidents happen in schools daily which never appear in the media (Meyer-Adams & Connor, 2008). If school violence is to decrease in the future, then teaching students to resolve conflict in a socially appropriate manner should be a priority. Further research is needed to provide educators and school counselors with training to implement quality CREs and an evaluation method to test their effectiveness.

School Boards and Administrations prefer to implement programs in their schools which are supported by empirical data and proven success rates. Continued research in the area of CREs is necessary to provide schools with the information needed to find the most effective methods of instructional delivery to teach students prosocial behaviors. Research is the link between science and education providing data to advise educators on best practices for CREs.

**Conclusion**

Since the late 1990s school violence has increased, and educators search for ways to teach students to solve disputes in a peaceful manner. CREs are developed in answer to this need. Four major types have evolved in schools process curriculum, mediation programs, peaceable classrooms, and peaceable schools.

Research is conducted on these types to test their effectiveness produced mixed results. Winkelspecht designs and executes a quasi-experimental design to test the effectiveness of peer mediation, to establish a self-report measure to be used to gain data on CREs, and to initiate a valid model for CRE evaluation to be utilized by the nation's school system (Winkelspecht, 2007).

The study is inconclusive in that the expected results are not obtained and the hypotheses are not supported. Several limitations are addressed in the research report of the experiment which addresses modifications to offset these limitations (Winkelspecht, 2007). Increasing the sample size and seeking quantitative data for a longer time period are two of the modifications expressed. This study has merit in assisting educators and the developers of CREs to improve these programs and test their effectiveness.

Current research provides some information as to the effectiveness of CREs, but there has not been a study in which researchers have attempted to determine which of the four types of CRE is most successful in schools. There is a need for continued research in this field to help educators initiate best practice in CREs in this country.

School personnel assist in this effort by providing researchers, program developers, and school administrators with feedback concerning the programs in use. Responses from parents, teachers,

and students are essential in preparing programs with useful lessons and materials for students in the complex social settings in our schools.

Teachers also assist students by instructing them in prosocial behavior in the classroom. Creating a positive psychosocial environment is vital to students' academic and social success in school. Teachers who utilize positive discipline hold class meetings, and model appropriate communication skills provide their students with a solid foundation in problem-solving skills.

This paper only touches the surface of an important topic in education, finding the best method of instructional delivery for conflict resolution in the classroom. The topic is likely to be debated until a program with strong data to reinforce its success is found. Studies in this area are necessary if a decrease in aggressive and violent behavior in schools is a desired outcome of CRE.

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# DETERMINANTS OF SUPPLY OF U.S. TREASURY SECURITIES: A COINTEGRATION ANALYSIS

**M. Moosa Khan**
**College of Business**
**Prairie View A&M University**
**Prairie View, TX 77446**
**mmkhan@pvamu.edu**

**Rahim M. Quazi**
**College of Business**
**Prairie View A&M University**
**Prairie View, TX 77446**
**rmquazi@pvamu.edu**

**Abstract**

This paper analyzes the supply of U.S. Treasury securities over the 2000-2008 period. A long-run equilibrium and a short-run dynamic model are estimated, using the ARDL Bounds Testing co-integration methodology, to quantify the significant factors that can explain the supply dynamics in this market. The estimated results suggest that that federal budget balance, exchange rates, and returns from Treasury substitutes are significant determinants of Treasury supply in both short and long run, but expected Treasury yields do not seem to play any role either in the long or short run. Given that this is the world's largest debt market, the estimated results are important.

**Keywords:** U.S. Treasury supply, U.S. federal budget balance

## Introduction

The U.S. Treasury securities are debt instruments, issued by the U.S. Treasury to raise money as needed by the federal government. Treasury securities are widely regarded as a safe and secure investment option, as they are highly liquid and, more importantly, the interest and principal payments are backed by the full faith and credit of the U.S. government. Scholars also hold that, among all U.S. dollar assets, Treasury securities generally have the lowest total financial risk, which comprises credit, market, and liquidity risks (Schinasi et al, 2001).

The supply of Treasury securities is mostly determined by "the need to finance the cumulative budget deficits of the U.S. government" (Dupont et al, 1999), and the demand depends on their functionality as investment and hedging instruments to various entities, including individual investors, commercial banks, investment banks, insurance companies, state and local governments, and foreign central banks, among others.

There are two principal types of Treasury securities: marketable securities (may be traded after initial purchase) and non-marketable securities (may not be traded after initial purchase). Marketable securities comprise four types of instruments - Treasury bills or T-Bills (maturity of one year or less), Treasury notes or T-Notes (maturity of one to 10 years), Treasury bonds or T-Bonds (maturity of 30 years), and Treasury Inflation-Protected Securities or TIPS (offered in 5-year, 10-year and 30-year maturities). T-Notes, T-Bonds and TIPS pay semiannual interest payments until maturity, and the principal value of TIPS is adjusted for inflation. Nonmarketable securities comprise

Government Account Series (held mainly by government programs, such as social security), State and Local Government Series (held by state and local governments), and savings bonds. Marketable securities amount to nearly 55% of all securities, and the non-marketable securities comprise the rest (Dupont et al, 1999).

Participants trade in the Treasury securities market on a bilateral basis. These participants include primary dealers and non–primary dealers, and their customers, including individuals, and financial and non-financial institutions. Nearly 2,000 Treasury securities brokers and dealers are registered with the Securities and Exchange Commission (SEC) to trade in this market. However, most active participation is concentrated among a small number of dealers, known as the Primary Dealers, who are selected by the Federal Reserve Bank of New York. Due to the consolidation of the financial industry, the number of primary dealers has gradually decreased from a peak of 46 in 1988 to 30 in 1999 and then to 18 in 2010 (Federal Reserve Bank of New York, 2010).

The market for Treasury securities plays a very significant role in world financial markets. Saxton (2002) aptly states, "As the world's most liquid debt security, Treasuries lubricate global financial markets". This also happens to be the largest and the most active debt market in the world (Dupont et al, 1999). Tens of billions of dollars worth of Treasury securities are traded every business day. In January of 2000, total monthly transactions by primary dealers in Treasury securities were $753.43 billion, which has gradually increased to $2.01 trillion in December of 2009. The highest monthly transaction of Treasury securities during this period was recorded in August of 2007 at nearly $3.8 trillion. It is worthwhile to analyze the factors that can explain the supply dynamics of this market.

The objective of this paper is to take a closer look at the supply of U.S. Treasury securities and identify the significant factors that can explain the huge growth in the last decade. To the best of the authors' knowledge, no other study has analyzed the determinants of U.S. Treasury supply. Therefore, as the first study of its kind, this paper makes a unique contribution to the literature. The rest of the paper is organized as follows – the second section presents a brief review of the literature, the third section describes the model, the fourth section discusses data, methodology, and results, and the last section concludes the paper.

**Literature Review**

Although there are many studies on the macroeconomic effects of Treasury securities and Treasury yields, there is no study on the determinants of Treasury supply. The studies summarized below are relevant to the broad topic of Treasury supply.

Wojnilower (2000) discusses the financial implications of the diminishing supply of U.S. Treasury securities in the mid-late 1990s, when the U.S. faced record budget surpluses. The study argues that the absence of Treasury securities would profoundly and adversely affect portfolio management and handling of financial crises. Given the many vital functions the Treasury securities perform, such as "riskless assets in portfolios; benchmarks in the pricing of private securities; reliable hedges for market makers in debt securities and derivatives; safe havens for funds; and, as was formerly the case with gold, the chief international money", the study contends, the U.S. Treasury should keep some securities outstanding even when there is a budget surplus. In a similar study, Schinasi et al (2001) focuses on the huge budget surpluses during the Clinton era and the impact of the concurrent shrinking supply of Treasury securities on financial markets and Federal Reserve assets.

In a Joint Committee Report to the U.S. Congress, Saxton (2002) discusses the many benefits of Treasury securities to the U.S. and global economy. The report finds that during an economic expansion, Treasury securities enhance the efficiency of financial markets, and during a recession,

Treasury securities provide financial markets with a "unique, exogenous" source of liquidity that the private sector cannot provide. The report also cites Hong Kong and Singapore as examples of countries that decided to issue government securities, despite the fact that neither had any fiscal deficit, to increase the efficiency of domestic financial markets and to lower the borrowing costs for domestic firms.

In an intriguing study of securities trade in New York vis-à-vis London and Tokyo, Fleming (1997) found that compared with the overseas trading centers, trading volume and price volatility are highly concentrated in New York trading hours. The study also found that notwithstanding the lower liquidity in overseas locations, overseas price changes of Treasury securities are accurate predictors of overnight price changes in New York.

Among other studies, Roley (1981) uses a disaggregated structural model of the Treasury securities market to jointly estimate investors' demand for securities and the yield curve. The results suggest that depending on investors' wealth flows, Treasury securities can exhibit significant, but volatile effects on the yield curve. Bikhchandani and Huang (1993) discuss the implications of altering the auction mechanism in the market for Treasury securities. They examine the susceptibility of the existing auction mechanism to manipulation by buyers and analyze if modifying the auction format would generate greater revenues for the U.S. Treasury. Fleming (2000) analyzes the characteristics of the U.S. Treasury market and other factors that have positioned it as the most widely accepted financial benchmark in the world. The study also examines the market's recent performance, including yield changes relative to other fixed-income assets and changes in liquidity.

As mentioned previously, none of the studies cited above directly deal with the central theme of this paper – analyzing the significant determinants of supply of Treasury securities. Therefore, this paper fills a critical void in the literature.

**Model**

Consistent with the objective mentioned above, this paper focuses on the supply side of the market for U.S. Treasury securities. The market supply of these securities is an aggregate of the supplies originating from domestic and foreign investors as well as the U.S. Treasury. Domestic investors include individuals and financial institutions like commercial banks, mutual funds, pension funds, insurance companies, etc. Foreign investors include individuals, financial institutions and central banks. The market supply of Treasury securities should depend on the following factors:

1. *Federal budget balance:* The U.S. Treasury routinely sells securities in the market to finance deficit in the federal budget. Primary dealers who buy these securities from the Treasury offer these for sale in the secondary market. Therefore, the supply of Treasury securities is expected to depend negatively on the size of federal budget balance. An increase in federal budget deficit (or decrease in surplus) will increase the supply of Treasuries and vice versa.

2. *Exchange rate:* If the U.S. dollar appreciates against foreign currencies, local currency return on the U.S. securities for foreign investors would increase and this would encourage foreigners to sell Treasuries. A depreciation of the dollar is expected to have the opposite effect – with an increase in the value of local currency, they would be encouraged to buy more Treasury securities. Accordingly, we would expect to see a direct or positive relationship between exchange rate and supply of Treasury securities when the rate is defined as the value of one dollar in foreign currency. An increase in exchange rate would indicate appreciation of U.S. dollar and a decrease would show depreciation of dollar.

Foreign central banks also play an important role in the currency market, and intervene to maintain the value of their local currencies vis-à-vis U.S. dollar when it goes beyond a "tolerable" range and this has implications on the demand/supply of Treasury securities. When local currency appreciates (or dollar depreciates) beyond this range, the central bank would buy U.S. dollar with local currency and may invest the dollar holdings in U.S. Treasury securities; conversely, when the local currency depreciates (or dollar appreciates), they would sell Treasuries for dollars and then dollars for local currency hoping to push the value of their currency up. Therefore, from the foreign central banks' perspective, we expect to see a direct relationship between exchange rate and supply of T-securities, as argued above in connection with foreign investors' portfolio investment.

However, "expectations" about the future movement of exchange rate could affect the supply of Treasury securities in the *opposite* direction. For example, if depreciation of U.S. dollar (which would decrease the supply of securities as argued above) is expected to continue in the future, foreign investors may decide to sell their securities in the market sooner than later to avert future losses, which will increase the supply of securities. Therefore, we see two opposite forces affecting the supply of these securities, which makes the net effect of exchange rate change on the supply of Treasury securities indeterminate, at least theoretically.

3. *Returns on Treasury substitutes*: If returns on alternative investments (such as stocks or Eurodollar deposits) rise, investors may decide to sell Treasury securities and invest the proceeds in alternative investments. Likewise, if returns on alternative investments fall, investors should face diminished incentives to sell their securities. In that case, we expect a positive relationship between returns from alternative investments and the supply of securities

4. *Expected price of Treasury securities relative to comparable investments:* An increase in the expected (future) price of these securities relative to alternative investments would increase the future supply (and conversely, decrease the current supply) of these securities. Likewise, a decrease in the expected price would decrease the future supply (and increase the current supply) of these securities. Since yield data on Treasury securities are readily available than the price data, yield is used as a proxy of the price variable. Due to the inverse relationship between the price of a security and its yield, and the inverse relationship between expected price and current supply, we would expect to see a positive relationship between expected yield and current supply.

In order to estimate the effects of the aforementioned factors on the supply of Treasury securities, we formulate the following model.

$$TSUPPLY_t = \alpha_0 + \alpha_1 BUDGET_t + \alpha_2 EXRATE_t + \alpha_3 SUB_t + \alpha_4 EYLD_t + \varepsilon_t \qquad (1)$$

Where,
TSUPPLY = Supply of Treasury securities
BUDGET = Federal budget surplus/deficit (+/–)
EXRATE = Exchange rate defined as the price of one U.S. dollar in foreign currency
SUB = Returns from Treasury substitutes
EYLD = Expected yield of Treasury securities

Based on the discussions above, we expect the following signs for the coefficients.
$\alpha_1 < 0$, $\alpha_3 > 0$, $\alpha_4 > 0$ and $\alpha_2$ could be either positive or negative.

**Data, Methodology and Results**

Monthly data from 2000 to 2008[1] were used to estimate the parameters of the model. Daily average volume of transactions of U.S. Treasury securities, published by the U.S. Treasury (2010), was used to compute the dependent variable – monthly supply of Treasury securities (TSUPPLY). Monthly data on U.S. budget surplus/deficit (BUDGET) was collected from the Financial Management Service, U.S. Treasury (2010). Since data is not readily available for expected yield (EYLD), we used six-month moving average of actual yield as a proxy for expected yield for the next period. Three measures of yield on Treasury securities were used, namely, the yield on securities with remaining maturities of 6 months (YLD6M), 1 year (YLD1Y) and 5 years (YLD5Y). These yield data were collected from the Office of Domestic Finance, U.S. Treasury (2010). Two alternative measures of returns from Treasury substitutes (SUB) were used, namely, yield on 6-month Eurodollar deposits (EDYLD) and return on S&P 500 index (SNP). The data on Eurodollar deposit yield were collected from the Federal Reserve Bulletin (2010a) and the data on S&P were collected from Standard & Poor's (2010). The U.S. Dollar Index (Broad), published by the Federal Reserve Bulletin (2010b), was used to measure the dollar exchange rate (EXRATE).

Time-series studies since the mid-1980s have generally accepted the notion that a regression analysis is valid only if the data used are stationary, i.e. the variables are not subject to any stochastic or deterministic trend. Running ordinary regressions among a set of non-stationary variables may yield spurious results (Granger and Newbold, 1974). A high $R^2$ among a set of non-stationary variables may only reflect the presence of a common trend even though there is no meaningful economic relationship among them. If the variables in equation (1) above are non-stationary, the error term of the equation is also likely to be non-stationary. A non-stationary error term is inconsistent with the underlying assumptions of OLS. Particularly, if the residuals in the regression equation have stochastic trends, any error in period *t* never decays, so that the deviation from the model is permanent. Therefore, it is important to check for non-stationarity of the variables in question. If the variables turn out non-stationary, it is important to "detrend" these variables appropriately with cointegration methods.

Various unit root tests have been developed to test for non-stationarity, of which the most common test is the Augmented Dickey Fuller (ADF) test. The ADF test is based on the statistical significance of the lagged value of a variable, when the first difference of the variable is regressed on the lagged values of the variable itself and the lagged values of the first differences. Table 1 in the Appendix section shows the computed ADF test statistics for all variables, which suggest that BUDGET and EXRATE are *I(0)* (i.e. integrated of order zero) and the rest of the variables are *I(1)* (i.e. integrated of order one).

Several cointegration methods, such as the Engel-Granger (1987) procedure, Johansen's (1996) full information maximum likelihood procedure, Phillips-Hansen's (1990) fully modified OLS procedure, and the Bounds Testing (henceforth BT) procedure, developed by Pesaran et al (2001), have been proposed in the econometric literature for investigating long-run equilibrium relationships among time-series variables. The Engel-Granger, Johansen, and Phillips-Hansen procedures require that the variables included in the model are *I(1)*; however, the BT procedure is applicable irrespective of whether the underlying variables are either purely *I(0)* or purely *I(1)*. Another important advantage of the BT procedure is that estimation is possible even when the explanatory variables are endogenous[2].

Since the ADF test finds a mixed order of integration for variables included in this study, we apply the BT procedure to analyze the long-run and the short-run behavior of supply of Treasury securities. First, the existence of a long-run relationship has to be determined for valid estimation and

inference about the parameters of the models. If a long-run equilibrium relationship is found, we can follow the two-step strategy of the ARDL procedure to estimate the long-run and short-run coefficients on the basis of the selected ARDL models (Pesaran and Shin, 1999). The choice of the correct lag structure is crucial for the ARDL procedure. There are many information criteria (e.g. Akaike Information Criterion, Hannan-Quinn Criterion, Schwarz Bayesian Criterion, etc.) that can be used to determine the lag length. In this study, we rely on the more commonly used Akaike Information Criterion (AIC), which selects an ARDL (3,0,0,0,0) for all three models.

The *F statistic* and *Wald statistic* reported in Table 2 (the last two rows) indicate that there exists a long-run relationship among the specified variables and that the independent variables can be treated as the "long-run forcing" variables for Treasury supply. Given the existence of a long-run relationship, the next step is to use the ARDL approach to estimate the parameters of this relationship. This method has the additional advantage of yielding consistent estimates of the long-run coefficients that are asymptotically normal irrespective of the order of integration of the variables (Pesaran and Shin, 1999). The long-run coefficients based on ARDL (3,0,0,0,0) models are reported in Table 2. As can be seen from the results, except for expected yield of Treasury securities in all three models (i.e. EYLD6M, EYLD1Y and EYLD5Y), all other estimated coefficients are statistically significant with the *a priori* expected signs.

The negative coefficient of federal budget balance (BUDGET) confirms the hypothesis that budget surpluses reduce (and budget deficits increase) Treasury supply. This result explains the huge growth in the supply of Treasury securities throughout this decade, as the federal budget situation has continually deteriorated and the deficit has steadily widened. Exchange rates (EXRATE) exhibit a very strong and significant negative effect on Treasury supply. As explained previously, although a depreciation of U.S. dollar should decrease Treasury supply, however, foreign investors, fearful of a further slide in the exchange rate, may decide to sell their securities to the market sooner than later to avert future losses, which will increase the supply of securities. Between these two opposite forces, evidently (at least for this sample) the negative effect dominates the positive effect, and hence the model produces a negative coefficient. The positive coefficient of SNP, which is used as a proxy for returns from Treasury substitutes, confirms the hypothesis that if returns from alternative investments (such as stocks) rise, investors switch from Treasury securities to alternative investments[3]. Finally, the expected yield of Treasury securities in all three models (i.e. EYLD6M, EYLD1Y and EYLD5Y) is found to be statistically highly insignificant, which suggests that the expected yield of Treasury securities has no long-run effect on supply of Treasury securities. This may not be surprising since the most important supplier of these securities, the U.S. Treasury via primary dealers, does not base its supply decisions on yield. Also, many portfolio investors do not buy/sell these securities for yield, but for safety and liquidity.

Next, we turn to the dynamic short-run error correction models. The ECMs of Treasury supply based on ARDL (3,0,0,0,0) are reported in Table 3 for all three models. The results show that in the short run all estimated coefficients, except expected yields (EYLD6M, EYLD1Y and EYLDY), again turn out statistically significant with the *a priori* expected signs in all three models. The coefficient of BUDGET suggests that in the short run federal budget balance has almost a one-to-one relationship with Treasury supply, i.e. budget surplus reduces (and budget deficit increases) Treasury supply by almost an equal amount.

To understand the short-term adjustment process, we need to analyze the sign and the magnitude of the coefficient of the error correction term ($ECM_{t-1}$). If the value of this coefficient is between 0 and -1, the correction to Treasury supply (TSUPPLY) in period *t* is a fraction of the error in period *t-1*. In that case, the ECM tends to cause TSUPPLY to converge monotonically to its long-run equilibrium path in relation to changes in the exogenous "forcing variables". The error correction term ($ECM_{t-1}$)

turns out negative and highly significant in all three models. The coefficients (-0.56 in all three models) suggest that the dependent variable (ΔTSUPPLY) adjusts in the next period by 56% to correct departures from the equilibrium in the previous period. The statistical significance and the correct sign of the $ECM_{t-1}$ coefficients further confirm the presence of a long-run equilibrium relationship in all three models.

**Conclusion**

This study analyzed the supply of U.S. Treasury securities over the 2000-2008 period. Our findings are important since no such study has been done in the past on this issue and the results confirm some anecdotal beliefs about the largest and most widely held debt security in the world.

Using the bounds testing (BT) autoregressive distributed lag (ARDL) cointegration methodology, a long-run equilibrium and a short-run dynamic model were estimated. We found that there exists a long rum equilibrium relationship between the supply of U.S. Treasury securities and three independent variables, namely, the federal budget balance, exchange rate and the yield on substitute products, such as stocks. In other words, changes in one or more of the explanatory variables would lead to consequent changes in the supply of Treasury securities over time. The three variables, taken together, accounted for 59% of the variations of the supply of Treasury securities (from the adjusted $R^2$ values). The significance of the federal budget balance variable simply reaffirms the dominant position of the U.S. Treasury as a supplier of Treasury securities. In view of the global market for Treasury securities, the significance of the exchange rate variable is hardly surprising. Finally, like any product or service, the price or yield on a substitute product also affects its supply.

The results of the error correction model are more revealing. It shows whether and how quickly the relationship would readjust to the equilibrium once disturbed. The negative sign of the error correction term confirms that any over-reaction (or under-reaction) to the supply of Treasury securities will be corrected downward (upward) in the next period, thereby propelling the relationship back toward equilibrium. The coefficient of the budget balance variable is especially interesting – one dollar increase in budget balance would lead to an equivalent decrease in the supply of Treasury securities, *ceteris paribus*, which makes perfect sense.

**End Notes**

1. Although data are available for 2009-10, given the unusual impact of the current financial crisis on the Treasury securities market, it seemed appropriate to exclude data from this "unusual" period.
2. For a comprehensive description of this technique, see Pesaran et al (2001).
3. The models were also estimated with another proxy variable for return from Treasury substitutes - EDYLD (yield on 6-month Eurodollar deposits). The estimated results exhibited poor statistical properties and hence are not reported in the study.

**Appendix**

**Table 1: Testing for Unit Root – Augmented Dickey Fuller (ADF) Test**

| | Lags[a] | Intercept, Trend[b] | ADF Statistics |
|---|---|---|---|
| TSUPPLY | 2 | Intercept and trend | -1.97 |
| ΔTSUPPLY | 1 | None | -15.47** |
| BUDGET | 3 | None | -2.43** |
| EXRATE | 1 | Intercept and trend | -3.43* |
| ΔEXRATE | 1 | None | -6.72** |
| SNP | 1 | None | -1.43 |
| ΔSNP | 1 | None | -7.28** |
| EYLD6M | 2 | Intercept | -1.67 |
| ΔEYLD6M | 1 | None | -2.02** |
| EYLD1Y | 2 | Intercept | -1.67 |
| ΔEYLD1Y | 1 | None | -2.21** |
| EYLD5Y | 2 | Intercept | -1.61 |
| ΔEYLD5Y | 1 | None | -3.55** |

Notes: * significant at 10%; ** significant at 5%

[a] The optimum number of lags is selected by the Akaike Information Criterion (AIC). Lags selected by the Hannan-Quinn Criterion and Schwarz Bayesian Criterion yield similar results.

[b] Selection of intercept and trend are based on inspection of graphs for each variable at level and first difference.

**Table 2: Estimated Long Run Coefficients using the ARDL Approach**

| Dependent Variable: TSUPPLY | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| | Coefficient (t-stat) | Coefficient (t-stat) | Coefficient (t-stat) |
| Intercept | 5595.9 | 5575.7 | 5560.7 |
| BUDGET | -1.78 (-1.72)* | -1.80 (-1.74)* | -1.82 (-1.73)* |
| EXRATE | -35.67 (-3.75)** | -35.53 (-3.74)** | -35.50 (-3.85)** |
| SNP | 9.69 (2.29)** | 9.71 (2.29)** | 9.72 (2.29)** |
| EYLD6M | -2.74 (-0.07) | | |
| EYLD1Y | | -0.75 (-0.02) | |
| EYLD5Y | | | 2.41 (0.03) |
| F statistic | 4.01* | 3.97* | 3.93* |
| Wald statistic | 20.03* | 19.86* | 19.67* |

Notes: *significant at 10%; **significant at 5%

These ARDL (3,0,0,0,0) models pass the diagnostic tests for serial correlation, functional form, normality of residuals, and heteroscedasticity. The results are available from the authors.

**Table 3: Short-run Error Correction Model**
**Dependent Variable: ΔTSUPPLY**

| Independent Variables | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| | Coefficient (t-stat) | Coefficient (t-stat) | Coefficient (t-stat) |
| $\Delta TSUPPLY_{t-1}$ | -0.54 (-3.96)** | -0.54 (-4.00)** | -0.54 (-3.97)** |
| $\Delta TSUPPLY_{t-2}$ | -0.39 (-3.99)** | -0.39 (-4.01)** | -0.39 (-4.00)** |
| ΔBUDGET | -1.00 (-2.03)** | -1.01 (-2.04)** | -1.01 (-2.05)** |
| ΔEXRATE | -20.05 (-2.13)** | -19.88 (-2.13)** | -19.78 (-2.21)** |
| ΔSNP | 5.44 (2.49)** | 5.43 (2.48)** | 5.42 (2.46)** |
| ΔEYLD6M | -1.54 (-0.07) | | |
| ΔEYLD1Y | | -0.42 (-0.02) | |
| ΔEYLD5Y | | | 1.34 (0.03) |
| $ECM_{t-1}$ | -0.56 (-3.63)** | -0.56 (-3.64)** | -0.56 (-3.58)** |
| Adj $R^2$ | 0.59 | 0.59 | 0.59 |
| F Stat (p-value) | 21.18 (0.00)** | 21.17 (0.00)** | 21.17 (0.00)** |
| DW-statistic | 1.91 | 1.91 | 1.91 |

Notes: *significant at 10%; **significant at 5%

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# VALUE AT RISK & TRANSACTION EXPOSURE: AN INTER-TEMPORAL LEXICOGRAPHIC PERMUTATION OF A SIX-CURRENCY PORTFOLIO

**Kashi Khazeh**
**Perdue School of Business**
**Salisbury University**
**Salisbury, MD 21801**
**kxkhazeh@salisbury.edu**

**Fatollah Salimian**
**Perdue School of Business**
**Salisbury University**
**Salisbury, MD 21801**
**fxsalimian@salisbury.edu**

**Robert C. Winder**
**Department of Economics**
**Christopher Newport University**
**Newport News, VA 23606**
**rwinder@cnu.edu**

**Abstract**

Combinations of a six-Currency portfolio are studied for a two-year period to access the reliability of "value at risk" approach to measuring the transaction exposure. The values at risk for each currency and for every additional currency portfolio are estimated for each year. The outcomes for the different permutations for each year are compared, not only in alphabetical and reverse alphabetical order, but for the best case scenario as well, to weigh up the reliability of the value at risk methodology. Comparing the results of the two years, it is established that variability in both the standard deviations of the individual exchange rates and their covariance can result in notably diverse estimates of value at risk, even over daily time periods.

**Keywords:** Value at risk, transaction exposure

## Introduction and Overview

Prior to March of 1973 (the era of fixed exchange rate regime), exchanging currencies and the level of risk associated with the values of currencies were not of great concern. However, in today's integrated global economy (the era of floating exchanges rate system) the task of conducting global business is a challenging one. Notwithstanding the introduction of Euro in 1999, which eliminated a large number of foreign currencies to reduce exchange rate risk, however, still other different national currencies must be exchanged to conduct global business.

Multinational corporations (MNC's) conduct their task around the world. Importing raw materials and exporting the finished product globally is the norm. Additionally, they not only produce component parts in other countries, but they also engage in manufacturing and/or assembling the final product in several countries to be marketed around the world.

With the abandonment of gold as the backbone of U.S. dollar in early 1973, and the subsequent depreciation of the dollar, the high volatility of exchange rates in the foreign exchange market has become the norm. Twelve years after the dawn of flexible exchange rates, the level of daily foreign exchange transactions was around $.14 trillion a day. Ten years after that, the level of daily foreign exchange transactions was nearly $1 trillion a day. Six years into the new millennium, the level of foreign exchange transactions surpassed $2 trillion a day. On September 1, 2010 the WSJ reported that the level of daily foreign exchange transactions has reached/surpassed $4 trillion.

Notwithstanding the two key players, who contribute to these extraordinary transactions (i.e., the firms who engage in international trade by either importing or exporting, and those who participate in either direct and/or indirect foreign investment), the speculators play a significant part and it is they who are primarily responsible for both the extraordinary volume of trades and the volatility in the foreign exchange markets. In the end, it is the volatility in exchange rates that makes this market a very risky surrounding for the MNC's.

All things considered, MNC's face three types of exchange rate risk: 1) transaction; 2) economic; and 3) translation. It is the transaction risk (exposure) generally, that is of overriding magnitude. For that reason, MNC's employ varieties of hedging techniques to either reduce and/or eliminate their exposure to exchange rate risk. On the contrary, an unintended effect of hedging is that the potential benefits of not hedging are eliminated. Thus, MNC's must decide if hedging is warranted. If it is, then, of necessity, they must conclude which techniques to utilize!

In recent years, the Value-At-Risk (VAR) technique has become one the most accepted approaches to assessing transaction exposure. The VAR methodology can be engaged to appraise the maximum likely loss on the value of the MNC's net cash flows denominated in one or more foreign currencies for a given time period. The desired time period can vary from as short as 1-day (in this study) to as long as 1-week, 1-month or even longer. The estimates of the maximum loss can then be used to assess if hedging is desirable.

In most cases, the transaction risk (i.e., the maximum loss) associated with net cash flows denominated in one particular foreign currency depends on the standard deviation in the percentages change in the particular exchange rate, the desired confidence level and the level of the net cash flow itself. Based on standard portfolio theory, the transaction risk (i.e., the maximum loss) for a portfolio of currencies is a function of the proportions of the total portfolio in each currency, the standard deviations of the percentage changes in each exchange rate, the correlation coefficients of the percentage changes of the relevant exchange rates, the desired confidence level and the (dollar) values of the net cash flows. [In this analysis, the net cash flows for each portfolio of currencies are assumed to be evenly split between each currency.] In both cases, above, if the value of the exchange rate/s) is expected to change over the relevant time period, this change is included in the value at risk calculation.

More specifically, the maximum 1-day loss for an individual currency "i" or for a portfolio of currencies can be estimated using the following equation: $E(e_t) - (1.65 \text{ X } \sigma_{i \text{ or } p})$, where

1. The expected percentage change in the currency's value for the relevant period = $E(e_t)$

2. The Z-score corresponding to the desired confidence level used (i.e., 95%, 97.5%,…) in this case at 95% = 1.65
3. The standard deviation of the percentage change in the currency's or portfolio of currencies value over previous period = $\sigma_{i \text{ or } p}$

Overall, a portfolio of currencies whose values are highly unpredictable vis-à-vis the U.S. dollar (i.e., the standard deviations in percentages changes in the dollar exchange rates are high) will have a high level of transaction risk, ceteris paribus. Portfolios of currencies that have positive high correlation coefficients will also face more "value at risk," other things equal. By contrast, portfolios of currencies that have low (or even negative) correlation coefficients will have less value at risk due to internal (or natural) diversification effects.

This article employs an inter-temporal approach to the "value at risk" methodology to measure the transaction exposure for a hypothetical MNC transacting business in six specific foreign currencies (i.e., each vis-à-vis the U.S. dollar). The results provide potentially critical information informing the MNC's decision as to whether or not hedging is desirable. The six foreign currencies included in this analysis, obtained from the Federal Reserve Bank, are the Australian dollar, the Canadian dollar, the Swiss franc, the Euro, the British pound, and the Japanese yen (i.e., valued in U.S. dollars). The two time periods for the basis of this study are 2009 and 2010. Each time period includes in excess of two hundred fifty consecutive daily observations on the relevant spot exchange rates.

To explore the relative risks of particular combinations of currencies (i.e., in the MNC's "portfolio" of currencies), and, even more importantly, to explore the extent of risk reduction resulting from the inclusion of additional currencies (i.e., adding additional currencies to the portfolio of currencies), the MNC's VAR is calculated under a variety of permutations.

**Related Literature**

Linsmeier and Pearson [2000] provide an excellent overview of the advantages and disadvantages of the most popular approaches to estimating value at risk. Al Janabi [2006] provides an excellent primer on the delta normal method. The following articles provide good overviews of VAR methodology or empirical tests: Carrada-Bravo, Hosseini, and Fernandez [2006], Tardivo [2002], Angelidis and Degiannakis [2005], and Chong [2004]. The article by Kimball [2000] provides an excellent perspective as to why corporations may be prone to miscalculate risk. Platt [2007] provides an excellent discussion of the increased use of value at risk resulting from globalization.

While the value at risk methodology is widely employed, there are potential shortcomings. One of these shortcomings is the possibility that the assumption the variable (or variables) in question is normally distributed is incorrect. Articles that explore the implications of nonnormal distributions, including fat tails and how to employ VAR in these cases include Bekiros and Georgoutsos [2008], Novak, Dalla, and Giraitis [2007], Ferreira [2005], and Kaut, Vladimirou, Wallace, and Zenios [2007].

This article is an extension of the authors' previous work.

**Empirical Findings and Discussion**

Tables 1 A & B, below, indicates the correlation coefficients between the daily percentage changes in the six exchange rates for the two time periods (2009 & 2010) being evaluated.

Table 1 A (2009)

| Correlation Coefficients based on Daily Percentage Changes (2009) | | | | | | |
|---|---|---|---|---|---|---|
| | *AUD* | *CAD* | *CHF* | *EUR* | *GBP* | *JPY* |
| AUD | 1 | | | | | |
| CAD | 0.754764 | 1 | | | | |
| CHF | -0.4802 | -0.3991 | 1 | | | |
| EUR | 0.72936 | 0.62438 | -0.78948 | 1 | | |
| GBP | 0.684532 | 0.57051 | -0.52407 | 0.659748 | 1 | |
| JPY | -0.04619 | -0.00202 | -0.29735 | 0.265994 | 0.053747 | 1 |

Table 1 B (2010)

| Correlation Coefficients based on Daily Percentage Changes (2010) | | | | | | |
|---|---|---|---|---|---|---|
| | *AUD* | *CAD* | *CHF* | *EUR* | *GBP* | *JPY* |
| AUD | 1 | | | | | |
| CAD | 0.76886 | 1 | | | | |
| CHF | 0.448651 | 0.301716 | 1 | | | |
| EUR | 0.577114 | 0.452748 | 0.672857 | 1 | | |
| GBP | 0.490768 | 0.42724 | 0.427365 | 0.609701 | 1 | |
| JPY | -0.15926 | -0.29129 | 0.297107 | 0.104176 | -0.02155 | 1 |

Based on the correlation coefficients (above) and the standard deviations of the percentage changes (not shown), Tables 2 A & B (below) indicates the maximum one-day loss for multiple currency exposures (i.e., as a percent of the MNC's net cash flows denominated in these currencies) at the 95-percent confidence level. The foreign currencies (i.e., vis-à-vis the U.S. dollar) were added alphabetically (i.e., from A to Z) based on each currency's symbol: AUD (Australian Dollar), CAD (Canadian Dollar), CHF (Swiss Franc), EUR (Euro), GBP (British Pound), and JPY (Japanese Yen). Of course, these risk profiles can vary based on the order of entry. Accordingly, Tables 2 A & B also show (for both time periods), not only, the maximum one day loss when the currencies were added in the reverse order (i.e., from Z to A) but under the Best Case Scenario (optimum) as well.

Table 2 A (2009)

| Number of ER | One Day Loss A to Z | One Day Loss Z to A | One Day Loss BCS |
|---|---|---|---|
| 1 ER | -1.87189 | -1.350119761 | -1.264461988 |
| 2 ER | -1.56732 | -1.037934356 | -0.250171764 |
| 3 ER | -0.83170 | -1.013498718 | -0.437414652 |
| 4 ER | -0.89682 | -0.705287176 | -0.705287176 |
| 5 ER | -0.85364 | -0.702135869 | -0.702135869 |
| 6 ER | -0.74567 | -0.745669596 | -0.745669596 |

Table 2 B (2010)

| Number of ER | One Day Loss A to Z | One Day Loss Z to A | One Day Loss BCS |
|---|---|---|---|
| 1 ER | -1.49745 | -1.094775502 | -1.059627648 |
| 2 ER | -1.28183 | -0.729455668 | -0.729455668 |
| 3 ER | -1.05293 | -0.753197661 | -0.645025669 |
| 4 ER | -0.68555 | -0.576702011 | -0.537745366 |
| 5 ER | -0.61817 | -0.532765344 | -0.532765344 |
| 6 ER | -0.56330 | -0.56329862 | -0.56329862 |

In the comparison of the two years, note that under all three scenarios, value at risk is lower in 2010 compared to 2009. That is, for each scenario, value at risk both starts and ends at a lower level at 2010 compared to 2009.

As can be seen from Tables 2 A & B, the value at risk is reduced in most cases as the number of currencies in the portfolio expands. Of course, by the time each of the six currencies is included in the portfolio, the values at risk coincide regardless of the order of entry. One can also observe that in most cases, the reduction in risk that results from additional currencies diminishes as the number of currencies in the portfolio expands. In fact, under most scenarios, virtually all the benefits of diversification are achieved with the addition of the fourth currency.

Interestingly, when the currencies are entered in reverse alphabetical order (i.e., from Z to A, that is, beginning with the Japanese yen), the value at risk starts at a much lower level and tends to remain lower until all currencies are added. However, in the BCS, while value at risk starts at much lower level (compared to the other two scenarios), it remains lower all the way until the last currency has been added. The implication of this is clear: net cash flows denominated in Japanese yen created far less value at risk either individually, or when part of a portfolio, than the other currencies considered. While this elevated risk is reduced through diversification, its effect does not quickly or easily disappear.

The above computations in Table 2 A & B were made based on a moving 100-daily average of the standard deviations for each currency. This approach insures that the most recent information is used to determine the maximum likely loss. In addition, it is assumed in each case that the net cash flows denominated in the various currencies are equally weighted.

Figures 1 A and 1 B, below, are visual representations of the data contained in Tables 2 A & B. One can easily observe that the risk profiles associated with two different orders of entry as well as BCS differ significantly until the fourth currency is added. Specifically, by combining the currencies in the first order (i.e., from A to Z, beginning with the Australian dollar) the maximum one-week loss begins at a relatively high level and declines at a much faster rate for both years. By contrast, when the currencies are added to the portfolio in the reverse order (i.e., from Z to A, beginning with the Japanese yen), the maximum one-week loss begins at a relatively lower level but then declines with some fluctuations at a relatively modest rate. In the case of BCS, it is interesting to see that not only the order differs in each year, but it is below the other two scenarios. The 2009 optimal order would be EUR (Euro), CHF (Swiss Franc), JPY (Japanese Yen), GBP (British Pound), CAD (Canadian Dollar), and AUD (Australian Dollar). By contrast, the 2010 optimal order is GBP (British Pound), JPY (Japanese Yen), CAD (Canadian Dollar), EUR (Euro), CHF (Swiss Franc), and AUD (Australian Dollar).

Figure 1 A (2009)

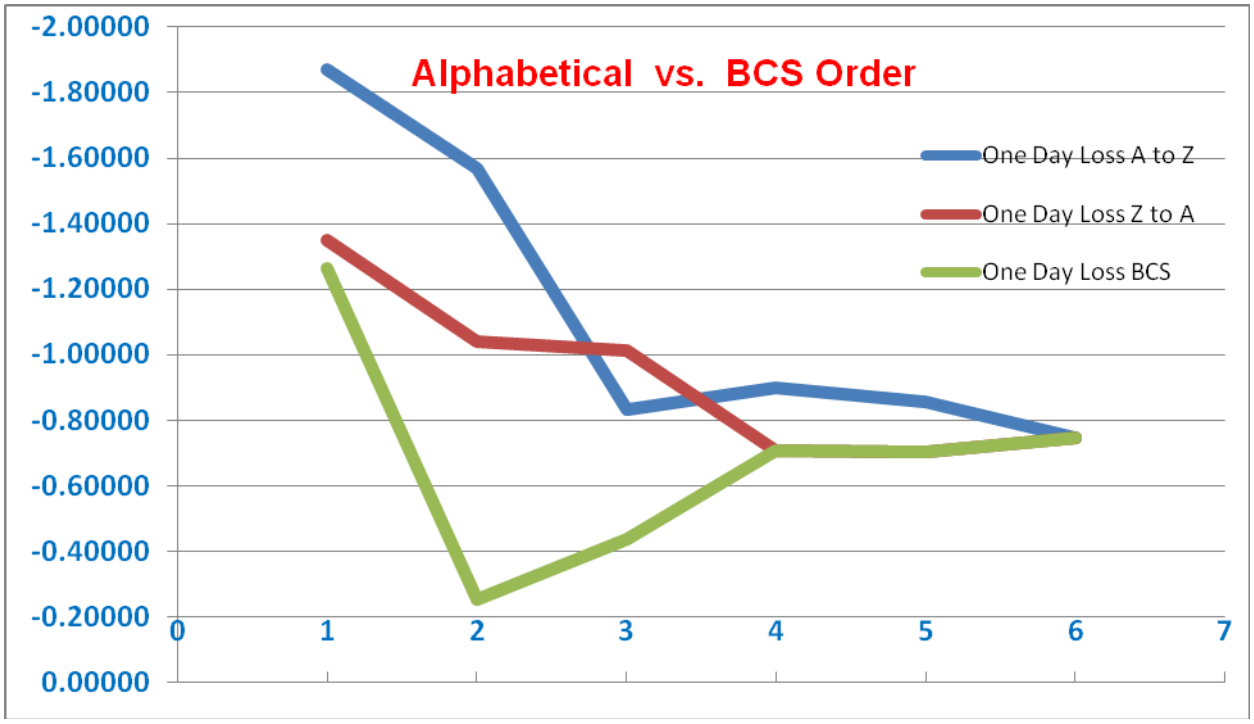
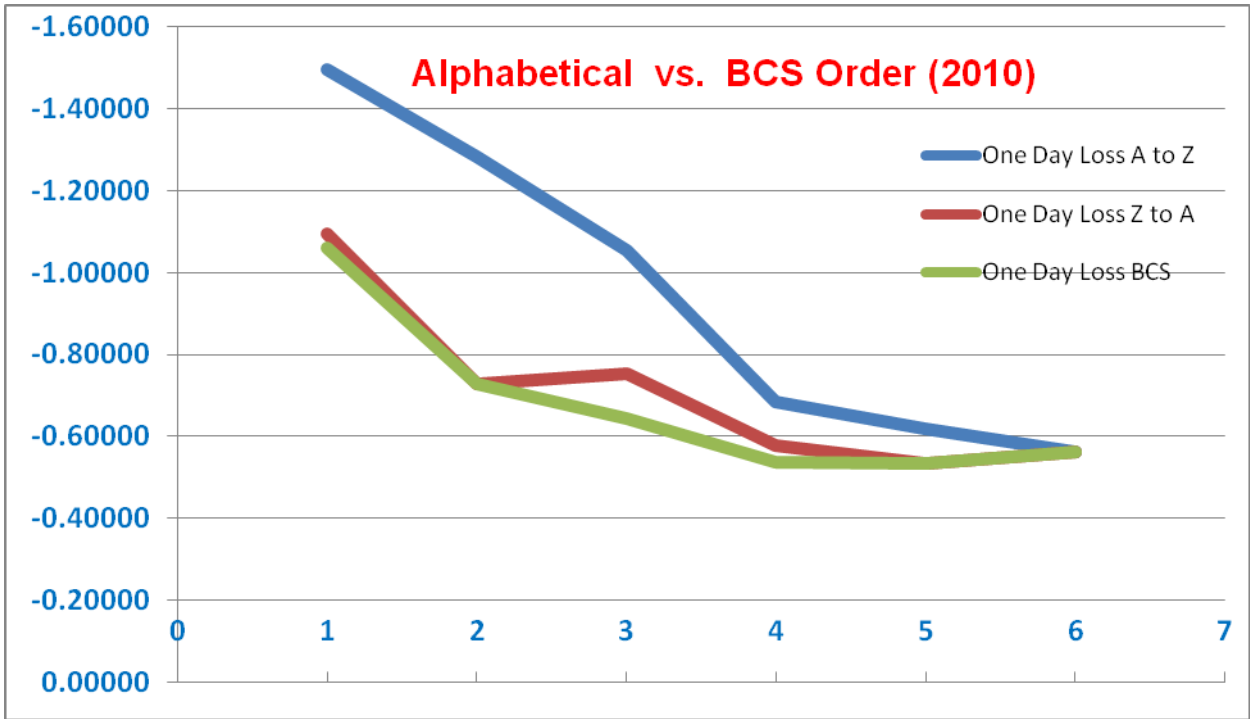


Figure 1 B (2010)




The results shown above reveal the key relationships that form the foundation of the value at risk calculations as well the relevant portfolio theory. It is clear that value at risk can change significantly year to year. In addition, the rate at which transaction exposure is mitigated as the number of currencies increases may depend on the particular combinations of currencies. In this particular study, the standard deviations in the percentage changes of the individual exchange rates, as well as the correlation coefficients between the percentage changes in the exchange rates, differed sufficiently to have a meaningful impact on the value at risk calculations.

**Future Research**

Future research could evaluate alternative time periods to assess the stability of the relationships over time. These future results could also provide key insight and guidance for MNC's in their decisions for managing transaction risk.

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# SOCIETAL AND ORGANIZATIONAL CULTURE ON ETHNOCENTRIC JAPANESE LEADERS

**Warren Kleinsmith**
**School of Business**
**Richard Stockton College of New Jersey**
**Galloway, NJ 08205**
**warren.kleinsmith@stockton.edu**

**Robert Kachur**
**School of Business**
**Richard Stockton College of New Jersey**
**Galloway, NJ 08205**
**robert.kachur@stockton.edu**

## Abstract

Senior Japanese business leaders within the U.S. consumer electronics industry were studied to understand the influence Western societal and organizational culture values impact their leadership approach. The focus was temporary ethnocentric cross-cultural staffing assignments. Utilizing a qualitative multi-case study design with phenomenological element, findings suggested a majority of these senior Japanese leaders experienced lifetime employment practices, indiscriminate career paths, mentoring, and job rotation. A majority exhibited an ethnocentric philosophy and the path-goal theory of leadership effectiveness.

**Keywords:** Leadership, Ethnocentric philosophy, path-goal theory

## Introduction

Sales of U.S. consumer electronic products are projected to reach $165 billion in 2011 (Smith, 2011) and Japanese subsidiaries operating in the U.S. continue to play a major role in the industry's evolution. At the same time, globalization of Japanese consumer electronics companies places senior Japanese executives into temporary cross-cultural leadership roles within U.S. subsidiary operations. The need to understand cultural and cross-cultural influences on leadership has never been more important (House, Javidan, & Dorfman, 2001; Rao, Hashimoto, & Rao, 1997). While the United States has been the principal source of leadership theory, American solutions to leadership problems do not always work in other nations or with other cultures (Rao et al.; Trompenaars, 1998). Triandas (2004) noted most of the literature on leadership is from a North American perspective, implying these findings are universal truths rather than culturally influenced.

Cultural understanding is part of the leadership context and it should serve as a frame of reference when drawing conclusions about leadership (House & Javidan, 2004). Cross-cultural research confirms that culture influences leadership style (Hofstede, 1980; House, 2004; Jung & Avolio, 1999; Kets De Vries & Florent-Trency, 2002; Trompenaars, 1998) and the expectations of those who assess their effectiveness (Hofstede, 1980; House, 2004).

The interpretation of its respective members provides a solid foundation for the study of a culture (Segall, Lonner, & Berry, 1998) and for understanding its behavior, policies, and practices through shared values. Smith (1997) declared understanding local variations in the cultural concepts as necessary to avoid imposed *etic* (universal) findings based on invalid measures. The interaction of societal culture and organizational culture is essential to understanding implicit leadership attributes, behaviors and underlying values, and their corresponding impact on leadership practices (House, 2004). Numerous cross-cultural studies have examined leadership practices using a dimensional framework from a societal or organizational cultural perspective. This study integrated the societal, organizational, and cross-cultural lenses within the confines of the U.S. consumer electronics industry at a senior Japanese leadership level.

**Background**

According to Ouchi (1981), the seven distinctive cultural characteristics of Japanese organizations are slow employee promotion and evaluation processes, indiscriminate career paths, implicit control mechanisms, collective decision-making, collective responsibility, lifetime employment, and holistic concerns, which filter down to employee non-work, family, and personal matters. Ouchi (1984) posited integrated planning at the societal level was responsible for Japanese industrial success, specifically through harmonious relationships among financial institutions, industrial organizations, labor, and government.

In response to the success of Japanese companies in world markets, researchers have actively studied and compared Japanese leadership systems and styles (Clayton, 1992). Clayton observed the difficulty of Western researchers in grasping the essential cultural aspects of Japanese leadership; such difficulty appears in the variety of views, descriptions, and prescriptions found in Western literature.

Leadership expectations, what actions leaders may or may not take, and the status and influence bestowed on leaders vary considerably as a result of cultural forces in the societies in which they lead (House, 2004). The essential features of Japanese leadership theory include a strong emphasis on participation supported by consensus, with a corresponding emphasis on collective responsibility and a long-term focus (Clayton, 1992; Hofstede, 1980; House & Javidan, 2004).

Many U.S. subsidiaries of leading Japanese consumer electronics companies currently use ethnocentric cross-cultural leadership assignments (Rao et al., 1997). Ethnocentric leadership supports the use of existing Japanese leadership attributes and behavior, regardless of cross-cultural norms (Heenan & Perlmutter, 1979; Perlmutter, 2001). These temporary U.S. assignments include 3- to 5-year terms in senior leadership roles, in support of U.S. business operations. During temporary ethnocentric assignments, Japanese leaders experience frequent interaction with U.S. leaders supporting their own implicit assumptions and beliefs. Without cultural awareness and understanding of implicit leadership assumptions and beliefs, cross-cultural interaction can have a negative impact on individual performance, problem solving, decision-making, and management practices within the U.S. subsidiary environment (House, 2004).

**Purpose**

House (2004) suggested knowing what leadership practices are effective or ineffective and understanding explicit differences between the two cultures—yours and the other—is likely to facilitate a more efficient and effective business environment. The results of this study provide organizational leaders with additional knowledge and understanding of how Western societal and organizational cultural values influence senior Japanese leadership practices in a temporary ethnocentric cross-cultural staffing assignment within the U.S. consumer electronics industry. Such knowledge and understanding may serve as the foundation for cultural and cross-cultural training and development. These materials may better prepare expatriate personnel for temporary assignments and help Western environments to better understand and support such a cross-cultural experience.

Through the application of a multi-case study qualitative research design (Stake, 1994) with a phenomenology element (Moustakas, 1994), this research study provides a foundation to explore the individual experiences of senior Japanese leaders to understand how Western societal and organizational culture influences their approach to leadership in a temporary ethnocentric cross-cultural staffing assignment within the U.S. consumer electronics industry. Specific elements included what cultural values influence senior Japanese leadership practices as well as how Japanese and Western cultural values and leadership practices differ. The goal of this research study was to identify which Western societal and organizational cultural values influenced senior Japanese leadership practices and how Japanese and Western cultural values and leadership practices differed in a temporary ethnocentric cross-cultural staffing assignment within the U.S. consumer electronics industry.

**Theoretical and Conceptual Framework**

The conceptual framework (see Figure 1 in Appendix) depicts the unique societal and organizational cultural dimensions, attributes, and beliefs existing within Japanese and U.S. business environments to create culturally specific leadership behaviors and styles. In a Japanese ethnocentric staffing environment, U.S. and Japanese cultural dimensions integrate, uncovering comparability and determining leadership characteristics within the consumer electronics industry. The corresponding cross-cultural environment influences cross-cultural leadership through cultural congruence, cultural difference, and near-universal theory. The design of the case study helped to explore the individual experiences of senior Japanese leaders to understand how Western societal and organizational culture influenced their approach to leadership in a temporary ethnocentric cross-cultural staffing assignment within the U.S. consumer electronics industry. The goal of the study was to identify what Western societal and organizational cultural values influenced senior Japanese leadership practices and how Japanese and Western cultural values and leadership practices differed in a temporary ethnocentric cross-cultural staffing assignment within the U.S. consumer electronics industry.

**Nature of Study**

The qualitative multiple-case study approach (Stake, 1994) with a phenomenology element (Moustakas, 1994) used documentation, participant as observer (Atkinson & Hammersley, 1994),

and semi-structured face-to-face interviews (Appendix A) to explore the individual experiences of senior Japanese leaders to understand how Western societal and organizational culture influenced their approach to leadership in a temporary ethnocentric cross-cultural staffing assignment within the U.S. consumer electronics industry. Interview participants supporting participant as observer (Atkinson & Hammersley, 1994) were from five supporting U.S. consumer electronics companies.

Eight defining categories provided groups for the semi-structured interview questions (Appendix A): Demographic Profile; Role-Based Profile; Leadership; Cross-Cultural Leadership; Ethnocentric Leadership; Societal Culture; Organizational Culture, and U.S. Cultural Background and Guidance. All participants were senior Japanese leaders in temporary ethnocentric staffing assignments within the U.S. consumer electronics industry.

**Data Collection Procedures**

All 32 potential participants received informed consent letters via the U.S. postal service and/or personal company e-mail. Twelve participants who met the selection criteria agreed to participate in the study. The approximate interview length ranged from 35 minutes to 1 hour and 12 minutes.

Upon completion of the interview transcription, each participant received a copy to review for accuracy. Suggestions to the participants requested notice of any corrections or modifications to ensure the information was accurate. All 12 of the participants acknowledged receipt of their transcripts (Appendix C). Eight of the participants accepted the original transcript with no changes. Three of the participants (P3, P7, and P12) made minor changes to their transcript. One of the participants (P5) made significant changes to several of the interview questions. Three of the 12 senior Japanese leaders (P7, P10, and P11) have since completed their temporary U.S. assignments and returned to Japan.

The semi-structured interview research took place between September 9, 2009, and January 12, 2010. This study generated 12 participants, including 4 presidents, 6 vice–presidents, and 2 directors. Study participants included 11 males and 1 female (P5), with the temporary assignments ranging from 14 months to 10 years.

**Findings**

**Demographic Profile**

Questions 1a, 1b, 1c: Japanese leader tenure, assignments, and previous employers. The demographic profile questions provided support for lifetime employment practices and indiscriminate career paths (Ouchi, 1981), mentoring and job rotation (Pascale & Athos, 1981), with limited cross-cultural experience outside of the U.S. Ouchi (1981) acknowledged indiscriminate career paths as a distinct Japanese organizational characteristic, while Pascale and Athos (1981) indicated the common practice of mentoring and job rotation are distinct Japanese leadership qualities. Support for lifetime employment applied only to study participants' with 18 or more years of continuous service with their current Japanese employer. These findings support the premise of a cultural shift away from this distinctive Japanese organizational characteristic.

**Role-Based Profile**

Question 2a, 2b: Describe and discuss role changes. The role-based questions consistently revealed discussions of a two-dimensional assignment. The first dimension included frequent communication and interaction with Japan, while the second generally outlined a highly task- or performance-oriented focus in support of current U.S. duties, with any discussion of changes relating directly to changing job responsibilities and/or changing business conditions. The nature and structure of this two-dimensional role reflected a Japanese ethnocentric philosophy through control of key U.S. product, pricing, or functional decisions (Perlmutter, 2001).

In addition to a two-dimensional approach in support of an ethnocentric philosophy, participants emphasized a task- or performance-oriented approach to their daily activities, supporting the path-goal theory of leadership effectiveness. Path-goal leadership theory espouses improved employee performance and employee satisfaction by concentrating on employee motivation (House & Mitchell, 1974). Path-goal theory focuses on subordinate motivation to explain leadership effectiveness (Yukl, 1989). However, some hold conflicting cultural perspectives regarding the concept of motivation.

Western theories on motivation developed within the U.S. focus on individual efforts based on personal needs supported by rational calculations and experienced psychological states. Japanese theories on motivation focus on the collective, and the needs to fulfill duties and obligations and to contribute to the group, while cultivating a unique leader-follower exchange relationship based on unconditional dependence and obligation. These findings suggest successfully implementing the path-goal theory of leadership effectiveness in a temporary cross-cultural environment requires senior Japanese leaders to adjust their motivational practices. Motivation should focus on individual efforts designed around personal needs, supported by rational calculations and psychological states (Gelfand et al., 2004).

**Cross Cultural Leadership**

Questions 4a, 4b, 4c, 4d, 4f: Discuss current duties and responsibilities, skills and challenges and a successful U.S. leader. When comparing responses across the defining cultural dimensions of leadership and cross-cultural leadership, the Japanese leaders did not consider motivation and harmony or cooperation and groupism as skills. However, 83% of participants identified these aspects as important skills in the U.S. These findings support implicit leadership theory, suggesting individuals have implicit beliefs, convictions, and assumptions concerning attributes and behaviors that distinguish effective leaders from ineffective leaders across different cultural environments (House & Javidan, 2004). These findings reinforce the cultural foundation of these aspects, minimizing the need for leaders to cultivate these skills. For example, motivation, harmony, cooperation, and groupism are cultural norms in a collectivist culture, such as that of Japan. The cultural norms create these aspects naturally, minimizing the need for leaders to possess the skills individually.

When considering challenges across the leadership and cross-cultural dimensions; all leaders identified communication, motivation, and negotiation, supporting a variform universal (Lonner,

1980). The Japanese leaders also considered execution speed, time management, and assignment knowledge, compared to just individualism in the United States.

Finally, the U.S. leadership profile did not include negotiation, hard work and dedication, leading by example, or any education, training or mentoring characteristics. This compared to the Japanese leadership profile, which failed to include engagement and a strong personality, characteristics used to describe an ideal U.S. leader. These findings support integrated theory, while further reinforcing the Japanese leadership practices and recognizing that attributes and entities distinguishing a specific culture are prophetic of leader attributes and behaviors most often enacted and effective in that culture (House & Javidan, 2004).

A majority of senior Japanese leaders participating in temporary cross-cultural assignments experience lifetime employment practices, indiscriminate career paths (Ouchi, 1981), mentoring, and job rotation (Pascale & Athos, 1981). An ethnocentric philosophy (Perlmutter, 2001), and House's (1971) path-goal theory of leadership effectiveness support a majority of senior Japanese leaders participating in temporary cross-cultural assignments within the U.S. consumer electronics industry.

Through the concepts of implicit leadership theory, value-belief theory, integrated theory, and variform universals study findings identified to be effective in their temporary cross-cultural U.S. assignments, senior Japanese leaders had to develop, communicate, and gain support for their mutual goals. Senior Japanese leaders also had to accept opposing viewpoints and operate effectively within the decentralized, autonomous, and specialized structure of Western cultural environments. This required senior Japanese leaders to make adjustments to their communication, motivation and negotiation practices.

Across the defining categories of leadership, cross-cultural leadership, and ethnocentric leadership, two recurring cultural themes emerged from the data collected from the 12 senior Japanese leaders participating in the study. The recurring themes focused on effective leadership in a cross-cultural environment, and designated the adjustments senior Japanese leaders had to make (see Figure 2 in Appendix).

**Theme 1: Effective leadership in a cross-cultural environment.** To be effective, senior Japanese leaders participating in a temporary ethnocentric cross-cultural assignment in the U.S. consumer electronics industry focused on developing, communicating, and gaining support for their mutual goals; accepting opposing viewpoints; and operating effectively within the decentralized autonomous and specialized structure of Western organizational environments. When discussing skills, challenges, and successful leadership in Japan, senior Japanese leaders consistently identified cultural norms emphasizing harmony, cooperation, groupism, and consensus. This compared to temporary U.S. cross-cultural environments where such collective traits are not natural processes, nor are they embedded in cultural norms. The findings suggested senior Japanese leaders had to individually develop, communicate, and gain support for their mutual goals to be effective in their temporary cross-cultural assignments.

In addition to cultivating mutual goals, senior Japanese leaders emphasized the importance of accepting opposing values and views in their assignments. When discussing skills, challenges, and successful leadership in a Japanese cultural environment, senior Japanese leaders consistently referenced practices of collectivism and Nemawashi. These Japanese leadership practices produce individuals who are interdependent and advance duties, obligations, and values as aligned with group membership. Participants reported a strong focus on group identity, where group members are responsible for individual members through implicit control mechanisms (Ouchi, 1984). Individuals are willing to subjugate their personal wants, desires, and values for the greater good of the group or collective.

At the organizational level, individuals are highly interdependent within the organization, and the organization becomes a part of the individuals' own self-identity and values. Japanese employees are willing to make personal sacrifices of their individual values, goals, and desires to fulfill organizational obligations. When discussing cross-cultural leadership challenges, senior Japanese leaders emphasized individualism as the primary focus, supporting the practice of diverse values and beliefs. The findings suggested senior Japanese leaders had to accept conflicting values and beliefs to be effective in their temporary cross-cultural assignments.

In addition to mutual goals and accepting opposing values and beliefs, senior Japanese leaders emphasized the importance of operating effectively within the decentralized autonomous and specialized structure of Western organizational environments. In a Japanese cultural environment, a centralized focus in addition to cultural norms supporting harmony, cooperation, groupism, consensus, and a generalist orientation allowed for smooth coordination and operation across departments. This compared to their temporary cross-cultural assignment, which emphasized a decentralized focus in conjunction with individualism and a preference for specialists supporting autonomous organizational units. The findings suggested senior Japanese leaders had to effectively coordinate work tasks across decentralized autonomous departments to be effective in their temporary assignments.

When considering challenges across the leadership, cross-cultural, and ethnocentric dimensions, universally identified elements included communication, motivation, and negotiation. While supporting a variform universal (Lonner, 1980), the elements have different cultural meanings based on cultural specific behaviors. House et al. (1997) and Smith (1997) supported the need for senior Japanese leaders in temporary cross-cultural assignments to make adjustments to their communication, motivation, and negotiation practices.

**Theme 2: Adjustments the leaders made.** The first adjustment senior Japanese leaders had to make while participating in temporary ethnocentric cross-cultural assignments was recognizing traditional Japanese communication practices supporting ambiguity, silence, implicit communication and nemawashi would not be effective in a temporary U.S. cross-cultural environment. Instead, Japanese leaders had to adjust to a straightforward, clear, and direct communication style.

Implementing such a clear and direct communication style was necessary to support cross-cultural and ethnocentric practices designed around a low-context structure. In such a structure, verbal dialog contains most of the information, with very little embedded in the setting or the participants

involved (Davies & Ikeno, 2002). This contrasted with Japanese communication practices designed around group harmony, group consciousness, group cooperation, and group social structure, supporting a high-context language structure. In this structure, a vast majority of the communication content lies outside of the spoken work and within the actual setting or the people involved in the interaction (Davies & Ikeno, 2002).

Senior Japanese leaders in a temporary cross-cultural assignment were not accustomed to Western negotiation practices, which allow both sides to present conflicting interests and ideas before reaching a conclusion. The goal of the Japanese cultural practices of nemawashi or laying the groundwork inconspicuously in advance is to reach a compromise solution as amicably as possible by communicating in advance how others think. Nemawashi or decision by consensus is common in Japanese business circles, compared with decision by majority, which dominates Western culture (Davies & Ikeno, 2002). In addition to communication and negotiation practices, senior Japanese leaders also adjust their motivational practices.

Japanese motivational practices address dependency, loyalty, and the need to fulfill duties and obligations in support of the group or collective. To be effective in this temporary cross-cultural environment, senior Japanese leaders had to focus on individual interests and needs for understanding goal-directed behavior. Motivational practices in the U.S. tend to focus on individual efforts designed around personal needs, supported by rational calculations and experienced psychological states (Gelfand et al., 2004). Collectively, Japanese communication, motivation, and negotiation practices emphasize dedication, consensus, and harmony, compared with Western practices that emphasize assertiveness and individualism (Davies & Ikeno, 2002; Gelfand et al., 2004).

The Western cultural value of assertiveness means the degree to which individuals in organizations are forceful, tough, dominant, and aggressive in social relationships. Assertiveness uses the individual performance-oriented view of dominance, taking charge and actively controlling the environment. This view reflects the assumption that the environment can be manipulated and controlled, supporting a pragmatic orientation toward reality and a belief in human perfectibility (Den Hartog, 2004). Assertiveness reflects an internal orientation or belief in one's self, supporting an internal locus of control. Den Hartog suggested assertiveness supports competition and competitiveness and considers conflict and resistance as positive signs of passion and conviction.

The cultural values of individualism reflect shared assumptions for systems to promote individual autonomy and rational exchanges between members in the organization. Selection originates in a rational calculation of the employees' knowledge, skills, and ability, explaining how they fit within the organization's needs. Compensation uses an inequity model, where individuals receive rewards based on performance, and where promotions arise more often from merit than from other factors such as seniority, tenure, age, or personal connections. Individualism supports rewards contingent on performance (Gelfand et al., 2004).

**Conclusion**

Lifetime employment practices, indiscriminate career paths (Ouchi, 1981), mentoring, and job rotation (Pascale & Athos, 1981) still characterize a majority of senior Japanese leaders participating in temporary cross-cultural assignments. An ethnocentric philosophy (Perlmutter, 2001) and House's (1971) path-goal theory of leadership effectiveness support a majority of senior Japanese leaders participating in temporary cross-cultural assignments within the U.S. consumer electronics industry.

Through the concepts of implicit leadership theory, value-belief theory, integrated theory, and variform universals, study findings indicated senior Japanese leaders had to develop, communicate, and gain support for their mutual goals to be effective in their temporary cross-cultural U.S. assignments. Senior Japanese leaders also had to accept opposing viewpoints and effectively operate across the decentralized, autonomous, and specialized structure of Western cultural environments. This required senior Japanese leaders to make adjustments to their communication, motivation, and negotiation practices. The corresponding adjustments supported the Western cultural values of assertiveness and individualism.

Study findings recommended cross-cultural training and development begin with an understating of the unique Western communication, motivation, and negotiation practices. The findings expanded to discuss how the Western cultural values of individualism and assertiveness influence Japanese leadership practices, which support groupism, development of a generalist, creating a sense of belonging and loyalty, and participation supported by consensus. Such knowledge and understanding will better prepare expatriate personnel for temporary assignments and help Western environments to better understand and support such a cross-cultural experience.

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**APPENDIX A. SEMI-STRUCTURED INTERVIEW PROTOCOL**

1. Demographic questions
    a. How many years have you been working for XXX Company?
        i. Is XXX Company the only company you have ever worked for?
    b. What were your previous assignments at XXX Company?
        i. Were any of these previous assignments outside of Japan? If so, in what country(s)?
    c. How long have you been working in your current U.S. assignment?
2. Role-based questions
    a. Describe your normal day in this current U.S. assignment.
    b. How has your normal day changed since starting your new assignment in the U.S.?
3. Leadership
    a. What skills were important in your previous assignment?
    b. What were your greatest challenges in your previous assignment?
    c. How did you manage these challenges?
    d. How did these challenges make you feel?
    e. Describe a successful leader in Japan.
    f. Describe a successful leader-follower relationship in Japan.

4. Cross-cultural leadership
    a. What are your current U.S. duties and responsibilities?
    b. What skills are important in this U. S. assignment?
    c. What challenges have you faced in this U.S. assignment?
    d. How did you deal with these challenges?
    e. What effect do these challenges have on your assignment?
    f. Describe an ideal U.S. leader.

5. Working with U.S. management in an ethnocentric leadership role
   a. What challenges do you experience when interacting with U.S. management?
   b. Have these challenges led to changes in how you work with U.S. management?
   c. Do you feel accepted by U.S. management?
   d. Do you feel successful in your current assignment?
6. Societal cultural
   a. What influence does corporate Japanese leadership have on the U.S. operation?
   b. What influence does corporate Japanese leadership have on your current assignment?
   c. Is this influence different from previous assignments, and if so, in what ways?
7. Organizational culture
   a. Please describe in detail the process used for making critical decisions and determining employee promotions at XXX Company in Japan.
   b. What were the most important organizational values at XXX Company in Japan?
   c. Please describe in detail the process used for making critical decisions and determining employee promotions at your current U.S. assignment.
   d. What are the most important organizational values at your current U.S. assignment?
   e. What do you see as the key differences between the organizational culture at both companies?
8. U.S. cultural background and guidance
   a. Before accepting this new assignment, what prior knowledge of U.S. culture and U.S. business practices did you have?
   b. What advice would you have for your replacement?
9. Closing questions
   a. Are there any other questions I should ask you to understand your current assignment?
   b. Is there anything else you would like to discuss about the differences in managing and leading both here and in Japan?

**Appendix C. Demographic Summary**

| Participant | U.S. Position | Years with Japanese Company | One Employer | Assignments outside of Japan and U.S. | Previous U.S. Assignment | Diverse Background | Months in Current Temporary Assignment |
|---|---|---|---|---|---|---|---|
| P1 | President | 35 | Yes | No | Yes | Yes | 24 |
| P2 | VP | 25 | Yes | No | No | Yes | 26 |
| P3 | VP | 21 | Yes | Yes | No | No | 120 |
| P4 | President | 14 | No | No | Yes | Yes | 48 |
| P5 | Director | 5 | No | No | No | Yes | 14 |
| P6 | President | 15 | No | No | No | Yes | 24 |
| P7 | VP | 30 | Yes | No | No | Yes | 31 |
| P8 | VP | 28 | Yes | No | No | Yes | 18 |
| P9 | VP | 32 | Yes | Yes | No | Yes | 42 |
| P10 | VP | 25 | Yes | No | Yes | Yes | 34 |
| P11 | Director | 18 | Yes | No | Yes | No | 21 |
| P12 | President | 42 | Yes | No | No | Yes | 29 |
| Total | | 290.0 | | | | | 431 |
| *M* | | 24.2 | | | | | 35.9 |

Figure 1
*Conceptual Framework*

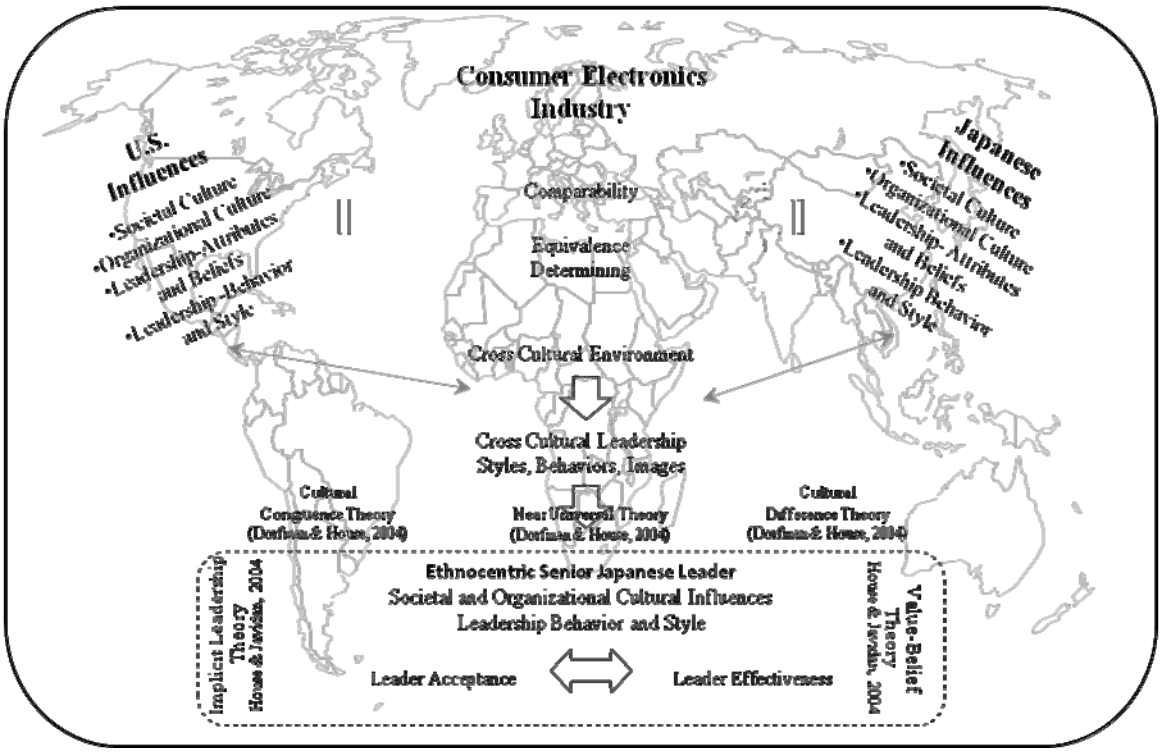


Figure 2
*Japanese senior leader adjustment*

| | Theme 2. Leader Adjustments | | | Theme 1. Effective Leadership |
|---|---|---|---|---|
| Practices | Japanese Environment | | U.S. Environment | |
| Communication | High-Context Structure | | Low-Context Structure | |
| | Ambiguity, Silence, Implicit Communication Harmony, cooperation, and groupism | ⇨ | Straightforward, clear and direct communication | Mutual Goals |
| Negotiation | Nemawashi | | Assertiveness | |
| | Compromise Consensus/Harmony | ⇨ | Present conflicting interests and ideas | Conflicting Viewpoints |
| Motivation | Collectivism | | Individualism | |
| | Dependency, Loyalty Obligation in support of group or collective External locus of control | ⇨ | Responding to personal needs. Internal locus of control | Western Organizational Structure |

# BEGINNING BLUEPRINT: ELECTRONIC EXHIBITS FOR A TEACHER EDUCATION ACCREDITATION COUNCIL ACADEMIC AUDIT

**Glenn L. Koonce, Joan J. Hoskins, and Katie D. Goldman**
**School of Education**
**Regent University**
**Virginia Beach, Virginia 23464**
**glenkoo@regent.edu, joanjoh@regent.edu, kgoldman@regent.edu**

**Abstract**

This study illustrates the development, usability, and advantages of an Electronic Exhibit for the Teacher Education Accreditation Council (TEAC) Academic Audit from the perspective of program education faculty. The examination of the successful utilization of electronic exhibits for teacher licensure and educational leadership program Inquiry Briefs provided a post-audit opportunity for process reflection and refinement. Inquiry Brief components, program claims, and TEAC standards provide critical elements for the design and organization of the Electronic Exhibit room. Technology was effectively used to demonstrate the overall quality of programs and create a system for sharing the story of one school of education. Conclusions include Electronic Exhibit room advantages and disadvantages for faculty and program improvement. This article summarizes the Academic Audit at Regent's School of Education and suggests recommendations for exhibit development and presentation of electronic evidence for accreditation.

**Keywords:** Electronic exhibit, Accreditation, TEAC, Higher education, Academic audit

## Introduction

At the prompting from the U.S. Department of Education and state department of education, national accreditation of education preparation programs have placed a greater emphasis on accountability and assessment. The demands of the current accreditation process for faculty and staff can be overwhelming. Overwhelming for faculty due in part to shrinking resources, dual faculty roles of professor and assessment manager, and the pressures associated with collaboration across multiple offices to organize the large volume of evidence in alignment with program claims, state regulations, and Teacher Education Accreditation Council (TEAC) principles. As a final task of the accreditation process, program faculty must determine the best system to present or exhibit program data and artifacts that will prove to be easily accessible and meaningful during the onsite TEAC Academic Audit.

This article illustrates the development, usability, and advantages of an Electronic Exhibit for the TEAC Academic Audit from the perspective of education faculty. These findings address the authors' driving questions of how the Electronic Exhibit was developed and it's usability in the TEAC Academic Audit process. The study demonstrates that the Electronic Exhibit can be used as an effective tool to address the process for joint reviews and achieve accreditation for a medium sized, Southeastern, private Christian school of education (Regent University). A review of the TEAC Inquiry Brief, program claims, evidence for claims, and Academic Audit procedures are described, followed by a

discussion of the Electronic Exhibits and an overview of the Academic Audit preparation phase. This paper concludes with recommendations for improvement to the TEAC Academic Audit process and development of the Electronic Exhibit web site. The authors believe the current study will aid education faculty and administrators in the preparation process for the Academic Audit and development of Electronic Exhibits.

**Background**

The documentation and collection of program evidence in support of program claims and TEAC principles should be an ongoing process that may intensify in the months leading to the culminating Academic Audit. As is the case with most institutions attempting initial accreditation, this process may seem more like a rush for the finish line. Zimmerly and Salzman (2001) describe the experience as a potential alarm clock reminding the faculty of their responsibility to demonstrate and document quality teacher education and its outcomes. The majority of literature surrounding preparation for the Academic Audit and teacher preparation program accreditation are the by-products of institutional experiences with the older of the two national educational accreditation organizations, the National Council for the Accreditation of Teacher Education (NCATE). There is limited research surrounding the use of electronic exhibit rooms in support of the general processes of the TEAC Academic Audit. The authors did find literature describing several models of the integration of technology in education, as well as, tools for the support of NCATE accreditation processes and or web sites (Frank, 2008; Maxim, 2004; Zimmerly & Salzman, 2001). Generally, the research focused on aspects of technology in education, highlighting the technical capabilities or resources available to support assessment management and data collection. Many NACTE accredited institutions have long selected the opportunity to create an Electronic Exhibit room where the majority of programs or unit exhibits evidence of program outcomes for the audit or visit by the Auditors. Neither TEAC nor NCATE require Electronic Exhibits for the Academic Audit and related visits, but in 2000, NCATE established the integration of technology as a priority for teacher education institutions (NCATE, 2000). The NCATE Electronic Exhibit is strongly encouraged and criteria for development and timelines for availability are promoted and outlined on the organization's web site http://www.ncate.org/Accreditation/PreparingfortheVisit/TheExhibitRoom/ElectronicExhibitRooms/tabid/289/Default.aspx .

In comparison, according to TEAC's Executive Vice President, Diana Rigden, "as of 2011 very few TEAC accredited institutions have used the Electronic Exhibit or web site for the Academic Audit, nor have any guidelines been produced by TEAC" (personal communication, August 8, 2011). The authors of this article have been involved with several recent international conference discussions and presentations highlighting the benefits and actual strategies for development of electronic exhibits. Furthermore, the authors believe the recent consolidation of the two national teacher education accreditation organizations under a new organization, the Council for the Accreditation of Educator Preparation (CAEP) will raise the level of standards for evidence and the supporting infrastructure for maintaining the evidence. Under the CAEP redesigned accreditation system institutions will likely be required or strongly encouraged to provide evidence electronically.

**Inquiry Brief**

The Academic Audit has been described by TEAC (2011 a) as one of the defining features of the accreditation process. This audit "determines whether the descriptions and characterizations of the evidence in the Inquiry Brief (IB) are accurate" (Teacher Education Accreditation Council, 2011a, p. 77). The IB is a 50 page research monograph which provides evidence that the educational program supports TEAC's three quality principles and standards for capacity. Quality Principle I (QP I) is evidence of candidate learning; Quality Principle II (QP II) is evidence of faculty learning and inquiry; and Quality Principle III (QP III) is evidence of institutional commitment and program capacity for quality. For quality, TEAC's standard is that the evidence is trustworthy and of sufficient magnitude to support its claims. Program capacity includes parity with the institution in curriculum, faculty, facilities, fiscal and administrative, candidate support, and candidate complaints (Teacher Education Accreditation Council, 2011a).

The IB is based mostly on existing documents found in the program or institution. These artifacts should be produced and approved by all faculty members of the program. TEAC provides a guide for producing an IB so that the faculty members will develop a comprehensive document and be prepared for the Academic Audit process. This process is outlined in the TEAC accreditation manual and can be found at http://www.teac.org/wp-content/uploads/2009/03/Checklist-Brief.pdf. Both the IB and the Academic Audit include important planning functions (Teacher Education Accreditation Council, 2011a).

The IB includes: claims the faculty make about the knowledge and skills of the program's graduates; rationale for assessments of the claims; description of the psychometric properties of the evidence given in support of the claims; discussion of the interpretation of the evidence; efforts to evaluate the quality control system; and adequacy of program capacity. The seven required components of the IB include, Program Overview, Claims and Rationale, Method, Results, Discussion, References, and Appendices (Teacher Education Accreditation Council, 2011a).

TEAC (2011a) states that, "Claims are the accomplishments of its students and graduates" (p.44). Many programs formulate their claims in specific ways such as graduate mastery of any national or state standards that are consistent with TEAC's QPI (Teacher Education Accreditation Council, 2011a). One example often used for teacher preparation programs are the Interstate New Teacher Assessment and Support Consortium (INTASC) standards. Additionally, school leadership preparation programs, such as the program under review for this study, may select the Interstate School Leaders Licensure Consortium (ISLLC) standards.

For the programs under study, the initial licensure faculty provided evidence through assessment of student learning to support the three claims. Specifically, the evidence for teacher graduates speaks to subject matter, pedagogical knowledge, caring, and teaching skills. For school leaders, the six claims required evidence that graduates have professional knowledge, strategic decision-making, and caring and effective leadership skills. Both licensure and leadership preparation programs are to address TEAC's three cross-cutting themes: 1) learning how to learn; 2) multi-cultural perspectives and accuracy; and 3) technology (Teacher Education Accreditation Council, 2011a). The programs in this case study found opportunities to address both TEAC principles and state program approval with

the same evidence which streamlined the assessment documentation process. Faculty must be very clear on what claims will be used to describe student learning outcomes, as these claims will drive what evidence is collected and presented in the IB and Academic Audit.

**Academic Audit**

Following the submission of the IB, faculty must proactively prepare for the onsite Academic Audit. A team of auditors representing TEAC and peer institution representatives will visit the campus to examine and verify evidence that supports claims made in the professional education program's IB. In Regent's case two IBs, one for licensure programs and one for leadership programs were submitted for review. The visit is a collaborative planning and evidence confirmation endeavor by both TEAC and the education faculty to determine if the evidence and supporting information regarding program claims are accurate (Teacher Education Accreditation Council, 2011a). In addition, the faculty must show that program data has been used to improve programs and in a systematic way to ensure the quality of the program (Teacher Education Accreditation Council, 2011b). The TEAC Audit does not evaluate the quality of the program itself, but the processes that are used to ensure quality (Murray, 2010)

TEAC accreditation requires that all program faculty members understand and are actively engaged in the accreditation process. In any organization there are those who are called upon to lead efforts such as national accreditation for teacher or educational leadership preparation programs. Although these leaders may take charge of the procedures, in the TEAC accreditation process all faculty must continually be advised of the major activities in developing and writing the IB, be assigned specific tasks, review and vote on the direction the process is taking, and prepare for the Academic Audit visit. The successful completion of the Academic Audit will require faculty involvement in the pre, during, and post phases of the visit planning and implementation.

The key role of faculty following IB completion will revolve around creating an easily accessible presentation of the evidence and supporting documents for the Academic Audit. The faculty members now maintain dual roles or function as both program orators and evaluators to determine what evidence would best tell the story of the claims regarding their graduates and quality control systems. Evidence for program claims must be convincing regarding larger goals of the program. Program faculty must ask, "What evidences do we have to support our claims that our graduates are competent, caring, and qualified educators?" (Teacher Education Accreditation Council, 2011a, p.46). In addition, evidence must be provided for data quality and that their (program faculty) interpretations of the data are valid and reliable (LaCelle-Peterson, 2011).

**Electronic Exhibits**

Literature demonstrates the diverse models for the integration of technology and data management in the accreditation process (Laverty, Wood & Turchek, 2009; Frank, 2008; Maxim 2004; Zimmerly & Salzman 2001). The diversity and variety of approaches and systems available for electronic exhibit development and presentation are as varied as the many teacher preparation and educational leadership programs themselves. The next section will present a brief review of current practices using electronic exhibits or web sites for the TEAC accreditation process. Specific strategies for the

development and creation of Electronic Exhibit used for TEAC accreditation and Academic Audits will be highlighted.

**Current Practices**

Based on recent conference discussions and presentation interest, the authors have found considerable program interest in the redesign of the Academic Audit procedures to include electronic exhibits or web sites. Although a review of current practices and literature involving TEAC Academic Audit Electronic Exhibits appears terse, NCATE programs are more predominant in practicing the integration of technology. Specifically, the use of Electronic Exhibits for accreditation processes has been encouraged and guidelines refined over many years. This is due to NCATE's longevity in national accreditation and history of electronic exhibits or web pages being used to facilitate accreditation efforts. The following paragraphs will highlight existing practices surrounding usability of Electronic Exhibits and development strategies. This section will conclude with the specific journey of the Regent's School of Education's experience and reflections. Without the benefit of specific literature or documentation of practices, the authors attempted to collect self reported data from current TEAC auditors or universities known to have incorporated some type of technology in the Academic Audit process.

As previously mentioned, the use of Electronic Exhibits for TEAC Academic Audits and presentation of evidence are very limited. However, several TEAC Lead Auditors have indicated that a few programs in recent years have provided "CD-ROM's in support of the" (Rigden, personal communication August 8, 2011). Rigden goes on to state, "unfortunately, the content of the CD-ROM contained a lot of information that duplicated what was in the exhibit room during the campus audit" (personal communication, August 8, 2011). CD-ROMs were developed to serve as a form of electronic file that contained data spreadsheets, examples of portfolios, and minutes of faculty meetings, etc. Grzelak (lead IB author, University Michigan) indicated that the design for their TEAC Electronic Exhibit and CD-ROMs were developed as a result of trial and error (Grzelak, personal communication, September 6, 2011). Grzelak and Benedict-Chambers of University of University of Michigan (public presentation, February 25, 2011) designed a completely web based evidence room for their TEAC licensure Academic Audit identified as "The Green Room". The University of Michigan organized and presented all program evidence for the Academic Audit entire online (TEAC, 2010).

The exclusive purpose for the University of Michigan's Green Room was to have an electronic record system available for the Academic Audit. The University of Michigan did not have electronic exhibits prior to preparing for the Academic Audit. "Our electronics records system was designed exclusively for the audit visit" (Benedict-Chambers & Grzelak, public presentation, February 25, 2011). Grzelak indicated other methods of sharing information such as jump drives, email, CD-ROMs, etc, with TEAC reviewers prior to the Academic Audit were not effective (Grzelak, personal communication, 2011). Emails were especially problematic because the files with charts, graphs, and tables were so large they were described as "bouncing back" (Benedict-Chambers & Grzelak, public presentation, February 25, 2011). Grzelak indicated their Green Room idea was inspired by the IB itself and their attempt to replicate an electronic version of the IB they had seen at another institution, Michigan State (Grzelak, personal communication, 2011). Accordingly to Grzelak, Michigan State had the first program accredited by TEAC in Michigan, so it was only natural to review what they had done to

prepare for the Academic Audit. The University of Michigan's audit was successfully completed November 2-5, 2010.

Collaboratively, the authors of the Michigan University IB, a Michigan University Webmaster, and a high-level Michigan University administrator, created the Michigan web site between August and October, 2010. Web site refinement continued up until days prior to the audit visit (Grzelak, personal communication, September 6, 2011). Online editing and additional uploads, as needed, were simultaneously completed during the onsite Academic Audit (Grzelak, personal communication, September 6, 2011). The Michigan Webmaster (School of Education data manager), the IB co-authors, and the high-level administrator were on call for the TEAC auditors during the entire onsite audit (Benedict-Chambers & Grzelak, public presentation, February 25, 2011). Keys to success of the Green Room were the Michigan webmaster that was responsible for web site development and the support of a high level university administrator (Grzelak, personal communication, September 6, 2011).

The web site used by the University of Michigan for the Academic Audit did not require special software. Specifically, the University of Michigan used a University level content management system and a system identified as "Word Press" for evidence presentation and organization (Grzelak, personal communication, September 6, 2011). University of Michigan IB authors stated that the learning curve for web development was very sharp within a very short period of time, but it was a good use of time and appropriate for those involved in establishing the Green Room (Benedict-Chambers & Grzelak, public presentation, February 25, 2011).

A challenge stated by Michigan's IB authors and faculty related to providing secured web site access for the auditors, the local representative for the audit team, and a representative from Michigan State's Department of Education (Benedict-Chambers & Grzelak, public presentation, February 25, 2011). The Academic Audit web site was not originally designed as a public site.

Benedict-Chambers & Grzelak (personal communication, September 6, 2011) admit that the experience of building the Electronic Exhibit was challenging (personal communication, September 6, 2011), but offer the following observations expressed by the TEAC Auditor of the University of Michigan's web base site:

- Easy to use
- Sections and files well-labeled
- Everything worked
- Electronic docs allowed for auditors cutting and pasting to create new accreditation documents
- Some files could have had more detailed dropdown menus describing program, year, etc.
- Huge PRO to have electronic "room" available
- Facilitated auditor work
- Provided admirable flexibility

**Regent's Electronic Exhibit Development Process**

In the current study of the Regent School of Education faculty experience, the authors will highlight four main topic areas in the discussion of TEAC Electronic Exhibits: Development, Function,

Advantages, and Disadvantages. Through the discussion and review of these four areas, the authors attempt to underscore the usability and effectiveness of the Electronic Exhibit for the Academic Audit. Furthermore, the review provides a lens to review and evaluate the current system for continued program improvement.

**Development**

The Academic Audit process of evidence collection, planning, and exhibit development is similar to what is done in the planning and creation phases of an assessment portfolio. Diane Hart (1994) defines a portfolio as "a container that holds evidence of an individual's skills, ideas, interests, and accomplishments" (p. 20). The ultimate goal in the use of portfolios is to develop independent and autonomous learners (Hart, 1994). Just as the individual portfolio provides an opportunity for reflection and documentation of achievements, the IB evidence selected by the education faculty should provide an accurate picture of student learning outcomes and program claims.

Electronic or ePortfolio have begun a new era of technology development in higher education often associated with assessment, accreditation, and reflection (Batson, 2002). This new technology development has greatly impacted the accreditation process for many schools of education as a result of accrediting agencies demanding better organized and accessible student work (Batson, 2002). These electronic portfolio or web based collection of student work provide faculty with additional benefits related to diverse opportunities for evidence presentation and organization. For example, evidence may include writing samples, digital photos, videos, interactive research projects, databases, observations by mentors and peers, and/or reflective thinking. Furthermore, much of the student work now completed by pre-service teachers and leadership students is done in some electronic form such as case studies, simulations, and reports. The variety of media possibilities allow for searchable and transportable evidence organization (Batson, 2002). The benefits of electronic artifacts and organizational structures provided by electronic portfolio or exhibit web sites are a perfect match for a successful Academic Audit.

Collectively, the Regent education faculty under study made the decision to use knowledge of developing assessment portfolio and electronic portfolio to guide planning and preparation for the TEAC Academic Audit. The faculty prepared both a physical evidence room and adopted various aspects to create the Electronic Exhibit room located on a password protected accreditation internet based web site. The physical exhibits were organized around the components of the IB and claims. Evidence was color coded by IB section and alignment with the various claims and standards. A resource room was set aside for the onsite Academic Audit. The room contained all evidence used to address the claims and program capacity. Furthermore, several computers were housed in this room which provided access to the Electronic Exhibits stored on a specific web site developed for the accreditation process and Academic Audit team. Faculty were engaged in the selection process for the physical exhibit and they simultaneously considered how these same artifacts would be displayed electronically. Some artifacts were determined to be more easily accessible in electronic format, such as a long list of faculty course loads data and university statistics. These artifacts were only found in the Electronic Exhibit and not replicated in the hard copy format.

Based on resources and technology skills among current faculty, a decision was made to identify one faculty member and one web designer to take the lead in organization and development of the actual accreditation web site and related exhibits to be featured. General organization structure and phases for development were based loosely on concepts taken from Helen Barrett's (2000) "5-by-5

Model" of Electronic Portfolio Development. Specifically, the 5 by 5 Model outline a 5 stage strategy for the development of a portfolio combined with best practices in multimedia development. The actual stages include, Defining the Portfolio Goals and Context, Working Portfolio, Reflective Portfolio, Connected Portfolio, and Presentation. The first 2 Stages highlight defining goals and audience. In our case the goals and exhibits were collected and organized around the claims and TEAC principles. The audience included the TEAC Academic Audit team, but also would serve the faculty as a central location for storage and management of data. Finally, faculty reviewed the artifacts and exhibits to determine why they were selected and how best to display them electronically.

Stage 4 highlights the process of organizing the digital artifacts. The Web Designer was most involved in this stage to determine and assess what software and technology were available at the university. Furthermore, the Web Designer was heavily involved in the conversion process of physical evidence and development of various navigation tools. Once the web site was developed, faculty were invited to view and critique the accessibility and whether the evidence reflected their various programs accurately.

The TEAC accreditation web page design attempted to match the layout and structure of other regular university web pages including a left side navigation tool bar containing a simple index of IB chapters and center page featuring program conceptual framework graphics, major links to both the Initial Licensure Brief and Educational Leadership Brief, and supporting qualitative and quantitative data hyperlinks and database. The hyperlinks contained uploaded PDF, Word, or Excel files that could be examined by faculty or auditor. All artifacts were clearly linked to program claims and TEAC principles.

**Function**

The faculty were charged to consider this web site as a central location for data storage and organization. The rationale for this direction is based on the belief that when the web site is in place, it becomes an easier process to periodically review, evaluate, and update documents. The site would serve as a tracking system that could be useful for the accreditation process and on-going examination of student work over-time. The Electronic Exhibits serve as the introduction to the various programs and evidence for the Audit Team. Furthermore, the electronic resources are made easily accessible and usable through internet access for the Audit Team members from any location and any time of day.

**Advantages**

Displaying electronic exhibits for the TEAC Academic Audit brings numerous benefits to the program required to provide evidence for claims and other documents regarding the accreditation process. The following advantages are described below:

(1) As a consequence of the web based technology accessibility, the web site and Electronic Exhibits displayed could be viewed by the Academic Audit team before campus arrival, during, and as a follow-up to the visit.

(2) Given the advance opportunity to review program artifacts by Auditors, this organizational strategy allowed more time for Auditor on-site interaction with faculty, students, and staff/administration.

(3) A well organized web site enables the Auditors and faculty to access information expeditiously. Furthermore, the technology allows for searchable artifacts reducing the amount of time required to review and study program evidence.

(4) Beneficial for internal communication among faculty and administration for consistency in document review.

(5) Electronic Exhibit rooms support and facilitate the continuous evaluation of data that is critical for department/program improvement and decision making.

(6) Web-based exhibit rooms also serve as a common and accessible repository for program resources and information.

(7) Because of the shared and public nature of the web site, some institutions find that it increases accountability and allows faculty to see the results of their work.

(8) Reduces storage space required for outcome artifacts and student work.

(9) Aggregation of multiple program outcomes in one central location.

From an economical and political standpoint it makes good sense to have well organized evidence of decision making. Often times it can provide leverage in these times of tight budgets if the assessment processes are well documented.

**Disadvantages**

Displaying electronic exhibits for the TEAC Academic Audit brings some disadvantages to the program required to provide evidence for claims and other documents regarding the accreditation process. The following six disadvantages are listed below:

(1) Privacy issues for student work and faculty information may restrict what is included (such as faculty salary data, student work samples, or assessment results);

(2) Some auditors prefer hard copy resources and may not have the technical savvy required. Auditors may prefer to keep it simple;

(3) Public Web Page Access. Once available, faculty can't hide from content or errors found in the exhibit. The availability and access while benefiting the audit team—provides more time to find mistakes and inconsistencies (Koonce & Hoskins, 2011);

(4) The web site must be password protected and allow only a prescribed audience; and

(5) Potential for incompatible computer operating systems between electronic student work, campus computing infrastructure, and auditor computer software.

**Conclusion**

Following a brief review of the TEAC Academic Audit procedures, Electronic Exhibits, and feedback from various TEAC auditors and administrators, the Regent faculty can strongly recommend the usability and effectiveness of the Electronic Exhibit in the accreditation process. Additionally, the faculty of these programs believe that the Electronic Exhibit and related web page development critical in continued program improvement and documentation of student learning. The authors

believe the advantages and unlimited potential of Electronic Exhibits for the accreditation process outweigh the disadvantages.

In reflection, the process of Electronic Exhibit development, advantages, and disadvantages presented in the current study, the authors wish to consider the followings as opportunities for improvement of Regent's Electronic Exhibit development process.

•The original accreditation web site content was developed around the initial TEAC Auditor's needs and requests. Following the visit, the faculty must evaluate how the site can be modified to serve as a systematic tool for data management and program evaluation. Following the program accreditation, the faculty created additional pages for required TEAC annual reports and supporting evidence. The faculty must incorporate the resources and required updates into the regular evaluation procedures and practices for the department assessment system or there will be no value in the online resources.

•There must be a shared vision by department leadership and faculty to build a culture of evidence using data driven decision making for program improvement. The Electronic Exhibit supported the organization of current faculty practices of assessment and data collection. Student and program assessment were occurring within the respective programs, but without a system for data management and organization.

•Collectively, the Web Designer and faculty must consider how to best keep the accreditation site updated. The faculty may have documents and artifacts continuously updated, but the updates must be communicated to the Web Designer and then upload to the accreditation site. The authors would recommend that the updates by faculty be uploaded to the site at the end of each academic year or semester.

•The faculty's effort with managing the data and related outcomes would be enhanced with additional university level computing infrastructure. Unfortunately, with exposure to the plethora of electronic data management systems now been being implemented for university and department level accreditation, efforts seem grassroots. Additional resources and university-wide support would be required for implementation of assessment management systems such as Live Text, Learning Quest Professional Development, Chalk & Wire etc. The department has explored various systems, but without the university level support and resources, faculty cannot move forward with department level system implementation.

Based on the results of the current study the authors have generated the following recommendations for future study:

(1) The authors plan to research additional practices and guidelines for development and implementation of Electronic exhibits within NCATE related resources and web sites. The authors strongly believe that new procedures and expectations surrounding the Academic Audit and management of data will be outcomes of the new consolidated accreditation process.

(2) Continue to seek TEAC related technology integration practices and procedures among the expanding number of universities achieving TEAC or CAEP accreditation in the future to refine elements from this study to enhance the Academic Audit process.

(3) Evaluate the current programs Electronic Exhibit and TEAC accreditation in the next year to determine if recommendations for improvement were effective. Survey and begin to collect descriptive data from all current TEAC institutions regarding data storage and management. A survey could be distributed during TEAC annual meetings or via the member data base.

In conclusion, the authors offer this short story of one department's journey in the accreditation process thereby presenting the basic steps in the implementation of an Electronic Exhibit for the TEAC Academic Audit. The authors encourage colleagues to use this paper as a starting point for planning. The authors believe that each department faculty must assess their strengths and resources related to program assessment and the integration of electronic evidence. The authors have learned that one of the greatest strengths of education faculty in the assessment and accreditation process is having faculty believe that program self-study and data-driven decision making is an effective means of continuous improvement for their program and not just another requirement for accreditation. Without the support of faculty in the departments' assessment system and data collection processes, the format and structure of the presentation of evidence will be insignificant. The Regent education faculty understand the reality of accountability in higher education, but realize that assessment should focus on improving learning. Assessment and accountability are part of doing business in institutions of higher education today.

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# THE EFFECTS OF INTEGRATING MUSIC INTO FOREIGN LANGUAGE CLASSROOMS

**Birgit I. Laramie**
**Department of Education**
**Cedar Crest College**
**Allentown, PA 18104**
**&**
**Department of Foreign Languages**
**Moravian College**
**Bethlehem, PA 18018**
**mebim01@moravian.edu**

## Abstract

Twenty college students from an Introductory German I course participated in this action research study to determine whether music incorporation affects vocabulary acquisition and the understanding of grammatical rules. Students were divided into two groups, and music and non-music instruction alternated after each chapter test. For most of the class period, instruction consisted of introducing new material and practicing it with the entire group. Before the end of class, participants completed assignments individually using a computer. Depending on the group, they listened to either sung or spoken lyrics. Data was collected from Chapter Tests 1 through 4 as well as questionnaires, homework assignments, and attendance. Test results indicated slightly higher vocabulary scores and slightly lower grammar scores during music instruction. The questionnaires indicated that listening to the songs was an enjoyable activity and the participants perceived it as a helpful learning tool. Furthermore, the participants perceived using the computer to reinforce vocabulary and grammar skills as an enjoyable activity and a helpful learning tool. Previous research has shown that enjoyable activities increase student engagement, which can lead to better results. Although this study brought forth two learning tools that students enjoyed, more research is necessary to maximize the music benefits for students in foreign language classrooms.

**Keywords:** Foreign language, Music, Vocabulary, Grammar

## Introduction

When looking at today's job market, educators need to ask themselves what makes their students marketable. According to the United States Department of Labor, the unemployment rate of college graduates is lower in comparison to those with no college, some college or an associate degree; however, the unemployment rate of college graduates had exceeded five percent in November 2010. It had dropped to 4.8 percent in December 2010 and has remained between 4.1 and 4.5 percent since; however, this is an alarming fact (United States Department of Labor, 2011). Educators have a responsibility to prepare students for a demanding and multifaceted job market and specializing in only one area limits their opportunities. Therefore, students greatly benefit from acquiring a variety of skills, and based on today's developments, that includes the ability to speak a second language.

Globalization and an increased demand of bilingual employees in the service industry make students who speak more than one language more marketable. Many companies conduct business with countries all over the world and knowing another language allows people not only to communicate more effectively but also to understand different cultures and customs. Furthermore, the service industry in the United States is in need of bilingual employees to provide services to people speaking languages other than English. The U.S. Census Bureau found that in 2008, 19.7 percent of the U.S. population spoke a language other than English at home, and almost half of that population did not speak English very well (U.S. Census Bureau, 2011). Therefore, graduates speaking more than one language can make themselves more marketable.

In the United States, being proficient in another language is not yet considered a vital part of preparing students for the work force. Foreign language learning is included in many middle school or high school curricula, but it is not a graduation requirement in all 50 states, and most of those states that do have a foreign language requirement, require it for only one to two years (NCSSFL, 2010). In addition, the U.S. Federal Government reduced foreign language funds to "support the teaching of foreign languages to K-12 and college students" in 2011 by 40 percent (Zehr, 2011, p. 19). To the contrary, the European parliament promotes and supplements foreign language learning and wants every citizen in the European Union to master two foreign languages "in order to improve his/her educational and employment opportunities" (European Parliament, 2008, Objectives section, para. 1).

Therefore, many countries in Europe implement early foreign language instruction, which enables students to become fluent and comfortable in the use of a second language (Europa, 2008). Most students in the United States are not instructed in a foreign language until middle school or high school; this does not give them enough time to become as fluent and proficient as their European counterparts.

Educators in the United States, especially in higher education, have a short time span to teach a foreign language effectively. Rote memorization and grammar drills have not been successful strategies in teaching listening, speaking, reading and writing skills, because not all students learn the same way. Howard Gardner's theory of multiple intelligences recognizes eight different learning styles and educators are encouraged to implement a variety of strategies to reach the learning styles of all students (Borich, 2007). Music is one of the eight learning styles, which teaches listening, reading, and speaking skills.

Educators need to find ways to accelerate their students' proficiency levels to prepare them for a demanding work environment. Research has been conducted to determine whether music affects language acquisition and many researchers found a positive connection between music and language learning. However, the researchers determined the importance of three variables when implementing songs: song choice that includes likeability, understandability, and cultural relevance; effective implementation of songs, which includes consistency, repetition and duration; as well as student motivation to learn a foreign language (Chuang & Beasley, 2008; De Groot, 2006; Legg, 2009; Li & Brand, 2009; Salcedo, 2010; Schön et al., 2008).

The purpose of this action research study was to investigate whether or not integrating music into a beginner German course in higher education affected students' proficiency levels when considering only the choice of song. Effective implementation in terms of repetition and duration could not be regarded since there was a time constraint, and students' motivation to learn the German language could not be controlled since the participants of this study were required to complete two courses in a foreign language.

The specific research questions were the following: (1) Does integrating music into foreign language classes increase vocabulary acquisition? (2) Does integrating music into foreign language classes increase the understanding of grammatical rules?

**Literature Review**

Foreign language acquisition is a complex process and has been discussed by many influential linguists. Although theorists differ, they agree that frequent exposure and student engagement are key elements to language acquisition (Peregoy & Boyle, 2008, pp. 53-55, 63-64, 80). Recent brain research discovered a connection between music and engagement as well as music and language learning. In 2007, a research team at Stanford University School of Medicine, found a connection between listening to music and engagement. Images of functional magnetic resonance imaging (fMRI) scanners showed a higher activity level in the right part of the brain, which confirmed that music is dominant in the right hemisphere. In addition, the results showed that music actively engaged the brain over a period of time and changed the activity levels depending on the transitions of the song (Sridharan, Levitin, Chafe, Berger, & Menon, 2007). Therefore, music has the ability to capture the listener's attention, which is a key element in language learning.

Bangert et al. (2006) also studied the brain using an fMRI scanner. Their findings indicated a difference in brain activation between musicians and non-musicians and an overlap between language and music. Electroencephalogram (EEG) results collected by Moreno and Besson (2006) and Moreno et al. (2009) indicated that students who received music training increased pitch discrimination and reading skills in their native language. Music training also modified brain processing involved in language within a short period of time. EEG results collected by Steinbeis and Koelsch (2008) indicated that language and music share semantic and syntactic processing resources and EEG results collected by Koelsch and Jentschke (2008) showed that verbal and tonal information rely strongly on the same neural network. These studies not only provide evidence that music engages its listeners, they also prove a measurable connection to language.

An earlier but very influential study by Rauscher, Shaw, and Ky (1993) sparked many discussions about music and learning. The results, known as the Mozart effect, indicated that an exposure of only ten minutes to a Mozart sonata generated a short-term increase in spatial-reasoning abilities. These results raised many questions (Steele, Bass, & Crook, 1999; Thompson, Schellenberg, & Husain, 2001); however, they also inspired many researchers to look for connections between music and other subjects, such as second language acquisition.

A variety of research methodologies and locations demonstrates this inspiration. Researchers used songs as background music as well as learning tools. They used nonsense words as well as actual

foreign languages, and conducted studies in regular education as well as higher education. The researcher de Groot (2006) used background music to teach nonsense words to psychology students. She found that the choice of music influenced the outcome and background music alone did not increase student achievement. De Groot agreed with previous research in which introverted students had performed better in silence, whereas extroverted students had performed better with music (Furnham & Allass, 1999).

A study conducted by Schön et al. (2008) also taught nonsense words to French adults but incorporated music into classroom instruction. The results indicated that an increase of arousal or attention while listening to music increased the student's performance. In addition, the pitch change between the syllables allowed phonological discrimination between the words. Therefore, "learning is optimal when the conditions for both the emotional/arousal and linguistic functions are fulfilled" (Schön et al., 2008, p. 982).

In 2010, Salcedo used actual foreign language college courses and found that incorporating songs into the classroom significantly increased immediate recall and the "Song Stuck in My Head Phenomenon" (Salcedo, 2010, p. 26). The researcher also fund that the choice of song plays an important role in language acquisition. Difficult vocabulary and complicated grammar structure hinder the benefits of music.

The researchers Chuang and Beasley (2008) used college level English language students in Taiwan who participated voluntarily in a web-based study. They found a connection between song likeability and song understandability, enjoyment of the learning method, motivation, and achievement. Therefore, instructors are to choose not only songs that students like and understand, but also songs that are natural in speech, utilize repetition, keep students' interests, have appropriate and positive themes, and include culturally relevant topics.

In 2009, Li and Brand conducted their study with students studying English at a university in China and found that implementing songs was highly effective; however, periodic use of songs could be confusing or distracting to language acquisition.

Finally, the study conducted by Legg (2009) used eighth grade students studying French in England and found that students in the music group significantly increased their grades in comparison to the non-music group. The scores of the music group were also closer in range. The researcher suggested that incorporating music, especially singing, raises students' achievement and the ability to memorize and understand vocabulary.

These studies discovered a positive link between music and engagement as well as music and language learning. However, listening to songs alone did not increase achievement, nor did periodic use of songs or listening to background music. To make language learning optimal, educators need to consider several variables, such as song likeability and understandability, positive and culturally relevant themes; effective implementation in terms of consistency, repetition and duration; and student motivation in terms of the desire to learn the foreign language. Singing along can play a significant role as well. In reality, students, especially in higher education, are only provided with a short amount of time to acquire a plethora of new information. This raises the question of what

variables are possible to consider. Therefore, this quantitative research study using an action research design examined the effects of incorporating music into a foreign language course when only song likeability, understandability, and cultural relevance were taken into consideration.

**Methodology**

The study was conducted in an Introductory German I course at a private college located in the northeastern United States. The independent variable of this study was the implementation of the lyrics, either sung or spoken. The dependent variables were the participants' vocabulary acquisition and understanding of grammatical rules.

**Participants**

Based on school demographics, the 20 participants were between the ages of 18 and 26. Seventy percent were male students and 30 percent were female students. Ninety-five percent of the students were Caucasian and 5 percent were Native American. The participants enrolled in the course to fulfill a one-year language requirement. Eighty percent of the students were freshman, 5 percent sophomore, 15 percent junior, and no seniors. Their fields of study varied greatly, but only 5 percent of the students had declared a major at that point. None of the students had declared German as their major. Fifty-five percent of the students had between two and four years of prior experience in German, and 45 percent had studied a language other than German.

Before conducting the study, I did not seek permission from the students because all students received the same treatment. Furthermore, since students were not exposed to any physical or psychological harm, there were no ethical concerns to consider. However, after all data was collected, I informed the students of the study and that their data would be used for research purposes, unless they denied permission. None of the students denied permission.

**Sampling Plan**

In order to form two groups, I used convenience sampling. Since students started the course at different ability levels, I matched the two groups by controlling age, gender, years of study, and previous exposure to foreign language learning. At the beginning of the semester, students in Group 1 received a number from 1 to 10 and students in Group 2 received a number from 11 to 20 to use on tests, questionnaires, and homework assignments instead of names. Only their numbers were used on written data pertaining to the research study. In addition, I taught the material as well as collected the data. This ensured student confidentiality.

**Procedure**

The study took place during regular class time, which was three times per week for 70 minutes. The students studied the Introduction and Chapters 1 through 5 of the textbook Neue Horizonte (Dollenmayer & Hansen, 2009), and used the Student Activities Manual for additional activities (Dollenmayer, Crocker, & Hansen, 2009); however, only data from Chapters 1 through 4 were analyzed in the study. Students also used either spoken or sung lyrics to German songs.

The four songs, one for each chapter, were popular in Germany, easy to understand, and incorporated melodies, rhythms, and lyrics that were relevant to college students. Furthermore, the lyrics were in the present tense, used little colloquial language, and covered grammatical structures discussed in each chapter.

At the beginning of each chapter, students received a copy of the lyrics and the translation, which were read and discussed together as a group. On Days 2, 3 and 4, the researcher introduced grammar and vocabulary covered in the book using direct instruction. In class or in small groups, students completed oral activities from their textbooks. Approximately 20 minutes before the end of class, students worked independently on computers. I provided each group access to either the sung lyrics through a Youtube video or the spoken lyrics through an MP3 file posted on an online discussion board. German natives, who spoke High German without dialect, recorded the spoken lyrics. The exposure to music alternated between the two groups after each chapter. Students listened to the lyrics through headphones while completing the assignments on provided worksheets. After the students completed the assignment, the class discussed the answers as a group.

The activities varied each day, depending on the grammar section covered in the book. Each student completed four worksheets that focused on grammar and one that focused on vocabulary. On Days 2 and 3, the students completed two worksheets each, and on Day 4, the students completed a vocabulary worksheet with a crossword puzzle. Homework assignments were either activities from their textbooks or activities from their activities manuals, without the sung or spoken lyrics; however, students had the opportunity to listen to the sung or spoken lyrics outside of class. The assignments covered grammatical structures discussed during class. The workbook pages in the students' activities manual functioned as a study guide to prepare students for the grammar section of each chapter test. Students completed and self-corrected the activities before each test.

**Instrumentation**

Data collection included four chapter tests, two with music instruction and two without music instruction, questionnaires, homework assignments, and attendance. Each chapter test included a vocabulary section that covered vocabulary from the songs and a grammar section that covered grammar from the book and the songs. This study only incorporated data on grammatical rules practiced with the lyrics. Each correct vocabulary word or grammar construction received two points. Spelling errors and grammatical errors resulted in the loss of one point. Wrong answers or no answers resulted in the loss of two points.

After each chapter test, the students completed a questionnaire that gathered information on additional exposure to the material, study strategies, and likeability of the song. After all data was collected, students completed a final questionnaire while listening to the songs. The students were asked again about the likeability of the songs and how helpful the songs and the use of computers were. I developed the chapter test as well as the questionnaires and recorded the completion of homework assignments and attendance.

A pretest and delayed posttest were not incorporated not only because of time constraint but also to keep classroom instruction similar to the previous Introductory German I course and to not alert the students that they were being studied.

**Results**

Before analyzing the data, the researcher removed two students, one from each group, due to missed classes and the lack of homework completion. Both students had studied a language other than German before. The removal did not affect the validity of the study.

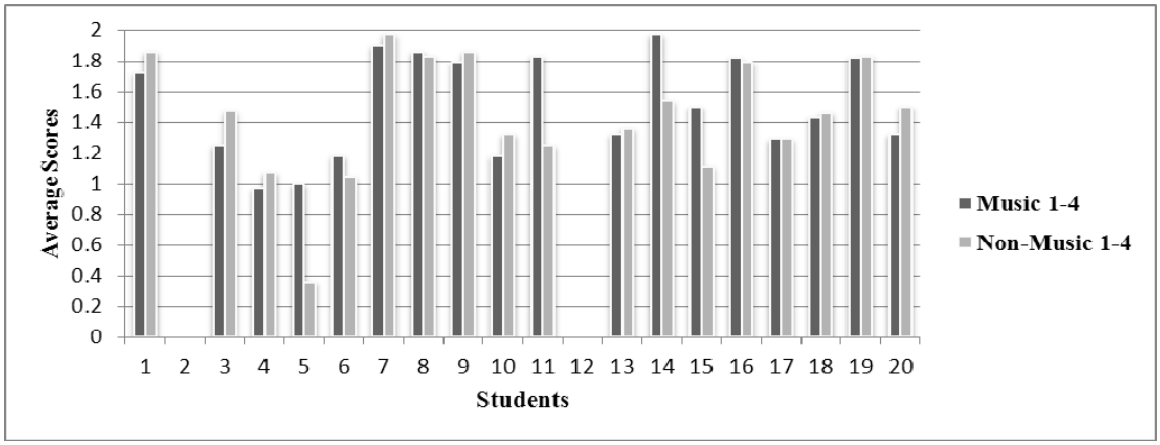
Eleven participants had studied German prior to taking this course; seven had studied languages other than German. Students 1, 3, 4, 5, 11, 13, and 14 had studied a language other than German. Group 1 listened to the sung lyrics during Chapters 1 and 3. Group 2 listened to the sung lyrics during Chapters 2 and 4.

To determine whether a statistically significant relationship existed between music instruction and non-music instruction, test scores from Chapters 1 through 4 were examined with t-tests.

**Vocabulary Acquisition**

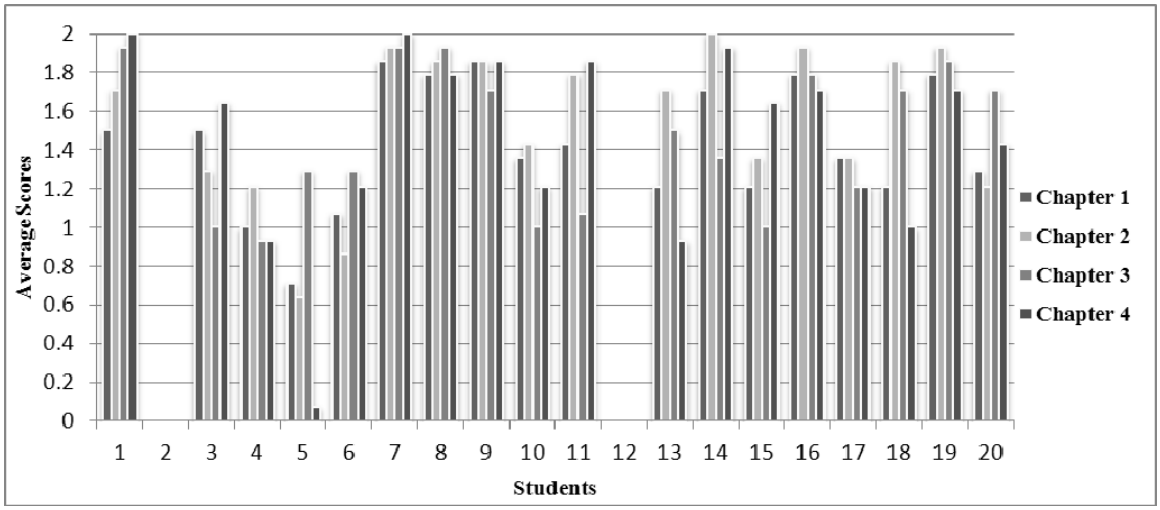
To analyze the total scores of all four vocabulary sections, a paired-samples t-test was performed to compare the average score of students listening to the sung lyrics with the average score of students listening to the spoken lyrics. This comparison removed the variable of difficulty within each chapter. The results indicated that there was no statistically significant difference between music and non-music conditions, $t(17) = 1.12$, $p > .05$. However, the average score during music instruction was higher ($M = 1.51$) than during non-music instruction ($M = 1.44$). Students with previous exposure to German had higher average scores during both music instruction ($M = 1.55$) and non-music instruction ($M = 1.55$) than students with previous exposure to a language other than German (Music instruction: $M = 1.44$, non-music instruction: $M = 1.27$). Seven students scored higher on their vocabulary sections with music instruction, ten students scored higher with non-music instruction, and one student scored neither higher nor lower (see Figure 1).

Figure 1
*Vocabulary – Comparing Music to Non-Music Instruction*



Group 1 had lower scores on each chapter test and the range between the high and the low score was wider in Group 1. Only Students 1 and 7 in Group 1 gradually increased their scores after each chapter test; this eliminated a maturation threat. (see Figure 2).

Figure 2
*Vocabulary – Comparing Chapters 1 through 4*

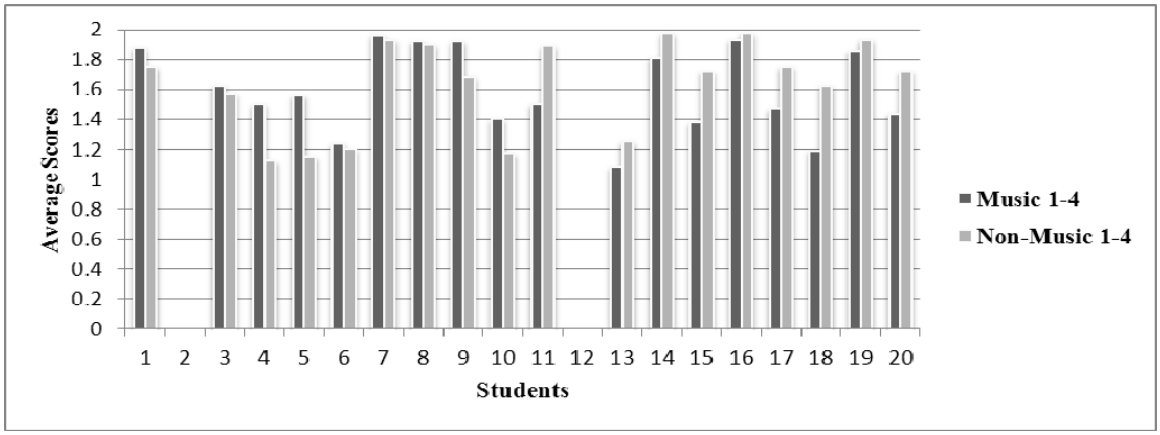



**Grammar Acquisition**

To analyze the total scores on all four grammar sections, a paired-samples t-test was performed to compare the average score of students listening to sung lyrics to the average score of students listening to the spoken lyrics. The results also showed that there was no statistically significant difference between music and non-music conditions, $t(17) = -.59$, $p > .05$. However, the average score during music instruction was lower ($M = 1.59$) than during non-music instruction ($M = 1.63$). Students with previous exposure to German had higher average scores during music instruction ($M = 1.61$) and non-music instruction ($M = 1.69$) than students with exposure to a language other than German (Music instruction: $M = 1.56$, non-music instruction: $M = 1.53$). All students in Group 1 had a higher average score when listening to music, and all students in Group 2 had a lower average score when listening to music. Therefore, all students performed better on the grammar section of Chapter Tests 1 and 3 (see Figure 3).

Figure 3

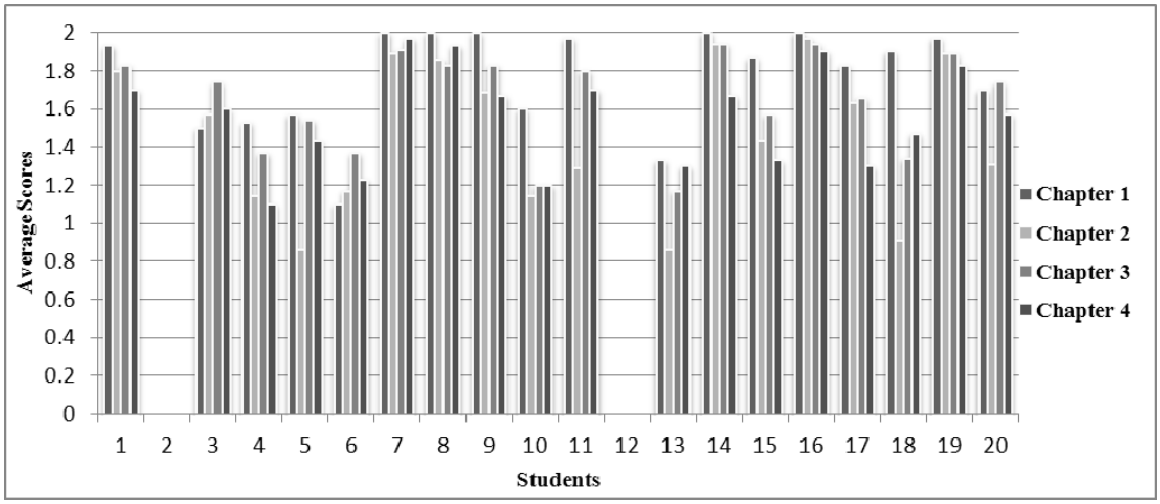
*Grammar – Comparing Music to Non-Music Instruction*




Group 1 had lower scores on each chapter test and the range between the high and the low score was slightly wider in Group 1. None of the students gradually increased his/her average score after each chapter test, which eliminated a maturation threat as well (see Figure 4).

Figure 4

*Grammar – Comparing Chapters 1 through 4*




**Questionnaires**

When asked what material students used to prepare for the test, the use of the lyrics as a study strategy varied among students as well as chapters. Less students in Group 1 used the lyrics and/or listened to the songs as a study strategy than in Group 2.

The researcher also asked about the likeability of the songs after each chapter test and again at the end of the study. Song preferences varied among students as well as chapters. However, the results did indicate that most participants liked or somewhat liked the chosen songs. Most students considered music a helpful or somewhat helpful learning tool and all students would like to continue incorporating music into foreign language learning.

Every student liked or somewhat liked incorporating the computer as a learning tool. Most participants thought that working on the computer was helpful or somewhat helpful and all students would like to continue incorporating the computer into foreign language learning.

Based on these results, the study was successful in implementing songs that were liked by, understandable for, and culturally relevant to the students. Using computers as a learning strategy was also perceived as a helpful strategy.

**Homework Assignments**

Homework assignments varied daily and were not due at every class period. Furthermore, they did not include the lyrics to the songs; they only included grammatical structures covered during class. Therefore, I did not perform an independent-samples t-test considering the vocabulary sections.
A total of 17 homework assignments were due while the students worked with the lyrics to the songs. Only Students 1, 8, and 9 from Group 1 and Students 15, 16, and 20 from Group 2 completed all homework assignments. An independent-samples t-test compared the average grammar scores of students who completed all homework assignments to the average scores of students who did not complete all homework assignments. Students completing all homework assignments had higher scores during music and non-music instruction (Music instruction: $M$ = 1.75, non-music instruction: $M$ = 1.79) than those who did not complete all homework assignments (Music instruction: $M$ = 1.52, non-music instruction: $M$ = 1.55).

**Attendance**

This raised the question whether attendance, and therefore the exposure to all the worksheets, had an impact on participants' test scores as well. The total number of class periods in which lyrics were covered was 20. Only Students 1, 4, and 8 from Group 1 and Students 13, 16, 17, 19, and 20 from Group 2 attended all class periods. An independent-samples t-test compared the average scores of students who had 100 percent attendance to the average scores of students who did not have 100 percent attendance. In terms of vocabulary acquisition, students with 100 percent attendance had higher scores in both groups (Music instruction: $M$ = 1.52, non-music instruction: $M$ = 1.57) than those who had less than 100 percent attendance (Music instruction: $M$ = 1.50, non-music instruction: $M$ = 1.34). In terms of grammar acquisition, students with 100 percent attendance also had higher average scores in both groups (Music instruction: $M$ = 1.64, non-music instruction: $M$ = 1.67) than those that had less than 100 percent attendance (Music instruction: $M$ = 1.56; non-music instruction: $M$ = 1.59).

**Single Case Data**

Although this was not a single case study, data collected on Student 5, who previously had studied a language other than German, should be mentioned. The participant's data varied from the rest of the students in terms of chapter test results, homework assignments, and attendance. Student 5 had the lowest average scores on Chapters 1, 2, and 4 in terms of vocabulary acquisition and the lowest scores on Chapter 2 in terms of grammar. The student completed a total of 10 homework assignments and attended a total of 16 class periods. In terms of vocabulary acquisition, Student 5

had the highest score on Chapter Test 3 (*M* = 1.29), followed by Chapter Test 1 (*M* = 0.71), then Chapter Test 2 (*M* = 0.64), and then Chapter Test 4 (*M* = 0.07). In terms of grammar, the participant had the highest score on Chapter Test 1 (*M* = 1.57), followed by Chapter Test 3 (*M* = 1.54), then Chapter Test 4 (*M* = 1.43), and then Chapter Test 2 (*M* = 0.86).

Although this participant only completed two of five homework assignments and attended three of five class periods during Chapter 3, Student 5 had the highest score on the vocabulary section. Chapter 3 incorporated the song which the participant enjoyed the most. The same observation cannot be made when looking at the grammar section.

**Discussion and Recommendations**

When incorporating music into a classroom, many researchers suggested the importance of three variables: song choice, effective implementation, and student motivation. The goal of this study was to examine the effects of music on vocabulary acquisition and understanding of grammatical rules when only song choice was considered.

According to the questionnaires, the students enjoyed the chosen songs, and therefore, the study was able to implement the independent variable effectively. However, test results did not show a statistically significant difference between music and non-music conditions; the tests scores varied among students and among chapters. Therefore, the results concur with previous studies that focusing on song choice alone does not support foreign language learning; other variables need to be considered as well to make language learning optimal (Chuang & Beasley, 2008; Moreno & Besson, 2006; Moreno et al., 2009,). The participants of this study had only four class periods before each chapter test, and not all students attended every class period or completed all homework assignments which limited their exposure to the lyrics and the material even more. Therefore in future research, the number of times a song is listened to needs to be increased and attendance and homework completion need to be controlled to assure that all students have ample exposure to the material.

Furthermore, this study confirms the findings by Li and Brand (2009) that alternating music and non-music instruction could be confusing or distracting. Some of the participants had questions on what to do after each chapter, although the procedure was explained prior to working on the computers. For future research, two songs per semester, alternating instruction after Chapter 2, will not only provide more opportunities for repetition but also decrease confusion.

Moreover, the test results brought forth additional variables that need to be taken into consideration when replicating this study. Students in Group 2 had slightly higher scores on all four chapter tests, which could be due to the fact that their attendance was higher. Also, Group 2 had one more student with previous exposure to German. The students in Group 1 had more years of previous exposure. Although the researcher matched the two groups by considering several variables, in future studies, a pretest at the beginning of the semester will provide additional data on previous exposure to match the two groups more evenly.

In addition, the results on the grammar sections of Chapter Tests 1 and 3 showed higher scores for all students. Chapters 2 and 4 covered the accusative case, or direct object of a sentence, with which students from the previous course had more difficulties as well. When replicating this study, the accusative case should be taught during Chapters 2 and 3 rather than 2 and 4 to avoid this bias. When only two songs are chosen, one for Chapters 1 and 2 and one for Chapters 3 and 4, this will not be of concern.

While observing all participants' interactions, it became apparent that working on the computers led to independent work that decreased students' interactions with each other. Beginner foreign language courses require many opportunities to speak and practice new vocabulary and grammar. Working in groups increases these opportunities and encourages students to practice speaking skills and to support each other. Yet, when asked to complete assignments in small groups, the participants of this study worked independently rather than as a group. In comparison, previous students connected quicker when working in small groups. This observation will vary depending on the students, but it became a negative implication for this study. For the rest of the semester, the participants worked in small groups as much as possible to increase their speaking skills.

On the contrary, when looking at the questionnaires, the participants did perceive learning with music and completing assignments using a computer as helpful or somewhat helpful tools and would like to continue incorporating them into the classroom. These learning tools were enjoyable activities for the students. Enjoyable activities increase engagement, which in turn leads to better results, as discussed by Thompson, Schellenberg, and Husain (2001), and by Schön et al. (2008). Although further research is necessary, this can be observed when looking at the data of Student 5. The student indicated on the questionnaire that the student liked the song for Chapter 3 very much. The scores on the vocabulary section of that chapter showed an obvious difference between the other chapters.

Although this action research study brought forth several variables that need to be controlled in future research and the results did not show a statistically significant difference between music and non-music conditions, it did reveal two learning strategies that students enjoyed. Educators have the responsibility to find the best ways to maximize student achievement so that students can succeed in learning a foreign language. By carefully choosing the songs, music can be used in beginner as well as advanced language classes. It is an affordable learning strategy for teachers and students, it practices listening, reading and speaking skills, and, with the help of youtube.com, it can be used during and outside of class to increase exposure.

Since the design of this study was an action research design, replication is recommended; however, based on the participants' preferences, I will continue incorporating popular German songs into future courses. Working on the computer will be incorporated systematically or perhaps for homework assignments only to avoid losing opportunities to practice speaking skills.

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# UNDERWRITERS' TIMING PERFORMANCE AND THE SUBSEQUENT DEALS IN THE IPO MARKET

**Cheulho Lee**
**School of Business**
**Florida Memorial University**
**Miami Gardens, FL 33054**
**clee@fmuniv.edu**

**Abstract**

Although prior studies provide valuable insight into understanding the effect of underwriters' reputation on the issues of underpricing and long-run performance of IPO firms, it is not examined in the literature whether underwriters' reputation has an impact on the subsequent IPO offerings. It is crucial for firms to go public when the market window is open. Otherwise, they would wait for a more propitious time to offer the stock. Thus, for underwriters, successful timing of IPOs would enhance their reputation and increases their access to future IPOs. Since market timing is so important to firms which go public, it is very likely that IPO firms would avoid the underwriters who have provided poor timing service before. This study investigates whether underwriters gain or lose their subsequent IPO deals as a result of timing performance of the previous IPOs. The empirical evidence provided in this study suggests that underwriters are subject to the penalty of the IPO market by losing the subsequent IPO deals when they exhibited poor timing performance in the previous period. On the other hand, underwriters are rewarded by gaining the subsequent IPO deals when they manifest better timing performance in the previous period. The results in this study shed new light on understanding the importance of the relationship between underwriters and their client companies in the IPO market. In addition to these findings, the timing pattern of self-underwritten IPOs is examined. The results suggest that underwriters also time their own offerings.

**Keywords:** Initial public offering, Underwriter

## Introduction

Prior studies show that there is a significant relationship between underwriters' reputation and underpricing of initial public offering (IPO). They also show that there is a linkage between underwriters' reputation and long-run performance of IPO firms.

Louge, Rogalski, Seaward and Foster-Johnson (2002) examine the relationship between underwriter reputation and market activities during the initial public offering process. Underwriter reputation is a significant determinant of premarket underwriter activities, weakly related to aftermarket price stabilization activities, and unrelated to issuer returns. Premarket underwriter activities are a significant determinant of issue-date returns and aftermarket underwriter activities but are unrelated to longer-run returns. Aftermarket underwriter activities are significantly related to longer-run returns.

Carter, Dark and Singh (1998) find that the underperformance of IPO stocks relative to the market over a three-year holding period is less severe for IPOs handled by more prestigious underwriters.

Consistent with prior studies, they also find that IPOs managed by more reputable underwriters are associated with less short-run under-pricing.

Carter and Manaster (1990) show that IPOs with more informed investor require higher returns. The marketing underwriter's reputation reveals the expected level of "informed" activity. Prestigious underwriters are associated with lower risk offerings. With less risk there is less incentive to acquire information and fewer informed investors. Consequently, prestigious underwriters are associated with IPOs that have lower returns.

These studies provide valuable insight into understanding the effect of underwriters' reputation on the issues of underpricing and long-run performance of IPO firms. However, it is not fully examined whether underwriters' reputation has an impact on the subsequent IPO offerings.

Establishing a relationship with a low-risk IPO firms with the potential for subsequent business would help ensure an underwriter's future prestige. Carter (1992) shows that the likelihood of subsequent offerings is negatively related to risk of IPO firms. In addition to finding support for this hypothesis, he shows that the likelihood of subsequent seasoned offerings is positively related to the IPO underwriter's reputation and negatively related to the IPO gross spread. In addition it is found that the likelihood of firms switching IPO underwriters for subsequent seasoned offerings decreases with increasing IPO underwriter reputation.

Unlike Carter (1992) who examined the impact of underwriters' reputation on the subsequent seasoned offerings, this study investigates whether underwriters are subject to market penalty in the form of loss of subsequent IPO deals. Lee (2011) provides empirical evidence that the more reputable underwriters possess a greater proficiency than their lesser known counterparts, in taking companies public when the market valuation of comparable stocks in the same industry is high. If an underwriter provides poor timing service to IPO firms, it is conceivable that other firms will not employ the underwriter's service. The underwriter will end up losing the subsequent IPO deals to its competitors.

It is crucial for firms to go public when the market window is open. Otherwise, they would wait for a more propitious time to offer the stock for the first time in their history. Taking companies public at propitious market windows allow them to raise more capital. Other benefits of successful IPO timing include the minimization of the dilution of the ownership stake, and the increased payoff to venture capitalists and others who provided seed capital during firms' early stages. Thus, for underwriters, successful timing of IPOs would enhance their reputation and increases their access to future IPOs. If the market timing is so important to firms which go public, as often argued by practitioners, it is very likely that IPO firms would avoid the underwriters who have provided poor timing service before.

This study investigates whether underwriters gain or lose their subsequent IPO deals as a result of timing performance of the previous IPOs. Underwriters would be subject to market penalty in the form of loss of subsequent IPO deals, if they provide poor timing service to IPO firms before. On the other hand, underwriters would be rewarded by gaining the subsequent IPO deals when they

manifest better timing performance in the previous period. To verify further the role of underwriters in the timing of IPOs, the timing pattern of self-underwritten IPOs is also examined

**Data**

IPO firms are identified from the semiannual editions of the Investment Dealer's Digest: Corporate Financing Directory. The offering date is also identified from this source. The filing date is obtained from weekly editions of the Investment Dealer's Digest. The Center for Research in Security Prices (CRSP) files are used to find the Standard Industrial Classification (SIC) codes and other information about seasoned firms. The data contains IPO firms that went public between 1980 and 1991. The following criteria are used for inclusion in the IPO sample:

(1) IPO firms are listed in the New York Stock Exchange (NYSE), the American Stock Exchange (AMEX), or the National Association of Securities Dealers Automated Quotation System (NASDAQ).
(2) The offering is made through a firm commitment underwriting arrangement.
(3) IPOs of financial institutions (SIC code 600-699) are excluded; also, foreign companies and American Depository Receipts (ADRs) are omitted. Regulation A offerings and unit offerings are also excluded.

The final sample consists of 2,154 IPOs. They are from 247 different industries. The three digit SIC code is used for industry classification. Table 1 shows the number of IPO firms by year and industry.

**Measurement of Timing Performance**

Underwriters' performance in IPO timing is measured by relying on the performance of an industry index composed of publicly owned companies engaged in the same or similar business. These publicly owned companies also have the similar size.

This study investigates the performance of this industry index during the waiting period. The waiting period is the time period between the filing date and the offering date. This period is particularly important to the investigation of the issue of timing since the formal decision to go public occurs through registration with the Securities and Exchange Commission (SEC) and actual entry in the market occurs at the offering date. During the waiting period, underwriters' pre-selling activity takes place. This study uses the geometrically compounded return to compute returns to avoid measurement errors in accumulated single period returns.

The following procedures are used to measure the performance of the industry index:

***Raw Return on the Industry Index***

Raw returns on the industry index is computed as follows:
The industry index is composed of seasoned firms in the same industry which are close in terms of market capitalization. In order to be included in the industry index, seasoned firm must meet the following conditions:

(1) Firms are in the same three-digit SIC code as IPO firms that are listed on the NASDAQ for at least three years prior to the filing date of an IPO.
(2) Firms must be within a range five times larger than, and one fifth as large as, an IPO firm, in the offering year (20% * the size of an IPO firm - 500% * the size of an IPO firm).

For each IPO, the geometrically compounded (buy-and-hold) return is first calculated for matching firms of the industry index during the waiting period, then an equally-weighted average across these matching firms is computed. Each IPO has a corresponding industry portfolio return over the waiting period (a to b):

$$R_{i\,(a\text{ to }b)} = \frac{\sum_{j=1}^{M}\left[\prod_{t=a}^{b}(1+Rjt)\right]-1}{M} \qquad (1)$$

Where *Rjt* = the daily return of matching firm j in the same industry as an IPO firm
*j* = 1, 2, 3, ……, *M* (matching firms in the same industry)
t = a (filing date), ……. b (offering date)

The cross-sectional average of these return is computed across all IPOs for the waiting period. This procedure yields the raw return on an industry index for the waiting period (a to b):

$$R_{(a\text{ to }b)} = \frac{\sum_{j=1}^{M} Ri(atob)}{N} \qquad (2)$$

Where i = 1, 2, 3, ……*N* (IPO firms)

***Return on the Market Index***

The value-weighted NASDAQ market index return is computed as follows:
For each IPO, the return on the value-weighted NASDAQ market index is calculated for the waiting period. Each IPO has a corresponding market portfolio return over the waiting period (a to b):

$$M_{i\,(a\text{ to }b)} = \prod_{t=a}^{b}(1+Mit)-1 \qquad (3)$$

Where *Mit* = the daily return on a CRSP value-weighted NASDAQ market index
*i* = 1, 2, 3, ……*N* (IPO firms)
*t* = a (filing date), ……. b (offering date)

Then, the cross-sectional average market return across all IPO firms is computed over the waiting period ( a to b):

$$M_{(a\ to\ b)} = \frac{\sum_{i=1}^{N} Mi(atob)}{N} \qquad (4)$$

Where *i* = 1, 2, 3, ……*N* (IPO firms)
t = a (filing date), ……. b (offering date)

***Excess Return on the Industry Index***

To compute the excess return on an industry index, the following procedure is employed:
For each IPO, the return on the value-weighted NASDAQ market index is subtracted from the raw return on an industry index. Each IPO has a corresponding portfolio return over the waiting period (a to b):

$$ER_{i\ (a\ to\ b)} = R_{i(\ a\ to\ b)} - M_{i(a\ to\ b)} \qquad (5)$$

Then, the cross-sectional average of excess returns across all IPOs is computed over the waiting period (a to b):

$$ER_{(\ a\ to\ b)} = \frac{\sum_{i=1}^{N} ERi(atob)}{N} \qquad (6)$$

Where *i* = 1, 2, 3, ……*N* (IPO firms)

***Measurement of Underwriter Reputation***

In order to measure the timing performance of underwriters, a measurable proxy for timing ability is needed. Reputation is difficult to measure. This study uses the number of IPO deals underwritten by each underwriter as a proxy for an underwriter's reputation. The number of deals made in the IPO market by an underwriter should be closely related to that underwriter's reputation.

The entire sample is first divided into two sub-periods, 1980-1985 and 1986-1991. Then, underwriters are ranked within each sub-period by the number of IPO deals they underwrote in each sub-period. Since the reputation of an underwriter does not stay the same over time, using two sub-periods is reasonable. If an IPO has an IPO syndicate, it is assumed that the lead underwriter listed in the Investment Dealer's Digest is fully responsible for the IPO.

Within each period, the underwriters are further divided into two subgroups at the median of the distribution of the number of offerings. Because it is difficult to discern precisely the difference in prestige among underwriters, especially among the less prestigious underwriters, this two-tier system is employed. Within each period, the top 50% of underwriters are referred to as the first-tier underwriter group, and the bottom 50%, as the second-tier underwriter group.

Table 2 provides the names of underwriters that belong to the first-tier underwriter group for each period in the sample. During 1980-1985, out of 189 underwriters, twenty two underwriters belong

to the first-tier group. These first-tier underwriters brought 537 IPO deals to the market. This accounts for 49.9% of total IPO deals. The top five underwriters are L.F. Rothschild (53 deals), D.H. Blair(43 deals), Prudential Bache(38 deals), Kidder Peabody(33 deals), and Alex Brown and Sons(33 deals).

For the 1986-1991period, out of 191 underwriters, fourteen underwriters belong to the first-tier group. These first-tier underwriters brought 521 IPO deals to the market. This accounts for 48.4% of total IPO deals. The top five underwriters are Alex Brown & Sons(79 deals), Goldman Sachs & Co (51 deals), Merrill Lynch (49 deals), Drexel Burnham (47 deals), and Morgan Stanley (40 deals).

One interesting fact is that the first-tier group of underwriters occupies a large share of IPO market. During 1980 and 1985, the average number of IPO deals brought by the first-tier group is about twenty four IPO deals, as compared to about three IPO deals brought by the second-tier group. During 1986 and 1991, the average number of IPO deals brought by the first-tier group is about thirty seven IPO deals, as compared to about three IPO deals brought by the second-tier group.

**Empirical Findings on the Subsequent IPO Deals**

It is investigated whether underwriters gain or lose their subsequent IPO deals as a result of performance of in timing of previous IPOs. The loss of subsequent IPO deals by underwriters due to poor timing advice indicates that IPO firms perceive the importance of timing.

The tests of significance are based on the t-tests and the signed tests, which assume that the observations are independent. Because of clustering of observations in specific time periods, there may be a positive correlation between observations. This might lead to somewhat overstated significance levels. Thus, the statistical tests reported here offer upper bounds for the true significance levels, if there is dependence.

***The First-tier Group of Underwriters in the Previous Period***

To test whether there is a relation between timing performance of previous IPOs and subsequent changes in the number of IPO deals, within the first-tier group of underwriters in the first sub-period (1980-1985), underwriters are partitioned into two groups. The first group is composed of underwriters that remain in the first tier category in the second sub-period (1986-1991). As reported in Table 3, of the twenty two first–tier underwriters, ten underwriters belong to this category. These underwriters are Kidder Peabody, Alex Brown and Sons, Drexel Burnham, Sherason Lehman, Hambrecht & Quist, Goldman Sachs & Co, Merrill Lynch, Donaldson Lufkin, Morgan Stanley and Smith Barney Harris.

The second group comprises underwriters who are relegated to the second-tier group. Of the twenty two first–tier underwriters, twelve underwriters belong to this group. These banks are LF Rothscild, D H Blair & Co., Prudential Bache, Dean Witter Reynolds, Roony Pace Inc, Bear Stearns, E. F. Hutton, Laidlaw Adams, Ladenburg Thalmann, Lehman Brothers, Advest Inc. and Paulson Investment.

Between these two groups, it is analyzed whether there is difference in timing performance in the first sub-period. It is expected that the first group should exhibit better timing performance than the second group. Accordingly the market-adjusted return should be higher for the first group. The average market-adjusted return is 1.56% for the first group, as compared to 0.31% for the second group. The difference is statistically insignificant at the traditional levels. However, the difference in the average market-adjusted return between the two groups is 1.24%.

The fraction of positive market-adjusted return is 58.0% and 46.0% for the first and second group groups respectively. There is a 12% difference between the two groups .The difference is significant at the 5% level. These results appear to support the conjecture that underwriters are subject to market penalties in the form of loss of subsequent deals because of poor timing ability in the previous period. On the other hand, underwriters are rewarded by maintaining their prestige in gaining the subsequent IPO deals when they show better timing ability in the previous period.

Five banks, which fell into the second-tier group in the second sub-period, exited the IPO market. To avoid undue influence of these underwriters, these underwriters are omitted from the sample, and the same test is conducted again. The average market-adjusted return is -0.11% for the second group as compared to 1.56% for the first group. The difference in the average market-adjusted return is 2.67%. The difference between the first and second groups is significant at the 10% level.
The fraction of positive market-adjusted returns is 44.7% for the second group as compared to 58.0% for the first group. The difference between the two groups is insignificant. The difference in magnitude between the two values obtained for these two groups is greater than that obtained from the test which includes all underwriters. Again, these results seem to reveal that underwriters are punished by the market in the form of loss of subsequent deals when they exhibit poor timing performance in the previous period.

***The Second-tier Group of Underwriters in the Previous Period***

As for the second-tier group of underwriters in the first sub-period (1980-1985), underwriters are again divided into two groups. The first group is composed of underwriters who ascend to the first-tier group in the second sub-period (1986-1991). Of the 167 second- tier underwriters, four underwriters fit into this category. These underwriters are Paine Webber, First Boston, Robertson Coleman, and Montgomery Securities. The small sample size might hinder meaningful statistical influence. Thus, the empirical results using this sample might be only suggestive in nature.

The second group comprises underwriters who remain in the second category. Between these two groups, timing performance in the first sub-period is compared. It is expected that the first group should exhibit better timing performance than the second group. Accordingly the market-adjusted return should be higher for the first group.

The average market-adjusted return is 0.20% for the first group, as compared to -0.36% for the second group. The difference in the average market-adjusted return is 0.56%. This difference is statistically insignificant at the traditional levels.

The fraction of positive market-adjusted returns is 50.0% and 43.6% for the first and second groups respectively. The difference in the fraction of positive market-adjusted returns is 6.4%. Their difference is statistically insignificant. Even though these tests are insignificant at the traditional levels, the sign and magnitude seem to suggest that financial markets reward underwriters who possess better timing ability.

It may be argued that the results of this study may not be conclusive, because it does not control for other factors which might affect the subsequent IPO deals. It is true that most of underwriters are engaged in other investment banking services such as brokerage service and advisement service for mergers and acquisitions. Their performance in these areas would certainly impact the reputation of underwriters. It is nearly impossible to control for all these other tangible and intangible factors, which would influence the subsequent IPO deals. Perhaps future research would shed more light on this issue.

Another concern may be the use of the number of IPO deals as a proxy for an underwriter's ranking. Lee (2011) reports that in his study of underwriters' reputation, his results are not affected by other ranking systems such as the average deal size or Carter/Manaster rankings developed by Carter and Manaster (1990). In addition, since this study investigates the effect on the subsequent IPO deals, it would be more appropriate to use the number of IPOs as a proxy for the underwriter's reputation.

**Empirical Findings on the Self-Underwritten IPOS**

This study provides additional evidence that timing of IPOs plays an important role in underwriters' reputation. To verify further the role of underwriters in the timing of IPOs, the timing pattern of self-underwritten IPOs is examined. These IPOs are those of underwriters underwritten by themselves. There are eleven self-underwritten IPOs. For these self-managed IPOs, the waiting period market-adjusted return on the industry index is 2.60%. It is significant at the 10% level.

The fraction of positive excess returns is 54.5%. It is insignificant at the traditional level. Even though the small sample size (eleven IPOs) might hinder meaningful statistical influence, these results suggest that underwriters time their own offerings when the market valuation of their peers is high.

**Conclusion**

If an underwriter provides poor timing service to IPO firms, it is conceivable that other firms will not employ the underwriter's service, when they consider going public. The underwriter would end up losing subsequent IPO deals to its competitors. Carter (1992) shows that the likelihood of subsequent offerings is negatively related to risk of IPO firms. In addition to finding support for this hypothesis, he shows that the likelihood of the subsequent seasoned offerings is positively related to the IPO underwriter's reputation and negatively related to the IPO gross spread. In addition it is found that the likelihood of firms switching IPO underwriters for subsequent seasoned offerings decreases with increasing IPO underwriter reputation.

Unlike Carter (1992) who examined the impact of underwriters' reputation on the subsequent seasoned offerings, this study investigates whether underwriters are subject to market penalty in

the form of loss of subsequent IPO deals. It is crucial for firms to go public when the market window is open. Otherwise, they would wait for a more propitious time to offer the stock for the first time in their history. Taking companies public at propitious market windows allow them to raise more capital. Other benefits of successful IPO timing includes the minimization of the dilution of the ownership stake, and the increased payoff to venture capitalists and others who provided seed capital during firms' early stages. Thus, for underwriters, successful timing of IPOs would enhance their reputation and increases their access to future IPOs. If the underwriter's market timing role is so important to firms which go public, as often argued by practitioners, it is very likely that IPO firms would avoid the underwriters who have provided poor timing service before.

This study investigates the relationship between underwriters' timing performance and the subsequent IPO deals. The results of this study support the conjecture that underwriters are subject to market penalties in the form of loss of the subsequent deals because of poor timing ability in the previous period. On the other hand, underwriters are rewarded by gaining the subsequent IPO deals when they manifest better timing performance in the previous period. The evidence enhances an understanding of the importance of the relationship between underwriters and their client companies. To verify further the role of underwriters, the timing pattern of self-underwritten IPOs is also examined. The results suggest that underwriters also time their own offerings.

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Table 1
*Data Description*
This table shows the distribution of IPOs by Year and Industry.

| **SIC** | **Total** | **80** | **81** | **82** | **83** | **84** | **85** | **86** | **87** | **88** | **89** | **90** | **91** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 737 | 210 | 4 | 18 | 11 | 50 | 19 | 9 | 27 | 19 | 7 | 11 | 6 | 29 |
| 357 | 153 | 7 | 16 | 8 | 40 | 11 | 14 | 16 | 13 | 3 | 8 | 9 | 8 |
| 283 | 103 | 2 | 6 | 5 | 21 | 5 | 4 | 15 | 5 | 1 | 4 | 4 | 31 |
| 367 | 85 | 5 | 10 | 3 | 14 | 10 | 4 | 8 | 9 | 4 | 4 | 3 | 11 |
| 384 | 83 | 5 | 14 | 4 | 12 | 4 | 5 | 6 | 7 | 5 | 4 | 5 | 12 |
| 366 | 82 | 2 | 17 | 7 | 20 | 6 | 6 | 5 | 7 | 2 | 1 | 5 | 4 |
| 581 | 65 | 1 | 7 | 6 | 17 | 7 | 5 | 6 | 3 | 0 | 4 | 2 | 7 |
| 382 | 44 | 5 | 7 | 3 | 10 | 3 | 5 | 5 | 3 | 0 | 0 | 0 | 3 |
| 138 | 38 | 6 | 21 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 2 |
| 809 | 33 | 2 | 4 | 0 | 5 | 5 | 6 | 2 | 4 | 0 | 5 | 5 | 6 |
| 131 | 32 | 9 | 10 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 8 | 0 |
| 495 | 28 | 0 | 0 | 1 | 2 | 0 | 3 | 6 | 7 | 3 | 2 | 2 | 2 |
| 506 | 26 | 1 | 4 | 0 | 7 | 2 | 0 | 4 | 3 | 1 | 0 | 3 | 1 |
| 739 | 26 | 1 | 5 | 3 | 7 | 2 | 2 | 3 | 3 | 0 | 0 | 0 | 0 |
| 451 | 25 | 4 | 4 | 1 | 6 | 5 | 2 | 1 | 1 | 0 | 0 | 1 | 0 |
| Other | 1121 | 24 | 75 | 15 | 171 | 83 | 104 | 203 | 170 | 66 | 48 | 40 | 111 |
| **Total** | **2154** | **78** | **218** | **68** | **382** | **162** | **169** | **307** | **256** | **92** | **96** | **99** | **227** |

Table 2. *The First-tier Underwriters*

This table provides the names of underwriters that belong to the first-tier underwriter group for each period in the sample. During 1980-1985, out of 189 underwriters, twenty two underwriters belong to the first-tier group. These first-tier underwriters brought 537 IPO deals to the market. This accounts for 49.9% of total IPO deals. For the 1986-1991period, out of 191 underwriters, fourteen underwriters belong to the first-tier group. These first-tier underwriters brought 521 IPO deals to the market.

**Panel A: 1980-1985**

| Rank | Underwriter | # offerings | % |
|---|---|---|---|
| 1 | L F Rothschild | 53 | 4.9 |
| 2 | D H Blair & Co | 43 | 4.0 |
| 3 | Prudential Bache | 38 | 3.5 |
| 4 | Kidder Peabody | 34 | 3.2 |
| 5 | Alex Brown and Sons | 33 | 3.0 |
| 6 | Drexel Burnham | 32 | 3.0 |
| 7 | Sherason Lehman | 31 | 2.9 |
| 8 | Hambrecht & Quist | 26 | 2.4 |
| 9 | Goldman Sachs & Co | 23 | 2.1 |
| 10 | Merrill Lynch | 23 | 2.1 |
| 11 | Dean Witter Reynolds | 20 | 1.9 |
| 12 | Rooney Pace Inc | 19 | 1.8 |
| 13 | Bear Steams | 18 | 1.7 |
| 14 | Donaldson Lufkin | 18 | 1.7 |
| 15 | E.F.Hutton Co & Inc | 18 | 1.7 |
| 16 | Morgan Stanley | 18 | 1.7 |
| 17 | Laidlaw Adams | 17 | 1.6 |
| 18 | Ladenburg Thalmann | 15 | 1.4 |
| 19 | Lehman Brothers | 15 | 1.4 |
| 20 | Smith Barney Harris | 15 | 1.4 |
| 21 | Advest Inc | 14 | 1.3 |
| 22 | Paulson Investment | 14 | 1.3 |

**Panel B: 1986-1991**

| Rank | Underwriter | # offerings | % |
|---|---|---|---|
| 1 | Alex Brown and Sons | 79 | 7.3 |
| 2 | Goldman Sachs & Co | 51 | 4.7 |
| 3 | Merrill Lynch | 49 | 4.6 |
| 4 | Drexel Burnham | 47 | 4.4 |
| 5 | Morgan Stanley | 40 | 3.7 |
| 6 | Paine Webber | 39 | 3.6 |
| 7 | Kidder Peabody | 34 | 3.1 |
| 8 | Smith Barney | 32 | 3.0 |
| 9 | First Boston | 30 | 2.8 |
| 10 | Shearson Lehman | 27 | 2.5 |
| 11 | Robertson Colman | 26 | 2.4 |
| 12 | Montgomery | 24 | 2.2 |
| 13 | Donaldson Lufkin | 22 | 2.0 |
| 14 | Hambrecht & Quist | 21 | 2.0 |

Table 3. *Change in underwriters' prestige between the two periods*

| From 1st Tier to 1st Tier | From 1st Tier to 2nd Tier | From 2nd Tier to 1st Tier |
|---|---|---|
| Kidder Peabody | L F Rothschild | Paine Webber |
| Alex Brown and Sons | D H Blair & Co | First Boston |
| Drexel Burnham | Prudential Bache | Robertson Colman |
| Sherason Lehman | Dean Witter Reynolds | Montgomery Securities |
| Hambrecht & Quist | Rooney Pace Inc | |
| Goldman Sachs & Co | Bear Steams | |
| Merrill Lynch | E.F.Hutton Co & Inc | |
| Donaldson Lufkin | Laidlaw Adams | |
| Morgan Stanley | Ladenburg Thalmann | |
| Smith Barney Harris | Lehman Brothers | |
| | Advest Inc | |
| | Paulson Investment | |

Table 4. *Timing Performance of the First-tier Underwriters in the Previous Period*

Within the first-tier group of underwriters in the first sub-period (1980-1985), underwriters are partitioned into two groups. The first group is composed of underwriters that remain in the first-tier category in the second sub-period (1986-1991). The second group comprises underwriters who are relegated to the second-tier group in the second sub-period. This table shows the market-adjusted return of each group.

| Market-adjusted Return of 1st Group | Market-adjusted Return of 2nd Group | T -test of difference | % positive of 1st Group | % positive of 2nd Group | Sign test of difference |
|---|---|---|---|---|---|
| 1.56 | 0.31 | | 58.0 | 46.0 | ** |

** Significant at the 5% level

Table 5. *Timing Performance of the Second-tier Underwriters in the Previous Period*

Within the second-tier group of underwriters in the first sub-period (1980-1985), underwriters are partitioned into two groups. The first group is composed of underwriters who ascend to the first-tier category. The second group comprises underwriters who remain in the second category in the second sub-period (1986-1991). This table shows the market-adjusted return of each group.

| Market-adjusted Return of 1st Group | Market-adjusted Return of 2nd Group | T -test of difference | % positive of 1st Group | % positive of 2nd Group | Sign test of difference |
|---|---|---|---|---|---|
| 0.20 | -0.36 | | 50.0 | 43.6 | |

Table 6. *The Market-Adjusted Return of Self-underwritten IPOs*

| Return | % positive |
|---|---|
| 2.6* | 54.5 |

* Significant at the 10% level

# STRATEGIC COLLECTIVE FOCUS: THE CRITICAL ELEMENT IN EFFECTIVE SCHOOLS

**Connie L. Myer**
**Professional Education**
**Wheeling Jesuit University**
**Wheeling, WV 26059**
**cmyer@wju.edu**

**Abstract**

School effectiveness does not happen by accident. It requires a strategic collective focus on excellence engineered by the school leader. This paper pinpoints the research supporting the notion that there are three broad aspects of school-improvement efforts that should be considered: the target, the team, and the tactics. The target domain involves the development of a shared vision of excellence for teaching and learning in the school. The team domain emphasizes the synergistic effect of a team of people who are empowered and supported in a collective focus on achieving the shared vision. The tactics domain involves methods and insights about achieving the vision. The mandate is clear. The successful school leader must establish a shared vision and align all aspects of the school toward achieving that goal. The leader must develop his own and his team members' abilities to work with each other. Doing this well has a direct impact on both personal and organizational success.

**Keywords:** Education, Leadership, School improvement, Vision, Mission, Target, Team, Tactics, Collective focus

## Introduction

An effective school is a powerful school with specific characteristics. In an effective school, there is an orderly, purposeful, businesslike atmosphere, free from the threat of physical harm. There is a climate of high expectations for the academic success of all students and the capabilities of all teachers to make it happen. The principal serves as an instructional leader, effectively and persistently communicating the school mission to all. This mission is jointly developed, shared, and clearly articulated by all those involved. Teachers in this school devote a significant amount of classroom time to instruction. Academic progress of students is measured frequently through a variety of assessment procedures, the results of which are used to improve instruction and student performance. Parents of these students understand and support the school's mission and are given the opportunity to play an important role in helping the school to achieve it (Lezotte, 1991).

Teaching and learning is the central focus in a powerful school. The culture of the school is positive and supportive such that students and staff look forward to being there. Students are engaged and take responsibility for their own learning. Teachers are passionate, dedicated, life-long learners. They work as a team to develop instructional strategies to meet the needs of each child. The well-paced curriculum is aligned to state standards. Assessment is used diagnostically to improve student

achievement. Parents are welcomed as partners in educating their children. The school is respected by outsiders. Continuous improvement is the norm (Appalachia Educational Laboratory, 2005).

A powerful school has a strong sense of collective identity and community spirit that can carry it through extraordinarily tough times (Kouzes & Posner, 2003). An academically effective school is distinguished by its culture: a structure and a process (Schein, 1992), as well as climate values and norms that channel staff and students in the direction of successful teaching and learning (Purkey & Smith, 1989).

School improvement is an ongoing process. Decades of research on school improvement support the notion that a collective focus on excellence is vital to forming the foundation of a powerful school. The body of this work may be divided into three broad domains: (a) the target, (b) the team, and (c) the tactics. The term *target* refers to a shared, unique vision of the ennobling possibilities for what the school could be. *Team* describes everyone involved with the school, collectively focused on achieving the target. The team produces the human resource synergy that gives the group the ability to outperform even its best individual member (Buchanan & Huczynski, 1997). *Tactics* explains the means by which the school leader can create a culture of success. In such a culture, both students and teachers flourish. There is a heightened sense that everyone in the school is both obligated and able to take control of his or her life and can make a positive difference in the school (Schein, 1992). The leader sets the tone that makes building quality relationships and the search for excellence possible. The process begins with finding the target.

**The Target**

Leaders envision the future. They imagine the attractive opportunities that are in store once they and their constituents arrive at the final destination. In some ways, leaders live their lives backward. They see pictures in their mind's eye of what the results will look like even before they have started their project, much as an architect draws a blueprint or an engineer builds a model. Their clear image of the future pulls them forward (Kouzes & Posner, 2003).

The terms target, vision, mission, objective, and purpose are often used interchangeably. Regardless of what term is used, developing an ideal target for the school requires thoughtful planning.

The purpose of the planning process is to identify, from among the myriad of things that could be done, those few strategic objectives that, when achieved, would produce previously unattainable results. The planning process is the vehicle for setting priorities. It is also the means by which new ideas, old beliefs, and current practices are put under the magnifying glass. Planning provides a strategic framework for action, but it does not end at the end of the school year. The process is dynamic and continuous. Plans may have to be modified, but if priorities are set, all can stay focused on reaching the target (Kaltman, 1998).

When a target is clearly established, decision making is easier. If an activity causes the loss of sight on the priorities and is unrelated to the target, it needs to be questioned. It is tempting to get sidetracked into pursuing easy, but unrelated, successes. The yardstick that should be used to measure performance is not a list of minor, perhaps peripheral, accomplishments, no matter how

long. Even extraordinary performance on a secondary priority is only an unnecessary success and an unwelcome distraction. The real measure is the contribution you are making toward achieving your primary objective, and this is where all efforts need to be concentrated (Kaltman, 1998).

The development of a school vision involves getting faculty, staff members, families, and committee members together to talk, discuss, collaborate, and use data-driven decision making to determine exactly where the campus is now and where it wants to be in the future. The place the school wants to be becomes the campus vision. From that point on, everything the campus does should be aligned with that vision (Wilmore, 2002).

Collectively focusing on the vision involves developing goals and strategies to achieve it and aligning resources and staff development with it. Everything said, done, planned for, or purchased should focus on the achievement of this collaboratively developed campus vision. This does not mean the vision will not change as the school changes. It simply means that at this moment, this is the school's vision. As times and situations make transitions, the vision will change accordingly. Everything grows and changes; so does the vision (Wilmore, 2002).

The norms of a school, regardless of how they manifest themselves, underscore the point that they should represent a clear, articulated vision of what the school stands for, a vision that embodies core values and purposes (Saphier & King, 1985). The vision is the concise statement or picture of where the school and its people are heading and why they are proud of it. Those involved with the school must know where they are going, be able to state it clearly and concisely, and care about it passionately (Phillips, 1992).

There are people who do not put emphasis on a school vision or mission. They consider it to be merely "soft stuff" that people in ivory towers talk about but that has no real meaning in the actual management of a school. The problem is that if we do not know where or why we are going someplace, it should come as no surprise when we do not get there. We must begin with the end in mind (Covey, 2004).

Patterson and Kelleher (2005) also emphasize the importance of a clearly stated mission, but assert that many times school leaders themselves are not clear about what they mean. This lack of clarity inevitably creates even greater confusion in the minds of those receiving the message. Especially in times of adversity, people need leaders to provide clear direction anchored in clearly understood values.

**The Team**

Successful leaders find it necessary to identify a constituency with whom they are going to work. Somebody has to be their arms and legs (Lezotte, as cited in Patterson & Kelleher, 2005). Grand dreams do not become significant reality through the actions of a single leader. Leadership is a team effort. A simple test to detect whether someone is on the road to becoming a leader is the frequency of the word *we* (Kouzes & Posner, 2003).

Leadership does not exist in a vacuum but is simply one component of effective organizational behavior (Glatthorn & Jailall, 2009). No matter how capable a leader is, he or she alone will not be able to deliver a large project or program without the joint efforts and synergies that come from the team. Whereas there are several hundred definitions of leadership in the academic literature, the simplest way to know is just to look to see whether that person has followers, perhaps whether they see themselves as such or not. If you think you are a leader and you turn around and no one is following you, then you are simply out for a walk (Kouzes & Posner, 2010).

A conductor works at getting each member of the orchestra to play an instrument in concert with all the other members; success is determined by how well they play together. Good leadership enables the players, whether in the orchestra, on the basketball team, or in a school to achieve more as members of the group than they ever could as individuals. Leadership is about relationships. A leader must form relationships that build a team (Hoerr, 2005).

The principal with a moral imperative can help realize it only by developing leadership in others. It is the combined forces of shared leadership that makes a difference. School leadership is a collective enterprise (Fullan, 2003). The term *team* can represent groups as broad as the multicultural citizens of the whole school district or as narrow as the social studies faculty in a high school. Every organization has subcultures (Patterson & Kelleher, 2005).

The success of a team begins with building relationships. Relationships are not the only things that matter; however, unless the relationship piece is in place, successfully completing the task will be more difficult (Hoerr, 2005).

The role of the principal in cultivating a network of relationships is of importance not only in developing collaborative, participatory decision making, but also in maintaining the restructuring effort as a whole (Prestine, as cited in Murphy & Seashore, 1994). The principal of a successful school is not the only instructional leader but the coordinator of teachers as instructional leaders (Glickman, 1991).

Part of the appeal of a team for its members—and a tool team builders can use—is the human need to belong. When the needs for safety and for physiological well-being are satisfied, the need for love, affection, and belonging can emerge. People seek to overcome feelings of loneliness and alienation. This involves both giving and receiving love, affection, and the sense of belonging (Maslow, as cited in Huitt, 2007). The need to belong is a powerful, fundamental, and extremely pervasive motivation (Baumeister & Leary, 1995). Another reason team membership can be personally appealing is that one of the most powerful internal motivators on the planet is a sense of meaning and purpose (Thomas, 2009).

Facilitative principals repeatedly express the value of the support network that a group of like-minded colleagues provide them. They bring teams of teachers, parents, and support staff to network retreats. They seek out each other socially and professionally. It is not unusual, for example, for high-school staff to visit an elementary school in another district where they will learn about a technique such as portfolio assessment. Elementary principals feel comfortable interacting with middle-school and high-school principals. Their common link is their belief that staff should be

involved in and have ownership of decisions that affect their capacity to teach effectively (Murphy & Seashore, 1994).

In a school with a facilitative leader, there is a sense that everyone in the school is both obligated and able to take control of her professional life and work environment—that everyone can and must make a difference in her school (Murphy & Seashore, 1994). People organize together to accomplish more, not less. Behind every organizing impulse is a realization that by joining with others, we can accomplish something important that we could not accomplish alone. This impulse to organize in order to accomplish more is not only true of humans but is also found in all living systems (Hesselbein & Cohen, 1999).

Every living thing seeks to create a world in which it can thrive. It does this by creating systems of relationships in which all members of the system benefit from their connections. This self-organization in the sciences is everywhere, from microbes to galaxies. Patterns of relationships form into effective systems of organization. Organization is a naturally occurring phenomenon. The world seeks organization, seeks its own effectiveness, and so do the people in the organization (Hesselbein & Cohen, 1999).

As a living system self-organizes, it develops a shared understanding of what is important, what is acceptable behavior, what actions are required, and how these actions will get done. As the system develops, new capacities emerge from working together (Hesselbein, 1999). Organization occurs from the inside out, as people see what needs to happen, apply their experience and perceptions to the issue, find those who can help them, and use their own creativity to invent solutions. At this point, people are exercising initiative from a deeper desire to contribute, displaying the creativity that is common to all living things (Wheatley, as cited in Hesselbein & Cohen, 1999).

Leaders are continually opening new avenues for people in the organization. They are moving toward true team structures, opening to more and more participative processes, and introducing new ways of thinking. Leaders who have feared the consequences of letting go and giving control to others ultimately have found their fears were groundless. They found an unimagined resource capability that emerged when there was a common vision and a common value system (Hesselbein & Cohen, 1999).

A leadership team is composed of individuals who know that, by themselves, they lack the time, energy, and expertise to make consistently wise decisions on behalf of the organization. By relying on other team members, these individuals gain from the counsel, perspective, and different skill sets of the rest of their fellow leaders. Although the leadership team does not act robotically with a single voice, it functions much like a president's cabinet, sharing insights and coming up with the best recommendations possible (Bell & Smith, 2010).

When storms strike an organization, the collective resilience of those inside the organization helps determine whether the organization plateaus after the storm at the (a) dysfunctional, (b) survival, (c) recovery, or (d) growth level of functioning (Patterson & Kelleher, 2005). A team with a strong sense of collective efficacy holds a deep-rooted belief in the group's capacity to face any threat that arises with the confidence that the culture will prevail. The team leader plays a crucial role in creating a

social context that enables the team to face storms, achieve successful outcomes, and emerge with increased team efficacy (Patterson & Kelleher, 2005).

As a collaborative school team, we should plan ways to solicit and involve multiple stakeholders from families and the entire community to become involved and invested in the progress of our schools toward our collaboratively developed vision of excellence. What others may not be able to supply in money, they may be able to supply in time, talents, expertise, or other resources. The number-one thing we need to solicit actively and positively every day is support. We need the support of the entire school community (Wilmore, 2002).

Great leaders see their role as systematically developing leadership in others so that sustainability can be achieved. These leaders build greatness through a blend of personal humility and intense professional will; they do not consider themselves as superior leaders looking down on their less-fortunate counterparts. The best leaders have a multi-level moral imperative, personal humility, and intense personal will (Collins, 2001).

In schools, we must communicate to everyone—parents, community members, civic clubs, churches, strangers on the street—who we are, what we are there for, where we are going, what our plans are. Then we must invite them to join us in our crusade. Everyone involved with or who has an interest in the school is a part of the school community. The difference between success and failure revolves around analyzing and solving problems to overcome any barrier to success. Family involvement is an important part of this process. Families are critical stakeholders in the learning community and, therefore, valuable assets in achieving the vision (Wilmore, 2002).

Leaders alone do not make anything great. Leadership is a shared responsibility. The attitude should be that you need others, and they need you. You are all in this together (Kouzes & Posner, 2010).

**The Tactics**

Throughout human history, people have risked life, security, and wealth for something that is greater than themselves. People want a chance to take part in something meaningful and important. There is a deep human yearning to make a difference. People want to know that there is a purpose to their existence. They want to know that their lives mean something. A significant part of the leader's job is uncovering and reflecting back the meaning that others seek (Kouzes & Posner, 2003).

Because extraordinary achievements do not result simply from the actions of the leader, it is critical that you build a team of people who feel powerful and capable of taking action. when people are with this kind of leader, they feel empowered, listened to, understood, capable, important, like they mattered, challenged to do more, and other similar descriptors. The best leaders take actions that make people strong and capable. They make people feel that they can do more than they thought they could. One of the reasons people want to follow a leader is because they know that they will be better off as a result of being in that relationship than they would be otherwise (Kouzes & Posner, 2003).

Rather than thinking that you, as the leader, have all the answers, you need to be able to ask great questions. Great questions send people on pioneering journeys in their minds. They are much more likely to discover novel ideas when you set them free to explore on their own. The answers are out there, and they will be found among your constituents as long as people feel safe in offering them (Kouzes & Posner, 2003).

Asking questions is just one way that you can communicate that you believe in other people's abilities. Giving them choices, providing them with discretion over how things are done, and fostering accountability in others. People want to feel in charge of their own lives. They want to be in control. They want to determine their own destinies. They want to know that their input matters, that their ideas are good ones, that their answers are correct, and that their decisions will be supported (Kouzes & Posner, 2003)

It is the job of the leader to increase people's sense of self-determination, self-confidence, and personal effectiveness. It is the job of the leader to interact with others in ways that promote connection, collaboration, confidence, and competence. When you do, you will see learning, innovation, and performance soar (Kouzes & Posner, 2003). Good leaders change organizations; *great* leaders change people. Leaders do guide the creation of the vision, deal with external parties, and inspire, but leaders also execute the strategies that make the vision a reality, deal with the employees, and follow through to ensure that the right things are done in the right way (Hoerr, 2005).

Clarity of purpose keeps principled warriors (leaders who mobilize strength, courage, and willingness to fight as necessary to fulfill their mission) focused on the big picture. It helps them avoid detours and chart a consistent course, while it permits them to be flexible about strategies and tactics. With their eyes on the prize, conviction and commitment fuel their determination to pursue victory courageously and tirelessly. They are the warriors most likely to be remembered far more for what they built than for what they destroyed (Bolman & Deal, 2006).

A vision seen only by a leader, however, is insufficient to create an organized movement or a significant change. A person with no constituents is not a leader, and people do not follow until they accept a vision as their own. Leaders cannot command commitment; they can only inspire it. Leaders enlist others in a common vision. To enlist people in a vision, a leader must know his constituents and be able to relate to them in ways that energize and uplift them. People must believe that their leader understands their needs and has their interests at heart. Only through an intimate knowledge of their dreams, hopes, aspirations, visions, and values are you able to enlist support. Leadership is a dialogue, not a monologue (Kouzes & Posner, 2003).

To build and sustain a sense of oneness, exemplary leaders are sensitive to the needs of others. They ask questions. They listen. They provide support. They develop skills. They ask for help. They align people in a common cause. They make people feel as if anything is possible. They connect people to their need to be in charge of their own lives. They enable others to be even better than they already are (Kouzes & Posner, 2003).

Researchers have concluded that the quality of the school leader is a key leverage point in school improvement. The leader acts as the group's emotional guide. The primordial task of leadership is driving the collective emotions in a positive direction and clearing the emotional smog created by toxic emotions (Goleman, Boyatzis, & McKee, 2004). Key points about leadership qualities follow.

**The Leader**

Highly successful leaders channel their ego needs away from themselves and into the larger goal of building a great organization. It is not that these leaders have no ego or self-interest. Indeed, they are incredibly ambitious—but their ambition is first and foremost for the institution, not themselves. Highly successful leaders are a study in duality: modest and willful, humble and fearless (Collins, 2001).

Highly successful leaders have the attitude that, "I will take responsibility for this bad decision, but we will all take responsibility for extracting the maximum learning from the tuition we have paid. When you conduct autopsies of how difficult situations were handled without blame, you go a long way toward creating a climate in which the truth is heard. If you have the right people, you should almost never need to assign blame but need only to search for understanding and learning (Collins, 2001).

The best leaders create thinking machines. This means hiring people who are intelligent, are eager to learn, show initiative, and have common sense. The job of the leader is to help a group of people to realize a shared sense of purpose through discussions of the objectives and the important role each of them would play in implementing the action plans that led to the objectives. The leader should give empowering instructions, but remember that empowered people make mistakes. The empowerment message should be reinforced by turning those mistakes into training opportunities (Kaltman, 1998).

Leaders who are realistic optimists hold high expectations for the future and, at the same time, understand that achieving something less is not total failure. Great leaders work to ensure the organization's goals live in the heart, soul, and mind of the people who make up the institution. When this is the case, the people find ways to work within the realities of the human condition and the realities of the organization to achieve these goals. Just as one's core values express an overall belief about what is important in life, certain professional values express one's belief about what matters most in the work environment (Patterson & Kelleher, 2005).

Great school leaders are energy creators. Their own personal energy directly affects the collective energy of the organization. Resilient leaders recognize this impact and, when storms strike consciously implement strategies to protect the team members' physical energy, nurture their emotional energy, help center their mental energy, and challenge them to draw on their spiritual energy to sustain them through the storm. A team's resilience capacity represents the team's potential to make good things happen in the face of a storm (Patterson & Kelleher, 2005).

When you believe the best about your people and treat them as talented contributors, they tend to produce in kind. This is not Pollyannaish leadership. It is strategic choice to emphasize the positive, expect the best, and reward performance more often than punishing failure (Handy, 1996).

Leaders breathe life into the hopes and dreams of others and enable them to see the exciting possibilities that the future holds. Leaders forge unity of purpose by showing constituents how the dream is for the common good. You cannot ignite the flame of passion in others if you cannot express enthusiasm for the compelling vision of the group. You must communicate your passion through vivid language and expressive style. The leader's excitement is catching. It spreads from leader to constituents. Their belief in and commitment to the vision are the sparks that ignited the flame of inspiration (Kouzes & Posner, 2003).

Exemplary leaders enable others to act. They foster collaboration and build trust. This sense of teamwork goes far beyond a few direct reports or close confidants. In today's "virtual" organization, cooperation cannot be restricted to a small group of loyalists; it must include all those who have a stake in the vision. You have to involve, in some way, everyone who must live with the results, and you must make it possible for others to do good work (Kouzes & Posner, 2003).

Leaders also know that no one does his or her best when feeling weak, incompetent, or alienated; they know that those who are expected to produce results must feel a sense of personal power and ownership. Leaders understand that the command-and-control techniques of the Industrial Revolution no longer apply. Instead, leaders work to strengthen others to deliver on the promises they make. You cannot hoard the power you have as a leader; you must give it away. When you trust others and give them more discretion, more authority, and more information, they are much more likely to use their energies to produce extraordinary results (Kouzes & Posner, 2003).

Good leaders proudly discuss teamwork, trust, and empowerment as essential elements of their efforts. A leader's ability to enable others to act is essential. Constituents neither perform at their best nor stay around very long if their leader makes them weak, dependent, or alienated. When you make someone feel strong and capable—as if she can do more than she ever thought possible—that person will give all and exceed the leader's expectations. When leadership is a relationship, founded on trust and confidence, people take risks, make changes, and keep organizations and movements alive (Kouzes & Posner, 2003).

Good leaders serve as facilitators and developers rather than bosses. They are involved in helping to create a common vision for the school, to model behaviors consistent with that vision, and to allocate resources and distribute information that helps the total school community move toward that vision (Conley, 1993).

Leaders speak most clearly with their actions—changes they make in decision rules (who has the authority to make what decisions), allocation of personal time (meetings accepted and canceled), and relationships (taking the time to understand the personal stories of colleagues). When staff members hear the clarion call for transformation from a leader whose personal actions have remained unchanged, their hope turns to cynicism in an instant (Reeves, 2009).

The one quality in a leader that does matter is the ability to build relationships with people at all levels of the organization and to inspire the rest of the management team to do the same. CEOs who present themselves as fellow employees rather than masters can foster positive attitudes that translate into improved organizational performance (Hoerr, 2005).

Most successful leaders have the ability to communicate persuasively, either through creative use of words that paint a compelling view of the future for the organization or work group, or by the certainty with which the leader introduces the mission and the strategic plans to accomplish that mission. The second potential for influence comes from a leader's ability to tune in to the needs of the followers. Those people who feel that they are truly understood may be more likely to listen to the leader's ideas and implement his plans (Riggio, Murphy, & Pirozzolo, 2002).

**Conclusion**

The mandate is clear. To create an effective school, the leader must build a collective focus on excellence in all aspects of school life. The leader must establish a shared vision and align all the elements of the school toward achieving that goal. The leader must build her own and her team's abilities to work with each other. Doing this well will have a direct impact on both personal and organizational success (Goleman, 2006).

An organization is one large ecosystem that is interrelated and interdependent. The leader is always working on himself and working to improve his emotional bank account with others. He is working on structures, systems, and processes so they are in alignment with and supportive of the shared values and vision. Leaders need enough internal security to afford the risks of thinking abundantly and being willing to share power and knowledge and recognition and to gain and profit with other people. That is a prerequisite for tapping a new synergistic source of wealth and excitement (Hesselbein & Cohen, 1999).

The Library of Congress catalog lists more than 8,000 books written in the last three decades on aspects of leadership. The newer perspectives on the topic center on putting ego aside, or better said, delaying immediate ego needs for the sake of finding fulfillment in the accomplishments of one's followers (Bell & Smith, 2010). A belief in oneself is the only thing that gives an individual the self-confidence to step into the unknown and to persuade others to go where no one has gone before. This self-confidence, however, has to be combined with the humility to accept that one can be wrong on occasion, that others also have ideas, and that listening is as important as talking (Handy, 1996).

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# ETHICS IN EMPLOYEE SELECTION – A CASE FOR IMPROVING AWARENESS

**Nhung Nguyen**
**Department of Management**
**Towson University**
**Towson, MD 21252**
**nnguyen@towson.edu**

**Tom Basuray**
**Department of Management**
**Towson University**
**Towson, MD 21252**
**tbasuray@towson.edu**

**William Smith**
**Department of Management**
**Towson University**
**Towson, MD 21252**
**wpsmith@towson.edu**

**Abstract**

Upper level undergraduates, when asked to play the role of a hiring manager facing a hiring dilemma, showed a significant relationship in their moral judgment and hiring intent. Their moral awareness, although having a significant zero-order correlation with hiring intent, failed to reach statistical significance controlling for moral judgment and past unethical behavior. Discussion was made concerning moral awareness in ethically ambiguous situations.

**Keywords:** Ethics, Undergraduate level

## Introduction

US managers in private and public sector organizations are conflicted when it comes to making moral/ethical decisions. According to a recent survey published in the Wall Street Journal, executives in the financial and technology industries were the most aggressive when it comes to collecting competitive intelligence at a trade show whereas the government and pharmaceutical executives were the most trepid of the same practice (Light, 2011). This survey highlights corporate America's ambivalence in consistently following moral guideposts in making decisions. Using a scale ranging from "normal"; "aggressive", "unethical", to "illegal"; findings from above survey showed that whereas the use of going undercover to gain information about recruiting practices at competing firms was considered "aggressive" by the government, it was viewed as "unethical" by most executives in the private sector. Likewise, whereas viewed by the pharmaceutical and healthcare executives as unethical for an executive to mask his or her identity in order to gain intelligence of rival companies, it was viewed as merely an aggressive tactic but not unethical by executives in the financial and high tech firms (Light, 2011).

According to another survey polling the public who had a college degree and whose income was in the top quarter of their occupational group, 56% of American participants agreed to Milton Friedman's (1970) assertion "the social responsibility of business is to increase its profit" (the Economist, January 17th 2011). Given such survey results, it is not surprising to see that in order to satisfy multiple corporate stakeholders, managers are prone to making decisions that fail to conform to generally accepted moral/ethical principles. Speaking differently, managerial pragmatism of "efficiency" – doing the right thing at the expense of "effectiveness" – doing the right thing right (Adler & Harzing, 2009; Adler & Jermier, 2005) has gained ground.

Most studies in the ethics of human resource selection focused on how firms enforced equal employment opportunities. For example, codes of ethics were found to be toothless in enforcing equal employment opportunities unless such codes of ethics were integrated into organizational daily decision making practice (Petersen & Krings, 2009). Very few studies examined the moral overtone underlining human resource selection decisions. In one such study Butterfield, Weaver, and Trevino (2000) surveyed competitive intelligence practitioners using a hiring scenario and a mystery shopping scenario and found that moral awareness increased as the pressure to compete increased.

In employee selection, it is important to understand why among two otherwise equally qualified candidates, hiring managers decide to recommend hiring one over another when such decision do not conform to ethics principles. Is it possible that hiring managers lack moral awareness when making such hiring decision?

One purpose of this study was to examine the influence of moral awareness on moral behavior within a hiring decision scenario. Moral awareness is the first step in the multi-step thought process of most ethical decision making models (e.g., Rest, 1986; Jones, 1991). Lacking moral awareness, it would be futile to teach students to uphold ethical values and/or understand ethical theories. Another goal of this research was to investigate how ethically ambiguous situations influence moral awareness. Whereas every managerial decision has an ethical overtone, most of the time decision makers fail to reach a consensus as to the appropriate ethical action, given the perceived ambiguity of the situation. To that end, we adapted the hiring dilemma scenario from Smith, Golden, and Schreier's (2008). The full text of the scenario can be found in the Appendix. In the hiring scenario, a competitive hiring dilemma was described. A middle-level manager had to make a decision whether to fill a critical supervisory position by hiring someone with knowledge of competitor's technology and was willing to share it if hired or from the remaining three candidates with one female, one male minority; and one internal male candidate.

Subject Matter Experts (three faculty members with Ph.Ds in management and extensive experience in HR matters such as hiring) rank ordered the candidates in terms of person-job (P-J) fit and person – organization (P-O) fit. In this study, two ethical principles were utilized. *Deontological* principles hold that the rightness or wrongness of an action lies in the intrinsic nature of an act itself. In other words, if an act violates a moral principle of rights, duties, responsibilities, virtue, fairness, and justice, it is considered unethical. In the human resource selection context, rules such as "Treat applicants with respect! Do not discriminate on the basis of sex, race, age, disability, religion, color, and national origin! All information provided by applicants will be held in strict confidence" are

examples of deontological ethics. With respect to the four candidates described above, extending the job offer to the female candidate would be viewed as ethical based on deontological ethics.

On the other hand, *consequential* principles hold that the rightness or wrongness of an action lies in the result from an action, not the action itself. The action that leads to the greatest amount of good while producing the least amount of bad will be "the morally imperative choice" (Lefkowitz & Lowman, 2010, p. 576) based on consequential ethics. In the human resource selection context, increasing hiring utility by setting high cut-off scores is justified based on consequential ethics even when this might increase adverse impact on minorities (Lefkowitz & Lowman, 2010). With respect to the four candidates described above, extending the job offer to the external male candidate would be viewed as ethical based on consequential ethics because hiring him would help the company increase market share (greatest amount of benefit) due to the competitive intelligence he possessed while working for the rival firm. Overall, taking into consideration of both legal and technical issues, the female candidate is judged by SMEs as the most qualified and one to whom the hiring recommendation should be offered whereas the external male candidate as the least qualified due to his willingness to sell out.

**Hypotheses Development**

Figure 1 presents our research model, which is based on the model of behavioral ethics (Trevino, Weaver, & Reynolds, 2006) proposed by Treviño and colleagues in their latest and comprehensive review of business ethics. As shown in the figure, both personal characteristics of the hiring manager and the organization's characteristics within which the hiring manager works influence the decision. In this study, two personal characteristics were investigated: moral awareness and moral identity. Moral awareness, defined as an individual's ability to recognize ethical overtones in a decision making situation, has been examined in the literature as individual's sensitivity to moral laden issues.

Table 1.
*Principle Axis Factoring of Organizational Context items (N = 178)*

| **Survey items** | **Factor** | |
|---|---|---|
| Organizational competitiveness | | |
| Perceived pressure to increase market share | .04 | **.69** |
| Perceived pressure to rein in cost | .05 | **.79** |
| Organizational ethical and legal climate | | |
| Perceived pressure to comply with EEO laws | **.72** | .03 |
| Perceived pressure to sustain organizational culture | **.83** | .03 |
| Perceived pressure to be socially responsible | **.62** | .08 |
| Eigen values | **2.09** | **1.5** |
| % variance explained | **31.81** | **22.87** |

According to Trevino et al. (2006), moral awareness has a direct impact on all aspects of ethical behavior. In other words, within the selection context, once the hiring manager recognizes the decision as having some ethical implication, s/he will start processing that decision following the steps proposed in Jones' (1991) such as being alert about the ethical nature of the decision, judging

the ethicality of the decision, planning on carrying out the decision, and ultimately, implementing the decision.

Hypothesis 1: Moral awareness will be positively related to moral intent (i.e., ethical hiring recommendation)

Implied in moral judgment is an interpretive process wherein the hiring manager needs to evaluate the ethicality of the action or actions in response to an issue at hand. Reidenbach and Robin (1990) conceptualized moral judgment as a multidimensional construct that is amenable to training. Viewed in this light, moral judgment is a result of how one interprets deontological and consequential moral philosophies. The more philosophies exposed to and understood by the decision maker, the better moral judgment he or she will make.

Hypothesis 2: Moral judgment will be positively related to moral intent (i.e., hiring recommendation).

Organizational characteristics have been shown to influence ethical behavior. For example, on-the-job pressures to act unethically were found to produce a direct impact (Robertson & Rymon, 2001). Butterfield and colleagues (2000) argued that a high degree of competition may blind managers to the moral sensitivity inherent in the hiring situation. For example, in a highly competitive industry such as information technology, the goal of increasing market share is often times the sole focus, rather than the means of how such an increase in market share is achieved. This lop-sided view of profit making at all cost makes moral decision making less likely.

Hypothesis 3a: Perceived organizational competitiveness will be inversely related to ethical intent (i.e., hiring recommendation).

Individuals' perceptions of organizational culture and ethical climate (Cullen, Victor, & Bronson, 1993; Victor, & Cullen, 1988) as well as the sub-climates that can reside within organizations (Weber, 1995) were found to influence employee ethical behavior. In a recent employee selection study, a simple supervisory behavior such as an advice in passing concerning which candidate should be given priority was found to influence subsequent hiring decision (Petersen & Krings, 2009). In the hiring scenario used in this study, the hiring manager was told by his boss that the company was losing market share and that he would need to rein in cost. This culture of competitiveness will no doubt make it hard to be socially responsible.

Hypothesis 3b: Perceived organizational legal and ethical climate will be positively related to ethical intent (i.e., hiring recommendation).

Trevino and colleagues (2006) proposed identity-based moral motivation as an individual characteristic that explains why one must be moral. According to these authors, moral identity directly influences all aspects of ethical behavior (i.e., awareness, judgment, intent, and unethical/ethical behavior) per Jones' (1991) ethical decision making model. According to Festinger's (1957) cognitive dissonance theory, acting inconsistent with one's moral principles results in an emotional and cognitive discomfort. This discomfort forces one to find a way to restore the original

comfort level. The extent to which morality is aligned with self-identity gives one the motivating power to act accordingly (Bergman, 2004). In this study, we propose that past unethical behavior will be proxy of moral identity that will motivate future moral behavioral intent.

Hypothesis 4: Identity-based moral motivation will be positively related to ethical intent (i.e., hiring recommendation).

**Method**

***Participants***

178 upper level undergraduate business students participated in the study. Of these, 111 (62.1%) were male. Participants varied fairly widely in age from 19 to 33 years old with an average of 22.3 (SD = 2.15). In terms of ethnicity, the majority of participants were White (138 or 77.5%); 15 were Black (8.4%); 11 were Asian or Pacific Islander (6.2%); 4 were Hispanic (2.2%) and the remaining described as "other".

***Measures***

*Moral awareness*.

Reynolds' (2006) moral awareness scale was used. Scale anchors range from 1 "strongly disagree" to 5 "strongly agree". Sample items include "This situation could be described as a moral issue"; "This matter clearly does not involve ethics or moral issues". Internal consistency estimate was .71.

*Ethical judgment*.

Robin and Reidenbach's (1990) Multidimensional Ethics Scale (MES) was used to measure moral judgment. Judgment ratings were collected using a 6 point scale with 1 as "most unethical" and 6 as "least unethical". Scale scores were averaged to form an overall ethical judgment for inclusion in subsequent statistical analyses.

*Ethical identity motivation*.

We adapted the Academic Dishonesty Inventory (ADI) developed by Newstead et al. (1996) and Koljantic and Silva (2002) to measure ethical identity motivation. Participants were asked to indicate whether in the past two years they had engaged in unethical behavior at least once. Sample items include "paraphrased material from a book without acknowledging the source"; "fabricated reference or a bibliography"; "copied from a neighbor during an examination". Internal consistency estimate for this variable was .74.

*Organizational context.*

Five items were written to measure organizational context. The exploratory factor analytical results are shown in Table 1. Factor 1 consists of two items including: "To what extent do you think each of the following played a role in the protagonist decision depicted in the scenario: pressure to rein in cost; and pressure to increase market share". Participants were asked to indicate the extent to which the protagonist decision was influenced by these factors on a 5 point scale with 1 being "not at all important" and 5 being "very important". We labeled this factor as *perceived organizational competitiveness*. Internal consistency estimate for this variable was .71. The second factor consists

of three items including "pressure to sustain organizational culture"; "pressure to be socially responsible"; and "pressure to comply with EEO laws". Participants were asked to indicate the extent to which the protagonist decision was influenced by these factors on a 5 point scale with 1 being "not at all important" and 5 being "very important". We labeled the second factor as *perceived organizational legal and ethical climate*. Internal consistency estimate for this variable was .76.

***Procedure***

Participation in the study was voluntary in exchange for extra credit. All responses were anonymous and no identification information was collected. We conducted a pilot study on a sample of sixty-two upper level undergraduate students (junior standing) to ascertain that the ethical ambiguity of the scenario. The results showed that students viewed the scenario as ambiguous with mean moral awareness to be (M = 3.22; SD = .90). On a 5-point scale, this result indicated that students neither agreed nor disagreed that the scenario carried an ethical overtone. One-way Analysis of Variance (ANOVA) showed that participants rated the four candidates' qualifications and likelihood of recommending hiring similarly to SME ratings. Participants were asked to provide responses to the scenario from the perspective of the protagonist, i.e., the middle level manager in the scenario. This practice was utilized in prior research (e.g., Butterfield et al., 2000) successfully to reduce the potential response bias due to social desirability.

**Results**

Table 2 shows descriptive statistics and zero-order correlations of variables in the study. Due to missing data, the sample size for this table was reduced to 155. As shown in the Table, moral awareness was significantly and inversely related to ethical judgment justifying the recommendation of hiring the second candidate ($r$ = -.26, $p$ < 01). This provides preliminary support to Hypothesis 1. Table 3 shows the non-parametric test of hiring recommendation. As shown in the Table, a majority of the participants (85 or 51.8%) recommended hiring the female candidate (candidate #1), followed by the male candidate who offered to share competitor's trade secrets if hired (41 or 25%). Twenty-four participants (14.6%) recommended promoting the internal candidate and only fourteen (8.5%) recommended hiring the older male minority candidate. A chi-square test showed statistical significant differences in these proportions of recommendation between candidates ($\chi^2$ = 72.05(3); p < .001). Due to the low sample sizes associated with hiring recommendations to the internal male candidate and external minority candidate, subsequent statistical analyses were conducted on the first two candidates only.

Table 2.

*Descriptive Statistics and zero-order correlations among variables in the study (N = 155)*

| Variable | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Age | 22.34 | 2.22 | - | | | | | | | | | | | |
| 2. Sex (0 = Male; 1 = Female) | .40 | .49 | -.11 | - | | | | | | | | | | |
| 3. Race (0 = Non-White; 1 = White) | .77 | .42 | -.07 | -.09 | - | | | | | | | | | |
| 4. GPA | 3.15 | .35 | -.**16** | .26 | -.01 | - | | | | | | | | |
| 5. Unethical score | 2.39 | 2.27 | -.**19** | -.07 | -.09 | -.08 | .74 | | | | | | | |
| 6. Moral awareness | 3.71 | .93 | -.13 | .15 | -.04 | .04 | -.02 | .71 | | | | | | |
| 7. Perceived organizational competitiveness | 4.30 | .80 | -.02 | -.09 | -.08 | -.08 | .06 | -.07 | .71 | | | | | |
| 8. Perceived legal and ethical climate | 3.75 | .90 | .08 | .08 | .02 | -.**17** | -.12 | .12 | .12 | .76 | | | | |
| 9. Ethical judgment – hire female candidate, 30 | 4.98 | .85 | -.02 | -.01 | .15 | .02 | **-.20** | .08 | -.04 | **.21** | .91 | | | |
| 10. Ethical judgment – hire male candidate, 35 | 3.61 | 1.37 | -.00 | -.05 | -.04 | -.02 | .15 | **-.26** | .11 | -.02 | -.07 | .93 | | |
| 11. Ethical judgment – promote male candidate from within | 4.38 | 1.11 | -.**23** | .00 | .06 | -.06 | .04 | .13 | .04 | .14 | **.25** | -.08 | .94 | |
| 12. Ethical judgment – hire male minority candidate, 55 | 4.35 | 1.00 | .06 | .10 | .01 | .04 | -.01 | .14 | -.03 | **.20** | **.43** | -.03 | **.48** | .91 |
| 13. To whom the job offer is made* (Kendall's tau_b) | | | -.06 | .07 | -.03 | .04 | **.13** | -.04 | .00 | -.10 | **-.21** | **.16** | **.13** | .06 |
| 13. To whom the job offer is made* (Spearman's rho) | | | -.07 | .07 | -.03 | .05 | **.16** | -.05 | .00 | -.13 | **-.27** | **.20** | **.16** | .07 |

Note: Reliability estimates are shown along the diagonal.

Pearson's r values of at least .16 are significant at $p < .05$ (two-tailed)

Kendall's tau_b values of at least .13 are significant at $p < .05$

Spearman's rho values of at least .16 are significant at $p < .05$

- Job offer was coded as 1 = Female candidate; 2 = External male candidate; 3 = Internal male candidate; 4 = External minority male candidate

Table 3.
*Non-parametric test of Recommending Hiring (N = 178)*

| | N | % |
|---|---|---|
| Female, age 30 | 85 | 51.8 |
| Male, age 35 | 41 | 25.0 |
| Male, age 30 (internal candidate) | 24 | 14.6 |
| Male, age 55, a minority candidate | 14 | 8.5 |
| Missing | 14 | |
| Chi-square | 72.05(3), p < .01 | |

All hypotheses were tested using hierarchical logistic regression. Table 4 presents the proportions of participants in this study who reported having engaged in academic dishonesty behaviors at least once in the two years prior to this research. Table 5 shows the logistic regression results. An examination of Table 4 shows that the frequency of dishonest behavior was fairly consistent with prior research (e.g., Newstead et al., 1996). As shown in Table 5, although moral awareness had significant zero-order correlation with ethical judgment rating for hiring the external male candidate; the logistic regression coefficient associated with moral awareness was not statistically significant when other variables including past unethical behavior, ethical judgment, and organizational context (competitiveness and legal/ethical climate) were in the regression. Thus, Hypothesis 1 was not supported.

Table 4.
*Percentage Reporting Past Academic Dishonesty Behavior (N = 178)*

| | Cheating behavior | N | % |
|---|---|---|---|
| 1 | Paraphrased material from a book without acknowledging the source | 83 | 46.6 |
| 2 | Invented data (e.g., entered nonexistent results into database) | 23 | 12.9 |
| 3 | Allowed own coursework to be copied by another student | 55 | 30.9 |
| 4 | Fabricated reference or a bibliography | 17 | 9.6 |
| 5 | Altered data (e.g., adjusted data to obtain a significant result) | 16 | 9.0 |
| 6 | Turned in someone else's answers for an assignment or homework exercise | 28 | 15.7 |
| 7 | Did another student's coursework for him or her | 33 | 18.5 |
| 8 | Copied from a neighbor during an examination | 34 | 19.1 |
| 9 | Lied about medical or other circumstances to get an extended deadline or exemption from class work | 33 | 18.5 |
| 10 | Took unauthorized materials into an exam (e.g., a crib sheet) | 15 | 8.4 |
| 11 | Submitted a class project or term paper obtained from an outside source (e.g., friends, Internet) | 8 | 4.5 |
| 12 | Took an exam for someone else | 1 | .6 |
| 13 | Had someone else take an exam for you | 3 | 1.7 |
| 14 | Illicitly gained advance information about an exam content | 39 | 21.9 |
| 15 | Signed for someone on the attendance sheet or had someone sign for you | 58 | 32.6 |
| 16 | Turned in the same paper for two classes without instructor approval | 15 | 8.4 |

Table 5.
*Hierarchical Logistic Regression Results (N =122)*

| Model | $\chi^2$(df) | *p* value | β | Exp (β) | Cox-Snell $R^2$ | Nagelkerke $R^2$ |
|---|---|---|---|---|---|---|
| Step 1. | 13.49(8) | .10 | | | .11 | .16 |
| Past unethical behavior | | .01 | .32 | 1.37 | | |
| Org. legal and ethical climate | | .06 | -.73 | .48 | | |
| Org. competitiveness | | .68 | .13 | 1.14 | | |
| Constant | | .89 | -.33 | .72 | | |
| Step 2. | 9.27(8) | .32 | | | .12 | .17 |
| Moral awareness | | .50 | -.15 | .86 | | |
| Step 3. | 4.05(8) | .85 | | | .44 | .62 |
| Ethical judgment – 1st candidate | | .00 | -1.62 | .20 | | |
| Ethical judgment – 2nd candidate | | .00 | 2.09 | 8.07 | | |

Note: Values are standardized estimates at the last step of the hierarchical logistic regression. Dependent variable was coded as "0" = Hire female candidate - ethical; "1" = Hire external male candidate – unethical"

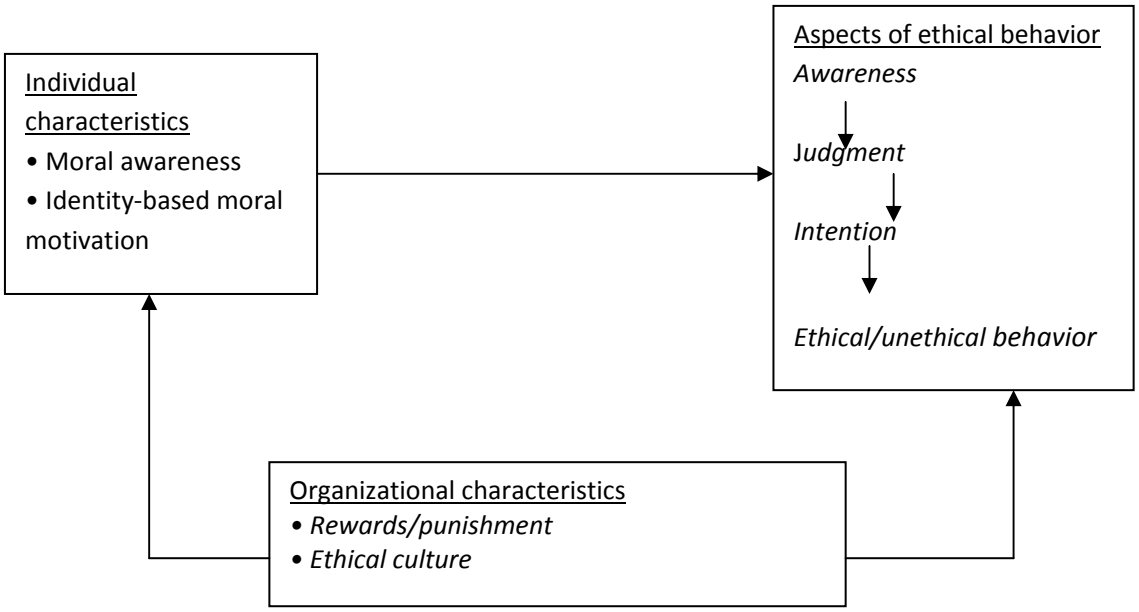
Hypothesis 2 states that the more ethical hiring a specific applicant is judged; the stronger the hiring recommendation is justified. An examination of Table 5 reveals that ethical judgment ratings for both candidates were statistically significant. The odds were almost 8 to 1 that a hiring recommendation would be made to the second candidate when hiring him was considered ethical. Likewise, the more ethical hiring the female candidate was judged, the less likely a job offer was extended ($\beta = -1.62$, $p < .01$) to the male candidate. The full model fit the data reasonably well ($\chi^2 = 4.05(8)$, $p = .85$) with successful predictability outcome of 79.3%. Taken together, these findings provide support to Hypothesis 2.

Hypothesis 3a states that perceived organizational competitiveness will influence hiring recommendation such that the more the hiring manager perceives the pressure to be competitive, the more likely an unethical hiring recommendation (based on *deontological* ethics framework) will be made. As shown in Table 5, although the relationship between perceived organizational competitiveness and hiring recommendation was in the expected direction, the regression coefficient was not statistically significant ($\beta = .13$, $p > .05$). Thus, hypothesis 3a was not supported.
Hypothesis 3b states that perceived organizational legal and ethical climate will influence hiring recommendation such that the more the hiring manager perceives pressure to be legally and ethically responsible, the more likely an ethical hiring recommendation will be made. As shown in Table 5, the relationship between perceived organizational legal and ethical climate and making a hiring recommendation was marginally significant after controlling for moral awareness and moral judgment ($\beta = -.73$, $p = .06$). Hypothesis 3b was thus weakly supported.

Hypothesis 4 states that identity-based moral motivation will influence hiring recommendation such that the more moral the motivation, the more likely an ethical behavior will be endorsed in the future. As shown in Table 5, identity-based moral motivation indicated by self-reported past

unethical behavior was positively and significantly related to unethical hiring recommendation (β = .32; $p < .01$). Hypothesis 4 was thus supported.

Figure 1.
*Synthesis of Behavioral Ethics (Adapted from Trevino et al., 2006)*




**Discussion**

In this study, we investigated how moral awareness can be triggered by an ethically ambiguous situation that will subsequently influence manager's recommendation of hiring. The decision to hire the woman would be clearly supported by *deontological* ethics, while the hiring of the external male candidate who was willing to sell out could be seen as ethical based on *consequential ethics.* Although the finding was in the expected direction, it failed to reach statistical significance. Two reasons explain why we failed to find a significant effect for moral awareness. First, the because we asked participants to indicate their perception of the moral overtone inherent in the scenario including making a recommendation to hire one out of four short-listed candidates, rather than a particular candidate; we think that this might have contaminated the measurement of this construct. Another possible reason for the non-significant finding is that we did not include another hiring scenario that serves as a control with which to compare the level of moral awareness. We are in the process of designing another study to overcome these two limitations.

We replicated and extended prior research in finding a significant positive linkage between ethical judgment and ethical behavioral intent. Specifically, when the hiring of the female candidate was judged as ethical, the hiring recommendation to offer her the job was overwhelming. Likewise, when the hiring of the external male candidate was judged as ethical, the hiring recommendation to offer him the job was very strong. Despite the fact that the majority of the participants in this study recommended hiring the female candidate, a *deontological* ethical decision in our view, twenty-five percent of the participants recommended hiring the external male candidate who was willing to sell out. Viewed under Sonheim's (2007) theory of sense-making intuition model, it is possible that the

students were trying to be helpful to the company's goal achievement of increasing market share at the least amount of cost. This sense-making process might have explained why these participants judged the hiring of the external male candidate as ethical, within *consequential* ethics framework. It is our conjecture that the alternate hiring decision might have been motivated by a sense of achieving organizational goals rather than by self-serving interests. Lefkowitz and Lowman (2010) described this as one form of ethical dilemmas in employee selection.

We found that when the manager felt the pressure to act in a legal and socially responsible manner, an unethical hiring decision was less likely made. This was consistent with prior research that organizational context may trump individual moral motivation (e.g., Brief, Buttram, Elliot, Reizenstein, & McCline, 1995; Petersen & Krings, 2009) when it comes to making ethical decisions. Due to low statistical power we failed to find a significant effect for organizational competitiveness on hiring decision although the relationship was in the expected direction. That identity-based moral motivation influenced hiring recommendation was also consistent with prior research (e.g., Aquino & Reed, 2002). This effect was likely conservative because the identity-based moral motivation variable was measured as a symbol or proxy of moral identity (how the moral identity is expressed in past action) – rather than an internal trait.

**Practical Implications on Ethics Education**

Several practical implications of this study should be noted. First, we extended prior moral awareness research in examining identity-based moral motivation as the concomitant of moral awareness. We found that moral awareness and moral judgment were not as strongly related to each other as originally proposed. Second, this study shows how the policy on academic dishonesty behavior should be strictly enforced in order to reduce future unethical behavioral intent. We hope that our study serves as a needed push towards ethics teaching based on morally ambiguous situations in employee selection.

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**Appendix**

The hiring scenario

Pat Johnson is a district manager for VonTel, a large chip electronics manufacturing firm. His boss today in a meeting with district managers informed him that his firm is losing market share to competitors. In order to rein in cost, he'd need to cut expenses including travel and overhead. After returning to his office from the meeting, he is contemplating on an on-going search to fill a critical level III supervisor in the technical division. Human Resources have narrowed down the number of applicants to four short-listed candidates who all performed well during the half an hour face-to-face interview. The job description for the position is listed below:

1. Supervise 15 technicians (age 24 – 58)
2. Schedule work for the section.
3. Attend planning meetings with top-level managers/staff.
4. Troubleshoot technical problems that may occur in the section.

Applicants:

1. Female – age 30 with a 4-year business degree. Work experience as an electronics retail sales department head while attending college. Since she paid for all college expenses herself and was working full time, it took her 8 years to complete her degree. Had some

experience in the technical area for the job. Described by her professors as "a fast learner; highly self-motivated".

2. Male – age 35 with a 4-year technical degree in the area to be supervised. No managerial experience. Has been working as a technician with Techtronics, Inc., a small but one of VonTel's primary competitors in the electronic component market, since graduating. Wants to join VonTel because he feels he has a greater opportunity for advancement. Claims that he has knowledge on Techtronics' latest technology and is willing to share it with VonTel if hired. Current employer HR manager describes him as "a high performing worker; perhaps frustrated by lack of opportunities with our firm."
3. Male – age 30 who has been a technician in VonTel for one year. No degree; was trained "on the job". Firs year performance evaluation was "good" on quality and quantity of work. The outgoing supervisor stated "He will need to work hard to be a good delegator. He tends to do everything by himself. It is always difficult to become the boss of people who have been your peers." The candidate thinks the technical division will accept him as their supervisor and that he will work very hard to create a team atmosphere. (No one else in the division applied for this position.)
4. Male – age 55, a minority, who had lost his job as a retail sales representative for 30 years due to a corporate downsizing. Considerable experience in managing people but no technical background for the job. Has excellent references. He states "I know I don't have the technical expertise right now but I'll learn what I have to very quickly."

# GIVING MULTICULTURAL MARKETING A NEW SPIN IN THE CLASSROOM

**Jaime Noriega**
**Department of Marketing**
**DePaul University**
**Chicago, IL 60604**
**jnoriega@depaul.edu**

## Background

Although corporate America's interest in multicultural marketing has continued to grow, this has not been reflected in the marketing curriculums of most U.S. business schools (Burton, 2005). But even though the importance of a multicultural marketing education has been suggested before, the focus of such an education has not changed significantly even as its practicality has. In most instances the emphasis continues to be on understanding people of different cultures with the implication that these people are at all times fundamentally different than the general population (Jones, 2003). Most marketing textbooks still discuss multicultural marketing almost exclusively by pointing out the differences between consumers from various racial or ethnic backgrounds, often tracing the cultural differences to the consumer group's countries of origin. The consumption behavior of several ethnic and racial minorities is usually contrasted to that of the general population Anglo consumer (Burton, 2005).

Inherently, textbook discussions of multicultural marketing also tend to overemphasize the degree of homogeneity across different ethnic consumer groups. It is easy to walk away with the impression that most Hispanics are very similar to one another, as are African-Americans. And although most textbooks do point out the heterogeneity of the people designated as "Asians," they do so primarily because this ethnic group is comprised of individuals representing many distinct countries, languages, and religions. Even a short list of the countries designated as "Asian" illustrates just how diverse this group obviously is: India, China, Iran, Japan, Korea, Saudi Arabia, and Turkey; just to name a few.

More to the point of this manuscript, when changes in consumer behavior over time are discussed, these are usually characterized as full assimilation toward the majority consumer population, even though there is sufficient evidence this may not necessarily be the case, at least for some immigrant groups and their U.S. born offspring now residing in the U.S. (Linton, 2004). Textbooks go as far as to state that after a few years or generations, members of immigrant ethnic groups may start behaving more like people in the "general market." Most textbooks that do discuss the process of acculturation (as opposed to total assimilation) do so in a superficial and imprecise way, rarely acknowledging the process may lead to something short of assimilation, and often suggesting the outcome can only be some type of 'blended' cultural identity.

**Multiculturalism – A Global Reality**

The importance of understanding multicultural markets in the U.S. is clear; after all, this has always been a land of immigrants. However, on a global scale, there have been a number of population shifts, which suggest multicultural markets are or should be a growing concern around the world. Consider the following statistics provided by Latin Force Group, a marketing services firm specializing in multicultural marketing (Perez, 2009):

- Since 2006, London has been less than 50% 'English'
- Since 2002 the most popular boy's name in France has been "Mohammed"
- More than 80% of Europe's population growth is from immigration
- Iceland is the only country in Europe with a birth-rate above replacement levels

It is very evident that many domestic markets around the world are looking more and more international every day. The challenge however, is not simply to understand the cultural characteristics that each new immigrant group brings to a formerly homogeneous marketplace. The new challenge is to understand how the virtually inevitable process of acculturation will transform these individuals into complex and often adaptable multicultural consumers.

Teaching our students about the behavior of different immigrant ethnic groups by discussing cultural characteristics and norms as they exists in their countries of origin may be an accurate approach when describing recent immigrants. If most immigrants came to this country, lived only among their own people, and rarely interacted with members of the host culture, it might be sufficient to learn and understand the many aspects of their native cultures. However, there is a great deal of evidence which suggests that within just a few generations, if not merely years, immigrant populations in the U.S. will acculturate at least to some extent (Grosjean, 1982), and by definition, eventually transform from mono-cultural immigrants to complex bicultural Americans. Any effort to understand a multicultural individual's cultural identity has to allow for the possibility that such an identity is neither definitive nor static. Once this inherent ambiguity has been acknowledged, the more practical task of understanding how each cultural identity surfaces can begin.

What I am proposing is that in the present environment, multiculturalism may be a more relevant and useful concept when we recognize it as an individual consumer phenomenon.

**International vs. Domestic vs. Individual - Multicultural Marketing**

An international perspective on multiculturalism fits the classical definition of market segmentation; the principal task is identifying members of the target market (along cultural characteristics) and adapting one's marketing mix in order to communicate with and serve them best. This is how multinational companies approach new markets in different countries where they would like to sell their goods.

When marketing textbooks discuss domestic multicultural marketing (marketing to different ethnic groups within the U.S.), the approach is not very different. The emphasis is still on identifying these subcultures along cultural characteristics and segmenting the marketplace accordingly. Although it is

sometimes acknowledged that these immigrant populations may be in a state of flux with regards to their cultural identity, they are still treated as groups that are 'different' from the general market consumer population (Burton, 2005). Both of these approaches deal with multiculturalism at the group-level or as a between-subjects phenomenon.

Whereas a multicultural "market" is described as a market where members of several different cultures or subcultures coexist, a multicultural "consumer" is an individual who embraces and identifies with more than one culture. This individual perspective on multiculturalism recognizes that immigrants and their descendants often embrace and consequently reflect either the original immigrant culture or the host culture, depending on the context within which they find themselves. This new understanding of multicultural consumers requires that a marketer understand the process by which a bicultural individual's cultural identity may change and the stimuli most likely to cause these fluctuations. This new approach recognizes multiculturalism at the individual-level or as a within-subjects phenomenon.

**What is a Bicultural Individual?**

A bicultural person is an individual who has internalized two cultures to such an extent that either culture can thoroughly define the individual depending on the situation. Interestingly, although the process by which a cultural identity is activated has been described as a subconscious experience, previous studies indicate many bicultural individuals are aware that either of the two internalized cultures guide their thoughts and feelings at different times (LaFromboise et al.,1993; Phinney & Devich-Navarro, 1997).

Rather than characterizing racial or ethnic consumer groups as members of distinct homogeneous groups most of whom think, feel, and behave in a similar fashion, the new paradigm suggested here places heavy emphasis on the dual cultural identity many ethnic minorities living in the U.S. seem to hold. It now makes more sense to describe these individuals as multicultural consumers who embrace more than one culture and respond to various situations 'within' the most relevant and appropriate cultural mindset.

Although bicultural individuals exist through out the world, no other bicultural group may be as accessible or as relevant to U.S. business students as U.S. Hispanics.

**Why Focus on the U.S. Hispanic Market?**

When discussing multicultural marketing in the classroom it is practical to focus on the largest minority group in the U.S. - Hispanics/ Latinos. Aside from being the largest minority in the U.S. they have experienced a number of recent changes which make this the ideal consumer market by which to illustrate the relevance of the new take on multicultural marketing proposed here.

Although the first wave of Irish, Italian, and Jewish immigrants in the mid to late 1800's left an indelible mark on the fabric of the "American" culture they in fact helped define, there is a general agreement that subsequent waves of immigrants have eventually adopted our "ways" and after a few generations, their descendants have inevitably become English- language monolingual and

largely monocultural "Americans." However, more recently, social researchers have noted that unlike previous generations of Hispanics in particular, this new pattern of language shift is different for Spanish speakers when compared to other immigrant groups or to Spanish speakers from earlier waves of immigration (Linton, 2004). Longitudinal research has even found that U.S. Hispanics' ability to speak and read Spanish actually improved from their teenage years to their twenties (Rumbaut, 2002).

Language is only one aspect of an individual's culture but it is a defining aspect for bicultural bilinguals; it is a tool of communication, intimately tied to how people experience life as social creatures (Fivush, 1998). Some authors have gone as far as to suggest that bilingualism is a necessary condition for true biculturalism (Luna, Ringberg, & Peracchio, 2008). Because language serves as a medium of experience; one that is intrinsic to capturing the event, it can also become a fundamental attribute of an experience such that it becomes the most natural and effective gateway to that memory.

Further facilitating this new pattern of acculturation, in the recent past Hispanics have also followed unprecedented migration patterns. Rather than isolating themselves from the host culture as many have done for many generations, from 2000 to 2007 the largest increases in the U.S. Hispanic population occurred in states that previously had a relatively small Hispanic presence (Dougherty & Jordan, 2008). This is significant because the first step in integrating and adapting to a second culture is having contact with members of that culture (Berry, 1980). From a practical standpoint, this is more likely to occur when and where an ethnic individual is not predominantly surrounded by his/her own kind. Furthermore, in stark contrast to what their predecessors experienced just a few decades ago, these individuals will not face the same attitudes or pressures from members of the general market populations into which they are integrating. As a result, they will feel less pressure to repress their ethnic identities in favor of the majority cultural identity. As a result of this new, less oppressive socio-cultural environment, the process of acculturation is more likely to lead these individuals to embrace both cultures rather than to assimilate toward the dominant culture while feeling they must hide and ultimately sacrifice their ethnic identity.

Following is a brief discussion of the acculturation process and how it has led to the changes, which we argue necessitate a new understanding of multiculturalism.

**Acculturation = Change**

According to the classical definition of acculturation proposed by J.W. Berry (1980) more than three decades ago, in order for acculturation to occur two conditions must be present:

1) there needs to be first hand and continuous contact or interaction between members of two different cultures and;
2) as a result, there has to occur some type of change in the cultural behaviors and/or cognitive processes with regards to culture among the people in contact.

Therefore, it should be clear that any effort to identify a cultural group now living in the U.S. that insists on defining that group primarily by the same cultural characteristics observed in individuals from their country of origin is in fact rejecting the idea that any acculturation has taken place.

Perhaps the best way to explain how an immigrant transforms from a mono-cultural individual into a multi-cultural individual is to discuss the pioneering work of LaFromboise, Coleman and Gerton (1993). Most students will be at least somewhat familiar with the terms acculturation and assimilation. Some may even understand that while assimilation generally means adopting the host culture and in the process completely abandoning and disassociating one's self from the original immigrant culture, acculturation generally means something 'short of that extreme'. But as LaFramboise and her colleagues make clear, there are several theories that seek to explain what will happen when people of different cultures interact with one another, either momentarily or through prolonged contact.

The five models as compared and contrasted by Teresa LaFromboise and her colleagues are:

1) Assimilation- At one point it was believed the natural consequence of prolonged cross-cultural contact was assimilation. In a nutshell, assimilation describes the process by which an individual (usually an immigrant) is absorbed into the dominant and usually more desirable host culture. Assimilation assumes that the assimilated group will eventually lose their original identity as the new host culture identity is acquired.

2) Acculturation - When it became evident that not all immigrants or immigrant groups completely abandoned their original identity, if at all, the term acculturation gained favor as a description of the consequence of prolonged cross-cultural contact. Acculturation suggests the individual will become an adept participant in the dominant culture but may not lose their identity as a member of the original culture. It has also been suggested that acculturation may not be a voluntary process; immigrants may feel they need to learn the language and customs of the new culture in order to insure their economic and social welfare. It is perhaps this involuntary nature of the process that usually triggers loyalty and an emotional allegiance to the 'immigrant' culture.

3) Alternation –The alternation model allows for both cultures to be equally valued; in other words, one culture does not have to be considered dominant to the other. It is perhaps this distinction that allows an individual to embrace elements of both cultures and alter his/her thinking and/or behavior depending on what the cultural context or situation calls for.

4) Multicultural – The multicultural model doesn't attempt to describe the process by which individuals change their cultural identity as a result of cross cultural interaction; in fact, this model suggests individuals can maintain their group identities while successfully interacting with other cultures. This model suggests individuals from different cultures can interact with one another, perhaps even culturally accommodating one another (by using the culturally appropriate language or gestures, for example), but it also implies this can happen without necessarily changing either individuals' fundamental cultural identity. This model is useful in explaining the behavior some individuals are likely to exhibit when they are vacationing in a country with a very different culture from their own.

5) Fusion – Like the assimilation model, this model also proposes that as a result of cross cultural interaction, an individual will lose their original identity in favor of a new identity. However, unlike

the assimilation model, which assumes the new identity will be that of the host culture, the new emerging identity is described as a "fusion" of the immigrant culture and the host culture.

Another interesting aspect of these descriptive models that can further serve as a teaching point is that they are not necessarily mutually exclusive; each can be an accurate depiction of any given individual's experience as they learn to adapt to a new culture.

In fact, most of these different models of cross-cultural interaction may be fairly good descriptions of the acculturation process depending on the time frame and/or the immigrant group considered. For example, starting with the first wave of Irish, Italian, and Jewish immigrants in the mid to late 1800's, these individuals came to the U.S. looking for a new way of life, and although they did change to reflect the host culture, they also left an indelible mark through their customs, religions, and culinary choices. As Harvard professor of anthropology Robert Levine has observed: "…the pizza and the bagel, is not the culture of Nathaniel Hawthorne…" (Levine, 2005, p96).The *fusion* model may best describe the ultimate outcome of these cross-cultural interactions.

Although the mass Hispanic migration to the U.S. began in the early 1970's, Hispanics of many nationalities migrated to the U.S. in search of a better life well before the days of the Civil Rights movement. Facing prejudice and discrimination, many of these individuals chose the *assimilation* route as a necessary course of action for economic and social survival. For many, this meant suppressing their own ethnic identity as well as raising their offspring as non-ethnic as possible. Concerned that maintaining the native language would inhibit learning the English language (especially the ability to speak it free of any revealing ethnic accents); many parents purposely did not teach their offspring how to speak Spanish. Fear of discrimination in the workplace and school also prevented these individuals from practicing their cultural traditions and preferences anywhere outside the home.

The much-heralded Decade of the Hispanic, which presumably began in the 1980's, should have marked a turning point in the way Hispanics saw themselves; the title held great promise and certainly must have aroused in them a renewed interest in their cultural roots. However, the reality for many Hispanics was still defined by geographic isolation and very little integration into the general market culture. In this context it appears the *acculturation* model best describes the way a large number of Hispanics in the U.S. managed their two cultures during that time.

In the more recent past, Hispanics have achieved a number of milestones, which the popular press has been quick to report. In January of 2003, the U.S. Census reported that Hispanics had surpassed African Americans as the largest minority group in the U.S. (de Vries, 2003). There are currently more English-language Hispanic themed shows than ever before along with a multitude of highly successful crossover Hispanic performers. On television, especially in youth programming, there are numerous Hispanic surnamed characters which have been integrated into Anglo or multi-ethnic casts. This unprecedented level of integration suggests the general public is more tolerant and accepting of the Hispanic presence in the general market culture. It appears there are now many more opportunities and reasons to proudly embrace ones' Hispanic culture without necessarily alienating the host culture. This, one could argue, is very much in keeping with the principles of the *alternation* model of cross-cultural interaction.

The alternation model of cross-cultural interaction is of particular importance in the discussion of multiculturalism as it is proposed here. This model offers the optimal conditions for the eventual adoption of multiple cultural identities without the assumed need to suppress any identities some of the other models suggest.

**Becoming Bicultural**

It has been suggested that what enables an individual to develop dual cultural identities is the formation of two somewhat distinct knowledge networks in the brain. Each of these networks is comprised of distinct semantic knowledge and personal memories that in the case of a bilingual may be more strongly associated with one of the two languages he uses. The formation of these distinct knowledge structures may be impacted by the age and place of second language acquisition as well as how proficient the bilingual is in each language. (Silverberg & Samuel, 2004; Paivio & Lambert, 1981; Perani et al., 1998). Studies using brain function imaging techniques have shown different brain activation patterns depending on which language a bilingual is using at the time the images are recorded (Kim et al., 1997).

Previous studies in the field of psychology and recent academic research in the field of marketing have shown that bicultural individuals can in fact be primed to respond either as a member of the racial/ethnic culture to which he belongs or as a member of the general "American" culture (to which he also belongs) depending on the cultural prime used.

Marian and Neisser (2000) provided some of the earliest evidence that a bilingual's memories might actually be language-dependent. In their study, Russian-English bilingual participants shared more experiences in Russian when interviewed in Russian and more experiences in English when interviewed in English. Two years later Larsen and colleagues (2002) offered a more distinct example of this phenomenon. Their study of Polish immigrants in Denmark showed that the language used by the interviewer was capable of influencing both the language used for the reply and the origin of the memory recalled. When asked in Polish to recall a personal memory, subjects' replies were more likely to be given in Polish and to correspond to an event experienced in Poland before immigration, whereas if the request was made in Danish, the replies were more likely to be given in Danish and to correspond to an event experienced in Denmark after immigration.

Another stream of research that suggests language can cause a bilingual to access distinct associations comes from the study of cultural frame switching. Cultural frame switching can be described as a specific type of priming, which changes a person's ability to identify, produce or classify an item as a result of a previous encounter with that, or a related item (Schacter, Dobbins, and Schnyer, 2004). By activating certain associations in memory, an individual is more likely to think about those associated concepts, ideas, or beliefs and/or to behave in a way that is consistent with those ideas and beliefs, when asked to process information. This research has studied how language and symbols can cue different personality and cultural characteristics in bicultural–bilingual individuals. Hong and colleagues (2000) considered how different cultural icons (Great Wall of China vs. American Flag) primed either collectivist or individualist responses in Chinese–English bilinguals. Subsequently, Ross, Xun, and Wilson (2002) showed that language is also capable of cuing distinct cultural mind-sets.

The most concrete example of how language is related to a bilingual's dual cultural identity comes from a study of English–Spanish bicultural–bilinguals conducted by Ramírez-Esparza and colleagues (2006). Their study found that language is capable of cuing either Mexican or American personality characteristics as measured by standard personality tests. Bicultural-bilingual subjects who responded to the Spanish language version of the personality tests displayed more "Mexican" personality characteristics (more like those of monolingual Mexicans living in Mexico) whereas subjects who responded to the English language version of the same tests displayed more "American" personality characteristics (more like those of monolingual Anglos living in the U.S.)

The foregoing has been a summary of academic research in Psychology that supports the idea that multiple cultures may exist within an individual, not just within groups in a geographic region - as is usually the focus of most research and teaching of the subject matter. However, two recent studies in the field of marketing lend more direct support for this idea as an instructional paradigm in U.S. business schools.

Noriega and Blair (2008) considered how the interaction of language and context could influence the thoughts Spanish-English bilinguals would report in response to a print advertisement. Subjects who saw a Spanish-language print ad for a fictitious restaurant reported more thoughts about friends, family, home or their homeland but only if the ad also mentioned dinner rather than lunch. This group also recorded more such thoughts than subjects who were exposed to identical ads in English. More recently, Carroll and Luna (2011) showed that Spanish-English bilinguals exhibited more positive responses to print advertisements when the language of the ad matched the language more likely to be associated with the usage context mentioned in the ad copy. Ads that described the use of the product with family and friends performed better when presented in Spanish whereas ads that described the use of the product at work performed better when presented in English. Both of these studies suggest a specific combination of language and context activated their subject's corresponding cultural identity; and as a consequence, elicited distinct responses from them. More to the point, these academic studies also stress the relevance of this alternative view of multiculturalism to the study and practice of marketing.

In other words, this emerging field of study considers multicultural markets not as distinct groups of homogeneous individuals who are somehow different than their general market counterparts but rather as groups of individuals who at times will reflect and thereby be motivated by either of the two cultures with which they identify: their 'general population' American culture or their immigrant/ethnic minority culture.

**Corporate America Takes a Chance**

Perhaps the most compelling reason to consider a new and different approach towards the teaching of multicultural marketing may be that in spite of a dearth in academic research supporting alternative non-traditional views on the subject, some innovative and daring advertisers in the U.S. are taking a bold leap and doing things few current marketing textbooks would suggests much less encourage; following are three such examples:

In 2007 a family-owned Honda dealership in Florida decided the best way to cut through the clutter of television advertising would be to broadcast a Spanish language TV commercial in a general market English language network. The ad featured all Anglo family members and some employees speaking Spanish with a noticeable Anglo accent but delivering a warm, appealing, and convincing message. Although the dealership did receive some negative feedback as a result -threatening and ugly phone calls and emails from some viewers- not only did they receive overwhelming statements of support, this tactic ultimately increased overall sales immediately following the Spanish-language campaign.

More recently, in 2009, a leading U.S. car manufacturer took a gamble by placing a Spanish-language TV commercial during a Hispanic-themed English-language entertainment show. The gamble paid off leading to several requests for additional information; however, surprisingly, while some viewers requested the information in Spanish, others requested it in English. Although one cannot determine the precise reason behind viewers' language choice for the additional printed information, there are a number of assumptions that can be made; some of which are quite surprising and useful in understanding the complex manner in which language plays a part in many Hispanic consumers' lives:

1) It is possible that program viewers favor English over Spanish.
2) This preference might reflect a higher proficiency in English than in Spanish.
3) Even if English is their preference, at least those viewers who responded to the commercial apparently did not mind being addressed in Spanish.
4) Regardless of their language proficiency, many viewers understood Spanish well enough to respond to the commercial.
5) Although viewers who requested the information in Spanish may be more comfortable reading their native language, they were nevertheless enjoying English-language broadcast programming.

In some cases companies are going as far as to experiment with some cultural aspects for which there is absolutely no existing academic research available for guidance or direction. One interesting example is an English-language general market television commercial for a fast-food chain featuring an attractive racially ambiguous female walking along a busy street in an urban setting. This visual is accompanied by a male voice-over waxing poetic over the company's offerings in a distinctive and undeniably Hispanic/Latino accent. One can only presume this advertiser believes the actor's monologue will be uniquely appealing to Hispanic/Latino consumers while not alienating non-Hispanic viewers.

The success of efforts such as these seems to imply that determining which language to use when targeting Hispanics is not a simple choice based on the age or generation of the specific Hispanic target market, as has been suggested in the past. Nor should the media in which it is scheduled to appear necessarily dictate the language. At least in some cases, it appears that although using a Hispanic consumer's native language may not be necessary, it may nevertheless be helpful, and potentially fruitful. And although using cultural characteristics other than language may be a riskier proposition, some advertisers have begun to so nevertheless.

These are only a few examples of how corporate America is increasingly trying new tactics with which to better connect with Hispanic/Latino consumers. If Corporate America seems eager to move beyond traditional tactics and techniques when targeting racial and/or ethnic U.S. consumer segments, it only makes sense that marketing educators should also move beyond the traditional notions of multicultural marketing when covering this subject matter.

**Suggested Lesson Plan**

A logical first step in introducing this alternative view of multicultural marketing in the classroom may be to discuss the geodemographic changes happening around the world today. This will help emphasize the relevance of understanding multicultural marketing around the world not just in the U.S. as is the focus of many textbooks. As explained earlier, it may be helpful to then explain the reason why the U.S. Hispanic market now presents an ideal example of what a bicultural consumer is, and how they may react differently to marketing communications depending on the language in which they are received.

Next, it may be necessary to convince some students that bicultural individuals really do exist. This may be more difficult to accept for monolingual and monocultural American students. Here it would help to discuss the theories that explain how an individual transforms from an often monolingual and usually monocultural immigrant to a bilingual/bicultural individual after prolonged contact with members of the new host culture. Schools with a diverse student body may be able to use bicultural students' own experience and insights to validate this argument (Schoell, 1991).

The next step can be an exploration of the cultural primes/cues which can differentially activate either of a bicultural individual's cultural identities. Language is perhaps the most useful variable to discuss since this is also the most accessible and unambiguous prime advertisers have at their disposal.

As a last step, in order to show the real world relevance of an updated view on multicultural marketing it maybe helpful to discuss some of the ways corporate America has already begun to step outside of their comfort zone where multicultural marketing is concerned. The three advertising examples given here may be supplemented by other local, regional, or national examples the instructor can find on his/her own.

At such an early stage of introduction, the most appropriate and fair assessment of students' understanding may be simply to have them acknowledge that "multiculturalism" is a trait that can manifest itself at the individual level and that marketers can use this knowledge to connect at a deeper personal level with members of consumer groups displaying this characteristic.

**Possible Class Assignments**

A – Explain how you would market a new cell phone service to a bicultural consumer who speaks German at home and English in the workplace.

B – Create an advertisement for any of the following market offerings to be published in the local daily newspaper but targeted to Hispanic consumers.

-Life Insurance -Power Tools -Kitchen appliances

C – What are some of the characteristics you need to know about a bicultural consumer target market before you can decide how to best communicate your products' attributes?
D – While researching a new bicultural target market you find Census data that states the majority of your target market is bilingual but prefers to consume media in their native language. You want to convince your superiors that you can still benefit from using English language media to attract buyers from this market segment. What arguments can you make to state your point?

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# ESTIMATING THE EFFECTS OF FOREIGN CAPITAL INFLOW ON GDP GROWTH IN BANGLADESH: AN ARDL COINTEGRATION APPROACH

**Rahim M. Quazi**
**College of Business**
**Prairie View A&M University**
**Prairie View, TX 7446**
**rmquazi@pvamu.edu**

**Abstract**

This paper estimates the effects of foreign capital inflow on GDP growth in Bangladesh over the 1973-2009 period. A long-run equilibrium and a short-run dynamic model are estimated using the ARDL Bounds Testing cointegration methodology. The estimated results suggest that foreign capital inflow has contributed positively to GDP growth both in the long and short run. The other significant determinants of GDP growth include domestic savings, economic openness and natural disasters/political crises. When foreign capital is disaggregated into foreign aid and foreign direct investment (FDI), it is found that the effects of foreign aid on GDP growth are significantly positive, but the effects of FDI on growth are weak. However, if the current trend of huge growth in FDI continues, it is likely that in the future FDI can also play a productive role in the growth dynamics of Bangladesh.

**Keywords:** Foreign aid, Foreign direct investment, GDP growth, Bangladesh

## Introduction

Over the last several decades, development economists have generally accepted the notion that foreign capital can play a positive role in the growth dynamics of developing countries. The economic development literature holds that foreign direct investment (FDI) can help plug several "development gaps" in developing countries. For example, the supply of foreign currency through initial investments and subsequent export earnings can fill the "foreign exchange gap"; the supply of capital for domestic investment can fill the "investment gap"; and the formation of tax revenues through creation of additional economic activities can help close the "tax revenue gap" (Smith, 1997). Many empirical studies have concluded that FDI can also help generate domestic investment in matching funds, facilitate transfer of managerial skills and technological knowledge, increase local market competition, increase global market access for export commodities, etc. (Moosa, 2002).

The growth-foreign aid literature comprises two dominant views --the traditional pro-aid view and the radical anti-aid view. The traditional view holds that foreign aid complements domestic resources of the recipient economy, eases foreign exchange constraints, enhances the utilization of existing production capacity by financing the imports of foreign investment goods, and transfers modern know-how and managerial skills (Chenery and Strout, 1966, Papanek, 1972, and Cassen, 1986). On the other hand, the radical view criticizes aid on grounds that it supplants domestic resources, worsens income inequality, funds the transfer of inappropriate technology, and in general helps sustain the bigger, more corrupt and inefficient governments in the recipient countries (Bauer, 1965, Griffin and Enos, 1970, and Weisskoff, 1972).

Since its independence in 1971, Bangladesh has received a combined total of nearly $53 billion in foreign capital, which amounts to an annual average of $1.4 billion or 4.9% of its average GDP over the 1972-2009 period (World Bank, 2011). Table 1A in the appendix section lists the annual inflow of total foreign capital, which is also disaggregated into foreign aid and FDI. The figures show that an overwhelming share of foreign capital inflow (about $47 billion or 92% of total inflow) has been in the form of foreign aid (official development assistance), which is hardly surprising as Bangladesh is one of the most impoverished economies in the world, and consequently has received massive aid packages each year from multi- and bilateral donors. The average ratio of foreign aid to GDP has been about 4.6%, and the average ratio of FDI to GDP has been only about 0.24% (ibid). Given the huge annual influx of foreign capital, Bangladesh can be used as an important test-case for analyzing the effects of foreign capital on the recipient economy. On this note, this paper estimates an econometric model to analyze the effects of foreign capital on GDP growth in Bangladesh over the 1973-2009 period.

The rest of the paper is organized as follows: the second section provides a brief review of the literature; the third section presents the methodology, estimation and results from an ARDL cointegration model that estimates the effects of foreign capital, foreign aid, and FDI on GDP growth in Bangladesh; and finally the last section concludes the paper and draws policy implications.

**Literature Review**

There exists a growing literature on the macroeconomic effects of foreign capital (in particular, foreign aid) in Bangladesh. Among the very early studies, Islam (1972) concluded that foreign capital had affected domestic savings in the erstwhile East Pakistan negatively in the 1950's, but positively in the 1960's. Another study by Alamgir (1974) found that foreign capital affected GDP growth negatively in East Pakistan during 1960-70. Sobhan (1982) concluded that instead of reducing poverty, foreign aid has led to substantial concentration of wealth among the urban and rural elite, and instead of fostering the domestic productive potentials, aid has helped nurture a dependent culture on foreign resources. In contrast, Rahman (1984) concluded that over the 1972-82 period foreign aid promoted economic growth, and through higher income, aid also expanded the tax base and raised domestic savings in Bangladesh. Ahmad (1990) also found that during 1961-80 foreign capital raised GDP growth in Bangladesh by increasing output in the primary, manufacturing, and tertiary sectors. These studies concluded that by relieving the foreign exchange gap in the import-dependent economy, aid has financed the imports of needed foreign inputs and brought the complementary domestic inputs into production, which has expanded the economy's productive capacity and contributed to economic growth.

Among the later studies, Islam (1992) found that the effects of aid on GDP growth in Bangladesh over the 1972-88 period are barely positive, but highly insignificant. The author also concluded that domestic resources have played a much more significant role in promoting economic growth vis-à-vis the foreign resources. Ahmed (1992) estimated a simultaneous equation model with structural parameters that showed that aid has affected both output growth and domestic savings negatively, but the reduced form parameters showed that the effects of aid on domestic savings are positive, but negative on output growth. Quazi (2000) found that although foreign aid has reduced GDP growth in Bangladesh, but by raising consumption expenditures, aid has also stimulated the

demand-constrained economy, which in turn has increased national output through a multiplier-accelerator mechanism. Thus, aid has also induced indirect positive effects on GDP growth, which offset much of its direct adverse effects. Quazi (2005) estimated an aid-growth model and an aid-fiscal model to quantify the effects of foreign aid on GDP growth and fiscal behavior in Bangladesh over the 1973-1999 period. The neoclassical aid-growth model found that aid has marginal effects on GDP growth, and but when aid was disaggregated into foreign loans and foreign grants, the results showed that loans significantly raised GDP growth, but grants did not. The aid-fiscal model found that foreign grants mostly finance non-productive civil expenditures, but foreign loans generally finance public investment projects and human capital building programs, which eventually lead to higher output growth. In a cross-country panel study of five South Asian economies (including Bangladesh), Asteriou (2009) found evidence of a positive long-run relationship between aid and GDP growth. However, it should be noted that results obtained from a multi-country study are valid for the entire group and, therefore, inferences should not be drawn for any specific country in that sample.

In contrast to the rich volume of the aid-growth literature, the FDI-growth literature in Bangladesh is somewhat scanty. Only a few studies have analyzed the effects of FDI on economic growth in Bangladesh, which is not surprising given the rather low volume of annual FDI inflow (which however is changing in recent years, as can be seen from Table 1A in the appendix). For example, Dhakal et al (2007) investigated the FDI-growth relationship for a cross-section of nine countries in South and Southeast Asia (including Bangladesh). Using Granger causality test, the paper found evidence of no causality at all between FDI and growth in Bangladesh. Quite the contrary results were found by Srinivasan et al (2011), which analyzed the causal relationship between FDI and economic growth in six South Asian countries (including Bangladesh), and found a long-run bi-directional causal link between GDP and FDI for all countries in the sample, except India. Apart from these few cross-section studies, no FDI-growth study focused only on Bangladesh has been published in recent years.

This paper improves on the previous studies by thoroughly analyzing the effects of FDI on GDP growth in Bangladesh in a single-country context. This paper also applies a more advanced cointegration methodology to adequately address the possibility of spurious time-series regression. The earlier aid-growth studies had used either the ordinary least squares (OLS) single equation method, e.g. Alamgir (1974) and Islam (1992), or the two stages least squares (2SLS) simultaneous equations method, e.g. Ahmed (1992) and Quazi (2000). Since these studies do not account for the almost certain presence of non-stationary time-series variables in the estimated regressions, there is a strong possibility that the regression results are spurious. Quazi (2005) used the Engle-Granger cointegration methodology, which however has been criticized in the literature for several limitations, including: small sample bias due to the exclusion of short-run dynamics, problem of normalization in systems with more than two variables, and the inability to test hypotheses concerning the estimated coefficients in the long-run relationship. The current paper uses the more advanced *bounds testing* methodology developed by Pesaran et al (2001), which is explained in more details in the third section below.

**Methodology, Estimation and Results**

***Theoretical Design of the Model***

The econometric model is derived from the Cobb-Douglas type production function, which can be extended as follows to include foreign capital: $Y = AK^{\alpha}F^{\beta}L^{\gamma}$ (where Y = GDP; K = domestic capital; F = foreign capital; L = labor force; and A = productivity). Transforming both sides into logarithmic forms and differentiating with respect to time, the production function can be re-specified into the following growth accounting equation: $g_Y = g_A + \alpha g_K + \beta g_F + \gamma g_L$ (where g denotes growth rate). Although growth of domestic capital ($g_K$), foreign capital ($g_F$), and labor force ($g_L$) are captured in the model by domestic savings, foreign capital (i.e. foreign aid and FDI), and labor force, it is however very challenging to fully capture productivity growth ($g_A$), as it is determined by many factors.

Over the last several decades, Bangladesh has experienced at least one productivity enhancing factor -- trade liberalization, which conceivably has induced greater efficiencies in the Bangladesh economy. Since the 1980s, the erstwhile closed economy has opened up significantly to international trade. As a result, the volume of trade (imports plus exports) has steadily increased from about 20% of GDP in the early 1980s to about 47% in the late 2000s (World Bank, 2011). Much of the expansion in the volume of trade is due to the spectacular growth in the exports sector (particularly in the ready-made garment industry), which has seen the export-import ratio more than double during that period (from 0.35 in the late 1980s to 0.73 in the late 2000s) (ibid). Consistent with the international trade theories, it can be hypothesized that opening up to the global economy has contributed to productivity growth in Bangladesh.

In line with the arguments put forth by Papanek (1972) that the non-economic factors can be no less crucial than the usual economic factors in determining growth, it should be noted that Bangladesh is prone to periodic occurrence of natural disasters and political crises that have severely affected its economy. For example, the devastating floods in 1987 and 1988, and severe political turmoil in 1975, 1990, and 1995 have had very adverse effects on the level of economic activities and consequently economic growth in Bangladesh. Begum and Shamsuddin (1998) also found that GDP growth in Bangladesh is depressed in "abnormal years" by the occurrences of war, political turmoil and natural disasters. Therefore, unless the effects of these shocks are accounted for in the econometric model, the macroeconomic effects of foreign capital and the other explanatory variables would be inaccurately estimated.

In line with the discussions in the preceding sections, the following growth model is formulated:

$$GR_t = \alpha_1 + \beta_1 FK_{t-1} + \beta_2 S_{t-1} + \beta_3 LFG_t + \beta_4 MX_t + \beta_5 Shock_t + u_t \qquad (1)$$

where, GR = real GDP growth rate; FK = foreign capital inflow as a percentage of GDP; S = gross domestic savings as a percentage of GDP; LFG = labor force growth rate; MX = imports plus exports as a percentage of GDP; Shock = occurrences of natural disasters/political crises; and t = time. A second equation is also estimated where foreign capital (FK) is disaggregated into foreign aid (Aid) and foreign direct investment (FDI). The equation above is essentially a neo-classical growth model, which includes the usual determinants of GDP growth, i.e. labor, domestic capital, and foreign

capital, and two additional variables -- net volume of international trade and natural disasters/political shocks to the economy. Many aid-growth studies, e.g. Papanek (1972), Dowling and Hiemenz (1982), Gupta and Islam (1983), Lee et al (1986), Mosley et al (1987), Quazi (2005), etc., have included these variables in one form or another in their model specifications. The a priori expected signs of the regression coefficients are as follows: $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$, $\beta_4 > 0$, and $\beta_5 < 0$.

The first two explanatory variables (foreign capital and domestic savings) are lagged by one period. The rationale for the lagged effects of foreign capital on GDP growth is that most FDI-funded and aid-funded projects are often associated with long gestation periods. For example, foreign aid in the 1960s was primarily targeted to building infrastructure, such as roads, highways, etc., while in the 1970s the emphasis was redirected toward financing education, hydro-electric plants, etc. -- all of which generally affect output with long delays (Griffin and Enos, 1970). The main empirical problem with incorporating lag structures into aid-growth regression models is determining the right length of lags. Following Griffin and Enos (1970), this study adopts a reasonable compromise by lagging the effects of foreign capital on GDP by one period. Next, since higher savings rate leads to higher rate of capital formation, which leads to higher GDP and that, in turn, leads to higher savings rate, there exists a simultaneous causal relationship between GDP growth and savings rate. Therefore, the equation above would suffer from simultaneity bias if the endogeneity of savings ($S_t$) were not properly accounted for. Accordingly, $S_t$ is instrumented by $S_{t-1}$ to eliminate the simultaneous bias.

A few other variables, such as export earnings, terms of trade, financial liberalization, etc., have been incorporated as additional explanatory variables in similar growth studies for Bangladesh. For example, Begum and Shamsuddin (1998) found that trade liberalization has boosted total factor productivity and significantly increased economic growth in Bangladesh; Siddiki (2002) found that both financial and trade liberalization have contributed to economic growth, and Mamun and Nath (2005) found that there is a long-run uni-directional causality from export earnings to GDP growth in Bangladesh. Since the volume of exports is already included in the variable MX (volume of international trade), export earnings are not separately included in the model. The other variables were tried in alternative model specifications, but were subsequently dropped, as the regression results did not turn out satisfactory.

***Methodology and Estimation***

Annual time-series data from 1973-2009 are used in estimating equation (1) above. All data are collected from *World Development Indicators* published by the World Bank (World Bank, 2011). Following Lensink et al (2000) and Alam and Quazi (2003), this study uses a dummy variable to capture the effects of natural disasters/political shocks to the economy. The dummy variable assumes the value of “1” in 1975, 1976, 1982, 1985, 1988, 1989, 1991, 1996, 2001, 2007, and 2008 -- years following the occurrences of catastrophic natural calamities (famine, flood, etc.) and/or intense political unrest and uncertainty in the preceding year, and “0” in other years.

Since the mid-1980s, time-series econometric studies have generally accepted the notion that a regression model is valid only if the data used are stationary, i.e. the variables are not subject to any stochastic or deterministic trend. Since most time-series variables in practice are non-stationary, they should be “detrended” with the appropriate cointegration method. Several cointegration

methods, such as the Engel-Granger procedure, Johansen's full information maximum likelihood procedure, and the Bounds Testing (henceforth BT) procedure have been widely used in the time-series literature. The Engel-Granger method has been criticized for several shortcomings that have been discussed already. Although the Johansen procedure avoids some of these problems, but both the Engel-Granger and Johansen procedures require that the variables included in the model are *I(1)* (i.e. integrated of order 1). The most important advantage of the BT procedure is that it is applicable irrespective of whether the underlying variables are *I(1), I(0)* or fractionally integrated (Pesaran et al, 2001).

The choice of the cointegration procedure therefore critically depends on the order of integration of the variables. To this end, the order of integration for each variable is tested by the Augmented Dickey-Fuller (ADF) test. Table 2A in the appendix section presents the estimated ADF test statistics, which show that all variables (except Aid) turn out *I(1)*, but Aid turns out *I(0)*. Since the dataset contains a mixture of both *I(0)* and *I(1)* variables, the appropriate cointegration procedure for this study is the BT procedure. There are two stages involved in the estimation procedure. In the first stage, the existence of a long-run relationship among the variables is verified, and in the second stage, the parameters of the long-run relationship and the associated short-run dynamic error correction models (ECM) are estimated by the Autoregressive Distributed Lag (ARDL) model of order ($p_1, p_2, \ldots p_k$). The BT procedure is applied to two models - Model 1 estimates equation (1) and Model 2 re-estimates Model 1 with foreign capital (FK) disaggregated into foreign aid (Aid) and foreign direct investment (FDI).

***Testing for a Long-Run Relationship***

The existence of a long-run relationship is crucial for valid estimation and inference about the model parameters. If a long-run equilibrium relationship is present, only then the ARDL procedure can be applied to estimate the long- and short-run coefficients. Table 1 below presents the test statistics for Model 1 and 2; since the computed statistics fall outside the critical bounds, the null hypothesis of non-existence of a long-run relationship between the variables can be rejected at the 5% level of significance.

Table 1.
*Testing for Existence of a Level Long-Run Relationship*

| Model | Test Statistics | 95% Lower Critical Bound | 95% Upper Critical Bound |
|---|---|---|---|
| **Model 1** | F statistic = 9.80 | 3.29 | 4.56 |
| | Wald statistic = 49.01 | 16.45 | 22.78 |
| **Model 2** | F statistic = 8.18 | 3.08 | 4.38 |
| | Wald statistic = 49.08 | 18.46 | 26.26 |

***Estimating the Long-Run Parameters***

Given that the existence of a long-run relationship can be verified, the next step is to use the ARDL approach to estimate the long-run model parameters. This method yields consistent estimates of

the long-run coefficients that are asymptotically normal irrespective of whether the underlying variables are *I(0)* or *I(1)*. Table 2 presents the estimated long-run coefficients for Model 1 and 2. As can be seen from these results, except for labor force growth in both models and FDI in Model 2, all coefficients turn out statistically significant with the correct *a priori* signs. These results suggest that, in the long run, economic growth in Bangladesh is affected by foreign capital (in particular by foreign aid, but not by FDI), domestic savings, economic openness, and natural disasters/political crises.

***Estimating the Short-Run Dynamics***

Next, the short-run dynamic error-correction model (ECM) of economic growth is estimated. Table 3 presents the ECMs based on ARDL of order (2,0,0,0,0,0) for both models. The short-run ECM parameters turn out consistent with the long-run parameters, i.e. except for labor force growth in both models and FDI in Model 2, all short-run coefficients turn out statistically significant with the correct *a priori* signs. The adjusted $R^2$ and F statistics turn out highly satisfactory and the DW statistics do not suggest any evidence of autocorrelation for either model.

The sign and the magnitude of the coefficient of the error correction term (ECM) determine the short-term adjustment process. Since the coefficients of the *ECM* turn out statistically very significant for both models and numerically between -1 and -2, these results imply that instead of monotonically converging to the equilibrium path, the error-correction process oscillates around the long-run values before converging to the equilibrium path relatively quickly. The statistical significance and the correct sign of the *ECM* coefficients further confirm the presence of a long-run equilibrium relationship between economic growth and the explanatory variables included in both models.

Table 2.
*Long-Run Models of Economic Growth*

| **Variables** | **Model 1** | **Model 2** |
|---|---|---|
| Intercept | 1.35 (1.13) | 1.35 (0.84) |
| Foreign Capital | 0.24 (2.42)** | |
| Foreign Aid | | 0.24 (2.28)** |
| Foreign Direct Investment | | 0.24 (0.36) |
| Domestic Savings | 0.11 (3.13)** | 0.11 (3.01)** |
| Labor Force Growth | -0.41 (-1.23) | -0.41 (-1.17) |
| Economic Openness | 0.07 (3.17)** | 0.07 (1.76)* |
| Natural Disaster/Political Crisis | -0.48 (-1.77)* | -0.48 (-1.73)* |

Notes: ** Coefficient is significant at the 5% level; * Coefficient is significant at the 10% level.

Table 3.
*Error-Correction Models of Economic Growth*

| Variables | Model 1 | Model 2 |
|---|---|---|
| ΔGDP Growth | 0.27 (2.24)** | 0.27 (2.18)** |
| ΔForeign Capital | 0.43 (2.46)** | |
| ΔForeign Aid | | 0.43 (2.36)** |
| ΔForeign Direct Investment | | 0.43 (0.36) |
| ΔDomestic Savings | 0.20 (2.96)** | 0.20 (2.80)** |
| ΔLabor Force Growth | -0.74 (-1.19) | -0.74 (-1.12) |
| ΔEconomic Openness | 0.13 (3.25)** | 0.13 (1.86)* |
| ΔNatural Disaster/Political Crisis | -0.87 (-1.89)* | -0.87 (-1.85)* |
| $ECM_{t-1}$ | -1.81 (-9.07)** | -1.81 (-8.57)** |
| R Squared | 0.91 | 0.91 |
| Adjusted R Squared | 0.89 | 0.88 |
| F Statistics | $F_{(7, 27)} = 39.86$ | $F_{(8, 26)} = 33.59$ |
| DW Statistics | 1.57 | 1.57 |

Notes: ** Coefficient is significant at the 5% level; * Coefficient is significant at the 10% level.

Regression results estimated in this paper validate the hypotheses that foreign capital, domestic savings, and economic openness positively contribute to GDP growth in Bangladesh, but the occurrences of natural disasters/political crises significantly depress GDP growth. When foreign capital is disaggregated into foreign aid and FDI, it is found that both components have affected GDP growth positively. However, while the effects of foreign aid on GDP growth turn out statistically significant, which is consistent with the pro-aid view, but the effects of FDI turn out statistically highly insignificant, which is explained next.

The estimated results suggest that overall the effect of FDI inflow on economic growth in Bangladesh over the sample period is very weak. This result is not surprising, as the average ratio of FDI to GDP during this period (1973-2009) was only about 0.24% (World Bank, 2011). Throughout the 1970s, 1980s, and mid-1990s, FDI inflows to Bangladesh remained at very low levels. To illustrate, the average annual FDI/GDP ratio was 0.02% in the 1970s, 0.01% in the 1980s, and 0.13% in the 1990s, which jumped to 0.76% only in the 2000s (calculated from Table 1A).

The implementation of several FDI-friendly policies and establishment of appropriate institutions by the government, such as the Foreign Private Investment Act, the Board of Investment, and several Export Processing Zones, etc. started to bear fruits in the mid-1990s. The government's decision to open up the energy sector for exploration of natural gas and oil started attracting huge influx of FDI, which continued in later years as the government opened up the mobile telecommunications

industry. It is likely that the upward trend in FDI will continue as the government opens up more sectors, including the infrastructure sector (e.g. power plants, transportation, construction, etc.) to foreign investment (UNCTAD, 2005).

Table 4 below shows the correlation coefficients between FDI and GDP growth in Bangladesh in different periods. Over the 1973-1995 period, the correlation coefficient was only 0.03 (and statistically highly insignificant), which is expected given the low levels of FDI over this period. The coefficient jumps to 0.85 (and statistically highly significant) over the 1996-2009 period, which is again consistent with the fact that the volume of FDI jumped manifold during this period. For the 2000-2009 period, the coefficient dropped slightly to 0.80, but remained statistically highly significant. Since the correlation coefficient for the 1973-1995 period (which covered 23 out of 37 years in the entire sample) turned out very small and highly insignificant, these results validate the regression results that found the effects of FDI on GDP growth insignificant over the entire sample period. Since the 1996-2009 period comprises a very small sample (only 14 observations) for a time-series study, this paper cannot econometrically estimate the effects of FDI on GDP growth in the post mid-1990s period. Future studies comprising longer sample periods will most likely find that the effects of FDI on GDP growth in Bangladesh have turned statistically significant.

Table 4.
*Correlation between FDI and Economic Growth in Bangladesh*

| Period | Correlation Coefficient (p-value) |
|---|---|
| 1973-1995 | 0.03 (0.89) |
| 1996-2009 | 0.85 (0.001) |
| 2000-2009 | 0.80 (0.005) |

The estimated results also suggest that labor force growth do not exert any significant effect on economic growth in Bangladesh, which is perhaps a testimony to the gradual transition of the Bangladesh economy from labor-intensive agriculture to capital-intensive manufacturing industries. Although statistically not highly significant, the negative coefficient of labor force growth can be explained by the fact that high labor force growth rates, if unabated, can reduce the per capita capital stock available, which would reduce labor efficiency and ultimately result in lower GDP growth rate. The annual labor force growth rate in Bangladesh over the 1973-1995 period was nearly 2.8% (World Bank, 2011), which was quite possibly a drag on the economy. During 1996-2009, the labor force growth rate fortuitously dropped to 2.4%, which has dissipated the possibility of an uncontrolled labor force growth further dragging down the economy.

**Conclusions**

This paper econometrically estimated the effects of foreign capital, foreign aid, and FDI on GDP growth in Bangladesh over the 1973-2009 period. A neo-classical growth model was estimated with GDP growth as the dependent variable and foreign capital, domestic savings, economic openness, labor force growth, and occurrences of natural disasters/political crises as the independent variables. A long-run equilibrium and a short-run dynamic model were estimated using the ARDL Bounds Testing cointegration methodology, which is appropriate for the dataset in this study, which comprised both *I(0)* and *I(1)* variables. The estimated results suggest that foreign capital inflow has

contributed positively to GDP growth in Bangladesh both in the long and short run. When foreign capital is disaggregated into foreign aid and FDI, it is found that the effects of foreign aid on GDP growth are significantly positive, but the effects of FDI are very weak. The other estimated parameters suggest that higher domestic savings rate and increased economic openness significantly raise GDP growth, natural disasters/political turmoil exact a heavy toll on the economy, but labor force growth exerts insignificant effects on GDP growth in Bangladesh.

This paper finds that natural disasters/political shocks have exacted a heavy toll on GDP growth in Bangladesh. Even though political stability is not a policy instrument, it is perhaps the most significant prerequisite for fostering an economic environment conducive to economic growth. Unfortunately, the political landscape in Bangladesh has remained fraught with frequent bouts of political instability (e.g. 1975, 1985, 1990, 1995-96, 2001, 2008, etc.) that have wreaked havoc to the economy. These cycles of political turmoil hurt the industrial sectors, repel domestic and foreign investors, cause capital flight, and overall create an economic environment that is least conducive to economic growth. One can only hope that democracy will take a firmly institutionalized shape in Bangladesh and the political culture of confrontation will be replaced by a political culture of tolerance and harmony.

Although statistically not highly significant, the negative coefficient of labor force growth is a warning sign that uncontrolled labor force growth can reduce GDP growth rate in Bangladesh. Fortunately, the labor force growth rate has dropped since the mid-1990s, which can be attributed to the decline in the national population growth rate (from 2.5% over 1973-1995 to 1.8% over 1996-2009) (World Bank, 2011). The population control measures (particularly, family planning) undertaken in Bangladesh throughout the 1970s and 1980s began paying off in the 1990s and helped rein in the population growth rate, which kept the labor force growth rate in check. The policymakers should continue with robust steps/policies to keep the labor force growth firmly under control.

Finally, given that foreign aid is found to positively affect GDP growth in Bangladesh, the policymakers should recognize the significant role foreign aid plays in the growth dynamics of Bangladesh. In particular, they should be wary of any sudden drop in the volume of foreign aid and how the effects will play out negatively on the economy. However, given that foreign public loans carry repayment obligations (albeit with concessionary terms, such as very long repayment period and very low interest rate), it is not prudent to pile up a massive foreign debt burden that carries along huge debt-servicing obligations. In that regard, it is better to replace foreign aid by FDI in the foreign capital pool. Although FDI was found to exert weak effects on the economy, this finding was primarily due to the low levels of FDI flowing to Bangladesh until the mid-1990s. Given that the volume of annual FDI has jumped manifold since the mid-1990s, it is likely that in the future FDI can also play a productive role in the growth dynamics of Bangladesh. For that to transpire, the policymakers should continue to promote FDI-friendly policies and help foster a business-friendly economic environment (e.g. tax breaks, less bureaucracy and red tape, better infrastructure, less corruption, less political turmoil, etc.) that is conducive to attracting higher levels of FDI.

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**Appendix**

Table 1A.

*Inflow of Foreign Capital, Foreign Aid, and FDI in Bangladesh (mil $ and % of GDP)*

| | Foreign | Foreign Aid | Aid/GDP | FDI | FDI/GDP |
|---|---|---|---|---|---|
| 1972 | 223.9 | 223.8 | 3.56 | 0.1 | 0.001 |
| 1973 | 423.8 | 421.5 | 5.22 | 2.3 | 0.029 |
| 1974 | 524.6 | 522.4 | 4.19 | 2.2 | 0.018 |
| 1975 | 1,016.4 | 1,014.9 | 5.23 | 1.5 | 0.008 |
| 1976 | 502.4 | 497.0 | 4.93 | 5.4 | 0.054 |
| 1977 | 790.1 | 783.1 | 8.13 | 7.0 | 0.072 |
| 1978 | 995.1 | 987.4 | 7.42 | 7.7 | 0.058 |
| 1979 | 1,154.7 | 1,162.7 | 7.46 | -8.0 | -0.051 |
| 1980 | 1,285.2 | 1,276.7 | 7.05 | 8.5 | 0.047 |
| 1981 | 1,104.1 | 1,098.7 | 5.56 | 5.4 | 0.027 |
| 1982 | 1,345.4 | 1,338.4 | 7.40 | 7.0 | 0.038 |
| 1983 | 1,043.7 | 1,043.3 | 6.08 | 0.4 | 0.002 |
| 1984 | 1,186.8 | 1,187.3 | 6.04 | -0.6 | -0.003 |
| 1985 | 1,121.4 | 1,128.0 | 5.22 | -6.7 | -0.031 |
| 1986 | 1,427.9 | 1,425.5 | 6.74 | 2.4 | 0.012 |
| 1987 | 1,791.8 | 1,788.6 | 7.52 | 3.2 | 0.013 |
| 1988 | 1,616.5 | 1,614.7 | 6.30 | 1.8 | 0.007 |
| 1989 | 1,800.0 | 1,799.7 | 6.71 | 0.2 | 0.001 |
| 1990 | 2,096.0 | 2,092.8 | 6.95 | 3.2 | 0.011 |
| 1991 | 1,880.2 | 1,878.8 | 6.07 | 1.4 | 0.004 |
| 1992 | 1,821.8 | 1,818.0 | 5.73 | 3.7 | 0.012 |
| 1993 | 1,382.9 | 1,368.9 | 4.13 | 14.0 | 0.042 |
| 1994 | 1,753.7 | 1,742.6 | 5.16 | 11.1 | 0.033 |
| 1995 | 1,283.4 | 1,281.5 | 3.38 | 1.9 | 0.005 |
| 1996 | 1,241.6 | 1,228.1 | 3.02 | 13.5 | 0.033 |
| 1997 | 1,150.0 | 1,010.6 | 2.39 | 139.4 | 0.329 |
| 1998 | 1,352.2 | 1,162.1 | 2.64 | 190.1 | 0.431 |
| 1999 | 1,399.0 | 1,219.3 | 2.67 | 179.7 | 0.393 |
| 2000 | 1,452.1 | 1,171.7 | 2.49 | 280.4 | 0.595 |
| 2001 | 1,122.2 | 1,043.7 | 2.22 | 78.5 | 0.167 |
| 2002 | 958.4 | 906.1 | 1.90 | 52.3 | 0.110 |
| 2003 | 1,660.4 | 1,392.2 | 2.68 | 268.3 | 0.517 |
| 2004 | 1,862.7 | 1,413.8 | 2.50 | 448.9 | 0.794 |
| 2005 | 2,131.0 | 1,317.7 | 2.19 | 813.3 | 1.349 |
| 2006 | 1,917.0 | 1,219.8 | 1.97 | 697.2 | 1.126 |
| 2007 | 2,167.4 | 1,514.6 | 2.21 | 652.8 | 0.954 |
| 2008 | 3,071.0 | 2,061.4 | 2.59 | 1,009.6 | 1.269 |
| 2009 | 1,901.2 | 1,226.9 | 1.37 | 674.2 | 0.755 |

Source: *World Development Indicators*, World Bank (2011)

Table 2A.

*Testing for Unit Root – Augmented Dickey Fuller (ADF) Test*

| | Lags[a] | Intercept, Trend[b] | ADF Statistics |
|---|---|---|---|
| GDP Growth | 4 | Intercept | -0.12 |
| ΔGDP Growth | 3 | None | -6.11** |
| Foreign Capital | 1 | Intercept and Trend | -1.95 |
| ΔForeign Capital | 1 | None | -4.46** |
| FDI | 4 | Intercept and Trend | 0.62 |
| ΔFDI | 4 | None | -2.05** |
| Foreign Aid | 1 | None | -2.08** |
| Domestic Savings | 4 | Intercept and Trend | -1.43 |
| ΔDomestic Savings | 3 | None | -1.76* |
| Labor Force Growth | 1 | Intercept | -2.09 |
| ΔLabor Force Growth | 1 | None | -4.13** |
| Net Trade | 1 | Intercept and Trend | -1.51 |
| ΔNet Trade | 1 | None | -2.95** |

Notes: ** significant at 5%; * significant at 10%

[a] The optimum number of lags is selected by the Akaike Information Criterion (AIC). Lags selected by the Schwarz Bayesian Criterion and Hannan-Quinn Criterion yield similar results.

[b] Selection of intercept and trend are based on inspection of graphs for each variable at level and first difference.

# INTERIM DEAN OR ACTING MANAGER VERSUS "A" MANAGER OR LEADER: CAN OLD THEORIES AND NEW PRACTICES BE OF USE?

**James P. Reburn and Robert W. Service**
**Brock School of Business**
**Samford University**
**Birmingham, AL 35229**
**jpreburn@samford.edu, rwservic@samford.edu**

**Abstract**

As the first author completed his interim deanship he felt it important and timely to describe his experiences. The desire was to define the nebulous, the good and the bad in terms that could help improve the experience for future interim deans and to see if the experience were generalizable to other acting or temporary managerial, administrative or leadership situations. Thoughtfully analyzing this experience and matching it against managerial and leadership practices and theories, results in useful recommendations for the "interim" or "acting" deans. With these goals in mind, the first author enlisted the second author, an experienced executive and professor of leadership and management. To begin the effort, the interim was interviewed and the relevant literature reviewed in order to discover variables of importance and significance with the goal of developing useful guidelines and suggestions. The research question becomes: what are the key factors that determine success as an interim manager or dean? This will be addressed by recounting critical experiences, and researching theories and useful concepts in order to derive solid recommendations.

**Keywords:** Leadership

## Research Question and Methods

There is little doubt that the social sciences research world of "Business School" disciplines is characterized by multi-level global and confusing social phenomena with varied perceptions, ambiguities and complexities. This complexity is amplified when one is an interim and is working with business school professors, other professors and administrators across a University. Indeed, most of the individuals within a university know what they do not know and most do not suffer from the arrogance of ignorance, but we all suffer from the narrowness of study that is required to achieve the Ph.D. All "social" researchers experience cloudy complexity that is multifaceted because we are dissecting human interactions, and more especially perceptual concepts such as motives, motivation and values for purposes of comprehending the abstraction of order useful in developing solid guiding research questions. "What is important is that research findings do not oversimplify phenomena, but rather capture some of the complexity of life. . . . *conditions/ consequences do not exist in a vacuum* (Corbin and Strauss, 2008: p. 91)." The key to developing useful research requires observing data no matter its source with an unbiased objective eye: impossible, but a worthy goal.

A primary reason for the current collaboration is that the two authors have differing disciplines and perspectives. The interim is an accountant and his spent his career as an accounting professor and an associate dean who looks toward quantitative data, empirical studies and proofs. The other professor, on the other hand, is a past executive who received a Ph.D. at the age of 48 as he started a new career teaching and researching the qualitative humanistic aspects of managing and leading.
This article is a theoretical piece with elements of a case discovery. It is an open discussion of a worthwhile topic with some suppositions and much food for thought. "Remember, the primary purpose of doing qualitative research is discovery, not hypothesis testing (p. 317). . . . not trying to control variables, but to discover them (Corbin and Strauss, 2008: p. 318)." Therefore, our restated research question becomes: "What are useful precepts in determining, and improving, the interim deanship experience and how might the precepts be generalizable?"

**The Interview**

The interim recounted his experience and started by explaining the need to maintain useful momentum established by the former dean. In this situation, the former dean's success over his five year tenure is exemplified by the former dean's acceptance of the Presidency of a private University. That jump from a business school dean to a University President highlights the level of success the former dean enjoyed. He was a wonder at external relations and brought record funds into the school resulting in the naming of the School. His initiatives and accomplishments were many and outstanding. He left just after a very successful AACSB International reaffirmation visit. The interim was the associate dean during the prior dean's entire tenure and he handled the internal affairs of the school.

The interim said he felt from the beginning that his superiors, the provost and president, gave him full authority and respect as a dean. Likewise, it appeared to the interim that the deans of the other Schools within Samford University worked with him without regard to his interim status. But he did sense the commitment from the faculty was not as strong. He attributed this to the fact that he publicly stated at both a faculty meeting and advisory board meeting that he was not a candidate for the permanent position. Nevertheless, faculty support started strong but waned as it became obvious that the dean's search committee had many worthy candidates and that the tenure of the interim dean would likely be concluding at the end of the academic year. Among external constituents, especially the extensive and very active business school advisory board, the interim found them to be very supportive and helpful to the School during the interim period. However, the interim sensed some uneasiness when he met individually with advisory board members in the weeks after the announcement of the departure of the former dean. Why was he not a candidate? Were there problems within the School or University that he was running from? Although he thought he could tell internal people that he was not a candidate for the deanship, with external constituents this seemed to be more problematic. The interim felt that he had to walk a fine line between what he told external constituents and what he admitted to faculty. The fact he was not a candidate was easy to tell the faculty: though it may have been a mistake to do so.

The interim found it difficult to work without an associate dean to off load the internal responsibilities of day-to-day operations while maintaining the rigors of external obligations set-up by the former dean. The interim did not select an associate dean because he felt that this was to be

the new dean's choice. The interim felt that the committee structures and governance that had been firmly established as business school bylaws did work well.

Though he felt most within the faculty liked and supported him, he did see a small hand full of faculty that would throw a monkey wrench into his plans or ideas. This was exemplified during discussion of an opportunity to develop a major new center; a few on the faculty would have none of it. Additionally, the interim said it was obvious that some faculty were not working as hard to be at events for the school or to back him up.

For his part the current author and faculty member admits that he liked the interim and wanted him to succeed and would in fact have liked for him to become the next dean. But, when it was clear that the interim would not be the next dean he slacked on committee assignments and attending events for the university or school. Instead, the faculty member worked on publishing and enjoying life!

It was just very difficult to come in on Saturday mornings or for those business community connection breakfast meetings when I knew I would get not credit for that from a new dean. I let myself and the interim down a few times when I just didn't push myself to get there, do "that," or follow-up completely. I had excuses, but thinking back they were just that, excuses not reasons. Once he [the interim] completed my one and only review, about half way through his tenure, I could feel the relief and slacked off. I asked other faculty and many admitted similar difficulties in pushing themselves when we had an interim boss.

The lack of "permanence mind-set" held us all back: faculty and the interim. Yes, the interim deanship was a true servant leadership role in that the interim did it to serve and the faculty did see him generally doing it for the good of the school rather than for his own gain. Additionally, the interim took the job to satisfy a curiosity about his ability to do the job and determine if he wanted to be a dean elsewhere. A better understanding of what to tell the faculty, students, donors, advisors and students could have served all well.

The faculty member saw clearly how difficult it would be to motivate someone like himself, a tenured full professor in the later stages of his career. The interim said he could see that and perhaps he should have just popped in on faculty and told them what they meant to the school. As a real plus the interim could see that he could do the job and make a positive difference, but it also brought to his attention how much he enjoyed and missed teaching.

**Theories and Relevant Research**

As this research progressed it became more obvious that the central issues revolved around the simple concept that we all service our own wants and needs as characterized by what we value. In the social sciences and popular press literature (Covey, all dates; Gladwell, 2008; Levitt and Dubner, 2005; and Service and Carson, 2010a) it is obvious that we do not all value the same things. Moreover, when we do value the same things, we simply do not value them in the same way.

The former dean of school led many significant accomplishments and started the school on a path to excellence and improved rankings. In all cases, but especially when a past dean has had significant success, an interim dean is by definition an image position. The internal workings of a school that has not literally fallen apart can last for a year in most cases. In fact, the excellent internal structures, committees and faculty governance established by the former dean and the interim as associate dean could easily hold the school together internally for several years. The main issue was to continue the significant external constituent momentum gained under the prior dean. Perhaps a relevant theme a dean should always remember is**:** my actions speak so loudly others cannot hear what I am saying (Harari, 2002). This implies an interim dean must have the mindset that their attitude and behavior will be the determining influence on their success or lack thereof (Lockamy and Service, 2011).

A related area of concern for a dean and more especially an interim dean is "Impression Management." It is a view of "you" as described by Goffman in his seminal work *The Presentation of Self In Everyday Life* (1959). Goffman said we must understand the need to and consequences of defining ourselves in the public eye: in this case as an interim dean. For once we define ourselves in a certain status not only can we expect to be treated that way, we must realize we will be judged against the status we have sought and assigned ourselves. When you define what the "is" of you is, people believe that is the "is" by which you are to be evaluated (Collins, 2001; Covey, 1991; Drucker, 2001; George, 2003; Keller and Berry, 2003, Monarth, 2010; Peters, all dates; and Service and Dance, 2011). The successful results of impression management are **not** deterministic, rather they are probabilistic as are most of the issues and precepts presented in this paper. The more of these issues one manages relative to one's impression management, the higher the probability of success in an interim or full time position. Understand how others perceive you in today's highly competitive business school market is a platform for success. Interim deans more so than most positions must manage the image that others see as their "you" in order that it may be more like the "me" they wish constituents to perceive.

Inner reflection is a discipline that is difficult for most. We are easily tempted to reflect on the behaviors and actions of others. No principle, theory or trait (we will use the term *precept*) will help you in any position until you internalize them. So often we are quick to judge others but slow to judge ourselves. We too often get satisfied being stuck no matter how much we might wish to un-stick ourselves. Most often wishing something would change instead of working at changing it (Blair, 2010). This especially applies to how others perceive someone in an acting or temporary management or leadership role. Learning to think inwardly to discover what others think of the image of you is a great skill to develop (Service, 2010).

A few things dawned on us as the results of an interaction of "unfortunate events" and from recent readings about Douglas McGregor (the theory X and Y, MIT professor). McGregor's insights can be of particular use to anyone in an "acting" position for even being an assistant or associate is never the same as being the dean or acting manager:

> It took the direct experience of becoming a line executive . . . to teach me what no amount of observation of other people could have taught. I believed, for example, that a leader could operate successfully as a kind of advisor to his organization. I thought I could avoid being a "boss." Unconsciously, I suspect, I hoped to duck the

> unpleasant necessity of making difficult decisions, of taking the responsibility for one course of action among many uncertain alternatives, of making mistakes and taking the consequences. I thought that maybe I could operate so that everyone would like me. . . .
> I couldn't have been more wrong. It took a couple of years, but I finally began to realize that a leader cannot avoid the exercise of authority (Wren and Bedeian, 2009: p. 431-433).

This is such a simple lesson; the secret is there is no secret; get on with it for it is focus, desire and effort. The Wright brothers continually said flying was like riding a bike, fairly easily learned with practice (Tobin, 2003: p. 122). An interim acting manager should realize they will not know exactly what to expect until they actually do it. At best they should remember it will be different than expected or imagined. With management and leadership; you've simply got to do it, to be able to do it! Management and leadership are some of the easiest things you will ever do, but only after you have done them for awhile. Courses, reading, listening, asking and so on help, but these *human influence interactions* (that's all management and leadership are) are only understandable and masterable after you have done them for some period of time. The first few years it seems tough if not impossible; the next couple it seems doable but relatively hard; and finally it becomes easy because you've mastered it, and then you complete your interim term (Service and Arnott, 2006)!

In London a current author worked with Rona, a theatre teacher who would insist that we look at every actor and ask, "Did the actor's performance benefit the moods, feelings, understandings, or emotions the playwright and director wished to be created?" Applying Rona's lesson, would it not be appropriate to ask how your behavior relates to your acting as a leader, manager, follower, or like you want the promotion or job? "Suit the action to the word, the word to the action (Hamlet from Laurie, 1994: p. 55).

"Did you know that each of us influences at least ten thousand people during our lifetime? So the question is not *whether* you will influence someone, but *how* you will use your influence (Maxwell, 2002: p. ix)". Leadership is closely aligned with influence; the words are almost interchangeable. Leadership and management are lifetimes of growing knowledge, skills and abilities. "Nearly all of which can be learned and improved (p. 13). . . . .It's [often] unfortunate because as long as a person doesn't know what he doesn't know, he doesn't grow (p.14)." Your external behavior is an exhibit of how others judge you as a leader, manager, interim or acting whatever, or candidate for a job or promotion. Remaking an image begins with remaking behavior. We must accept image and appearance as factors influencing behavior, and the converse. If either becomes unbalanced the other will suffer. Behavior and appearance are movies about us. An interim dean must make their movie convince others they are currently "the" dean. "However much we may deny it, the way other people see us does influence the way we see ourselves (Handy, 1998: p. 88)."

Managers and leaders are figureheads who have to look the part for people to take them seriously. Can anyone *look* like a leader or a manager? Here are a few words people reported to us in our past research about what leaders and managers exemplify: Humility - Enthusiasm - Self-confidence - Warmth - Sense of humor – Extroversion - Stability - Honesty - Tenacity - Work ethic (Service and Arnott, 2006). These actions make an interim or acting boss appear as the boss: a must for success.

Vroom (1994) in a landmark book originally published in 1964, showed clearly that expectancy theory determines actions and helps explain work, and job satisfaction and performance. Vroom cited hundreds of studies in concluding that one's level of motivation and performance depends on the attractiveness of rewards and the probability that those rewards will be forthcoming if one accomplishes certain objectives. Yes, the link between value, expectations, rewards, efforts and results is difficult at best for both an interim dean and the interim dean's faculty. These beliefs and anticipations concerning actions and rewards seem to be an undeniable link in making an interim or acting situation a success.

Benton (2003) emphasizes the need for our actions to encourage others to get useful things done. Integrity, confidence, and communications—verbal and nonverbal—all add the substance that you must have in order to succeed in an interim or actual managerial leadership role. Pay attention to your behavioral image game and understand how others see you. For this purpose, there is no process that is perfect, but 360-degree feedback evaluative systems using a balanced score card approach can be helpful in identifying weaknesses and developing new skills and competencies through awareness (Cascio, 2010). Regardless of the performance appraisal system you inherit you can use the 360-balanced score card foundations (Service and Loudon, 2010). Understand how others perceive you, regardless of how you think you are (Maxwell, 2006). In the final analysis, no system works unless you work to make it work. Tools are only as useful as the craftsman using them. Start using tools with the intent to improve relationships (Childress, 2001). If your organization does not have a good 360-degree evaluative and balanced scorecard appraisal system, make the one you have into those things. Finally, every formal performance appraisal situation should be started by clearly stating the goals you want to accomplish in the appraisal, with no hidden agendas (Black, 2007). Beyond that, we recommend a culture committed to *Communications, Respect and Trust (CRT)* in all faculty and staff interactions; and a continuous flow of management-directed *TIPS (Timely Individualized, Performance, Specific)* which can become the foundation of every effective performance review (Service and Loudon, 2010). Also adopt a *"what, what, why"* model administered as TIPS for on-the-spot management coaching. That is, when an acting dean, or person with management responsibilities, observes an action or inaction related to performance (or a values violations) that is wrong or incomplete, they should immediately say, "This is what you did, this is what you should have done and here is why." When managers, interim or otherwise, muster the guts to do this and when employees see the honesty and openness within which the directions are given, a world of difference will occur in performance and ultimately in PAs.

Ehrmann, J. et al (2011) is a great read that gives us a couple of acronyms that tell us how to communicate effectively in all interactions regardless of the situation. The two acronyms are: **DIG**-which in sports means to dig deeper and work harder and in communications means do it with-Dignity, Integrity and Grace. Next is **VCR**-which represents Validate, Challenge, and Respect as the mantra of a successful communicator. All of the acronyms presented here are not intended to replace understanding but they are good memory linkage tools.

Realize the image of you is exhibited via Facebook, Twitter, blogs, e-mail, or voice mail (Buhler, 2010). It is always out there and nothing is really protected. Many firms hire consultants to look at your private accounts or require you to give them accesses to your Facebook. What you write or record yourself doing in picture or video form will be recorded for all to see for all time (Wayne,

2010). We suggest that professors, especially those that desire to advance, use FaceBook in a professional manner.

Levitt and Dubner in *SuperFreakonomics* (2009) contend (and we agree with the evidence they present as support) that people respond to incentives although not always in the most predictable or manifest ways. They also stress the law of unintended consequences. In today's jumble of healthcare, failed banks and markets, university down costing and a national U.S. Congress that appears locked in getting reelected, it is imperative that we better understand what "data" is trying to tell us in light of human concerns and of course unintended consequences. *Freak* further stresses that humans are set-up to solve simple nearly one dimensional problems, and are not well equipped to solve the long term complex multi-constituent-goal situations where many objectives via for importance and urgency. An interim deanship is nothing if not complexified with many varied constituents and multiple goals. When the stakes are high, uncertainty abounds and many are pushing from many points of view, it is easy to see how we solve the wrong problem in the wrong manner. Levitt and Dubner take an economic approach that stress incentives, differing perspectives and knowing that although there are exceptions to all rules, one must first "really" understand what the "real" rules are, and more importantly how the rules play out in everyday life with normal people:

> To address a given topic with neither fear nor favor, letting numbers speak the truth… The economics approach isn't meant to describe the world as any one of us might want it to be, or fear that it is, or pray that it becomes-but rather to explain what it actually is. Most of us want to fix or change the world in some fashion. But to change the world, you first must understand it (p.16).

Could any writings apply more than to the interim or acting manager than the unintended consequences of faculty working for a short term boss or for the interim as they work to get their own rewards and recognition? Perhaps we do not understand this interim, acting, role because we are not listening to the data and acting accordingly? Studies show that most managers are not very good. Experienced MBAs and those that have been in the workforce for more than just a few years overwhelmingly echo this sentiment (Service & Lockamy, 2008). Peter F. Drucker said that 90% of managerial actions impede workers (1973). Excellence in management starts with the desire to be better, and ends with the understanding that it is not about you but about others! Subordinates are the keys to being successful as a manager.

Professor and researcher, Henry Mintzberg (2004), adds credence to many of the pronouncements in this article.

> The practice of management is characterized by its ambiguity. . . . That leaves the managers mostly with the messy stuff—the intractable problems, the complicated connections. And that is what makes the practice of management so fundamentally soft and why labels such as experience, intuition, judgment and wisdom are so commonly used for it (p. 13).

Mintzberg says that managers and leaders need the following mindsets: (1) reflection—managing self, (2) analysis—managing organizations, (3) worldliness—managing context (managers need to get into other people's worlds), (4) collaboration—managing relationships and (5) action—managing

change (adapted from p. 278). Effective managers operate at an interface between reflective thinking and practical doing. "To manage is to bring out the positive energy that exists naturally within people. Managing thus means engaging based on judgment, rooted in context. . . . Leadership is a sacred trust earned from the respect of others (p. 275)". To improve one must begin to realize that it takes a lifetime of commitment to be a good manager leader. The reader should note that we continue to use the term manager leader because every good manager must have a bit of leader in them. Mintzberg's pronouncements are more than applicable to those in interim positions for the ambiguity and uncertainty are magnified by complexities we are discussing here.

Good managers have self-motivated employees because they have no second-class subordinates and an interim person can do no less. Motivation occurs best when you focus more on your subordinates than on yourself or your superiors. Let your passion show and let others see you accomplishing above and beyond. "Remember that optimism and strength of character are contagious (Sandys & Littman, 2003, p. 263)". If you are fulfilled in your job, your subordinates have a better chance of being fulfilled in theirs. Treat everyone with respect (Paul Corts, cited in Williams, 2003). In a recent study, 86% of the workforce cited fulfillment and work/life balance as their top career priority (NASPI, 2004, p. 2I). Our working MBAs and consulting clients tell us, "they (management) are not motivated so why should I be (Service and Arnott, 2006)?"

Communication is the life blood of any organization and cannot be over done for anyone in an interim position. Even when the results are not as expected openness is the best choice. Although it is often critical for an interim person to work harder to set up communication and to realize that they are acting with limited power of position.

> One generalization that is supported both by research and experience is that effective two-way communication is essential to proper functioning of the leader-follower relationship… Leaders, to be effective, must pick up the signals coming to them from constituents (Gardner, 2003, p. 147).

With few exceptions, respondents to our survey's and informal questioning say their management "does not communicate well (Service and Carson, 2010a)!" The point is normally not that the method or manner of communication is wrong but that there is just not enough communication: see our preceding VCR and DIG descriptives). Remember, that without mutual understanding resulting from interactions, we would have no management or leadership. Do not use technology to avoid face-to-face relationships (Service, 2005).

Most change manages us. You are part of an organization, and your entire organization is part of a much larger system that you must understand to be an effective interim manager-leader. When the system around you changes, you must change. The soul of a company is found in the hearts of its employees. You must address the heart of any change as well as the logical view if you are to succeed. Change does not happen because people think differently; it occurs more because they have a change of heart (Kotter & Cohen, 2002). An interim has little chance for success unless she can appeal to the hearts as well as the minds of faculty.

Change is the mantra of our global, fast-paced world. To meet these new requirements be agile, learn to learn, manage risk, stick to the right things, avoid busy work and the wrong things, do not

establish a culture of fear, and avoid developing a "management model of the week." Consistency is the only long term way to succeed as a manager-leader: even more important for an interim manager-leader.

Most often people in interim positions are often the last to see needed changes. Ineffective manager-leaders simply cannot or will not see the forest for the trees, or vice versa. "Experts are less likely to challenge convention than perceptive amateurs (Sandys & Littman, 2003, pp. 34-35)". Be wary of your specific field of study. Academics all too often see through only a lens of their discipline since we have spent a life-time trapped in those areas. As an interim dean, always seek the advice of those outside your discipline; especially if your discipline is in a quantitative area. Additionally, a good manager realizes that large change is normally the last option. Accomplish large change in small incremental sections (Andrews & Johnson, 2002).

To get people to change, especially when you are in an interim position, show them how it will hurt them not to change, and help them to change. Give no special dispensation to hardcore cases. Three current interconnected challenges from employees, (1) bad attitudes, (2) poor performance, and (3) resistance to change, require new forms of change management. To handle these challenges, eliminate the payoff of negative actions by holding employees accountable (Chambers, 1998).
Always do right (Mark Twain, from Gardner & Gardner, 1975, p. 114). "Thank you, Enron, Arthur Anderson, WorldCom and HealthSouth. You woke us up. The business world has run off the rails, mistaking wealth for success and image for leadership (George, 2003, p. 96)."

> In America, the bosses of big companies command only slightly more respect in public-opinion polls than used car salesmen. Rebuilding that trust will be slow work… A company's boss is now expected to take personal responsibility for its fortunes as never before (*Tough at the Top*, 2003, p. 3).

The goal should be to ensure a spirit of transparency in all you do. Develop a culture of accountability and participation that is above reproach, and reflected in all policies and systems (DiPiazza & Eccles, 2002).

Based on in-depth interviews of 60 of Europe's top business leaders, Childress (2001) stresses distributing leadership all down the line because concentrated power means no freedom (de Geus, 1997). It is important that interim deans continue to use committees and structures for governance and if those are not in place, an interim should spread their work load and include as many people as possible. Remember however, empowerment has to be a two-way street. Yes, you have to be willing to give it up, but more importantly they have to be willing and able to take it. Make it a rule to get and keep the best people if you desire to share responsibilities. Even an interim has the chance to hire or influence who is in what position. Getting and keeping the best is a requirement in today's overly complex world, where no one person can know it all (Service, 2006). Managing intelligent, confident professionals who love autonomy, i.e. professors, who are over the top in wanting and deserving independence is tough! This requires: (1) clarifying your role and the roles of others; (2) building mutual relationships one at a time; (3) having deep insights into people; (4) valuing differences in people (some differences are acceptable and others not!); (5) showing interest in others' interests; (6) dealing differently with different people; (7) throwing down a challenge; (8)

nurturing juniors; (9) asking and listening; (10) being there; (11) building trust and (12) integrating new people (McKenna & Maister, 2002).

To develop people capable of handling self-governance and autonomy who can be empowered and trusted to share responsibility, try being a coach versus being a manager/director. A coaching model mixed with servant leadership is the most effective manager-leader model for an interim dean. As you coach for empowerment, remember the ten things the best coaches do:

> (1) Take time to listen; (2) See employees as people; (3) Care personally about employees; (4) Set good examples; (5) Encourage; (6) Don't pull rank; (7) Keep people informed; (8) Praise people; (9) Be straightforward about things people do not do well (Branham, 2001).

Disperse management responsibilities across your organization until you have managers and, indeed, leaders at every level. This builds a sense of commitment by letting faculty engage in activities that connect them by building a sense of trust in the university, school, department and colleagues. Moreover, in a school of business it allows faculty to practice what they preach. Give all people the right to connect and demonstrate their value, which is often termed "social capital." Social capital can be shared and grown if it is accomplished through delegation and empowerment (Cohen & Prusak, 2001). Social capital is the back bone of a collegial faculty: they have to like and respect each other to effectively collaborate.

As a society of organizations, all organizational managers must respect the society within which they live and realize they prosper only "with society." This is above all true in the university setting for few other organizations, beyond religious institutions, have loyalty and expectations placed on them at the level of the university. Our possibilities as humans, acting in groups called organizations, are unlimited, but only if we take societal responsibilities seriously; for without a solid free and open society, little progress will be possible or meaningful. Social responsibilities for the university are magnified beyond the norm of normal for profit organizations. And, yes, the fog of management in all organizations, above all in the university, is about persuasion and bringing people together to accomplish overriding purposes. Most often management in a university is reported as, "grappling with the gray."

Planning, organizing, directing, controlling and staffing are foundational, but so are management of the "realities" of the functions described above. To began and remain as a manager-leader with the hope of advancement into the top "leadership" roles in the world of organizations, you must be an excellent manager who can clear the fog and make clear the path to accomplishment: performance. An interim must perform at an even higher level in part because they are an interim. A manager keeps people on track, but it takes a leader to move them to a new innovative future: know and use this difference. You must move without the clarity of hindsight, but with the knowledge of past actions and resulting performance, and that is why we are labeling the job of an interim dean as a manager-leader.

Winning organizations and individuals are capable of rapid action that fits them (or their organization) with the evolving economic realities through focused measurable value (Covey, Whitman & England, 2009). Following are specific "value-added" suggestions that can be applied and are given in the light of Vroom's expectancy theories under our managerial-leadership model.

**A Leadership Model**

A successful interim dean, full time dean, acting manager-executive or a manager-executive will be successful to a larger part because of how they full fill the role of leader. Not all managers or administrators are leaders, but all "good" one's are a bit of a leader (Drucker, all dates-on leadership or management). Therefore we are starting this suggestions section with a comprehensive leadership model. One does not have to understand all aspects of the model, but anyone wishing effectiveness in any of the roles just mentioned must have an overall foundational understanding of leadership.

Study Figure 1 closely and understand that the ideal sweet-spot of leadership effectiveness *wisdom* is an amalgamation of other sweet-spots. Leadership *Wisdom* is an ideal balance of what fits the combination and permutations of circumstances and people at the appropriate time and in the proper manner. The key is to know what it depends on and to develop your own insights as to what it takes to Be, Know and ultimately Do as you analysis yourself, others and situations in order to apply new found knowledge to develop skills for leadership effectiveness. Only you can internalize your insights by experiencing leadership. The unfortunate truth is that you cannot give another person an insight especially one you have gained through the experience of hard work and sacrifice or failure. The only hope to gaining and using new found leadership effectiveness insights is that you might be set up to recognize the insight as you are exposed to them. This is the purpose of this suggestions section. Not to give you insights but to set you up to recognize the need for them.

Our recently developed compressive leadership model shown in Figure 1 revolves around individual and group realism, practices and perspectives. First, let us quickly discard the silly nature versus nurture leadership debate. There is simply no doubt that anything under the sun is harder for some than others and harder is not always impossible.

**Your Leadership Effective Guide to Improvement**

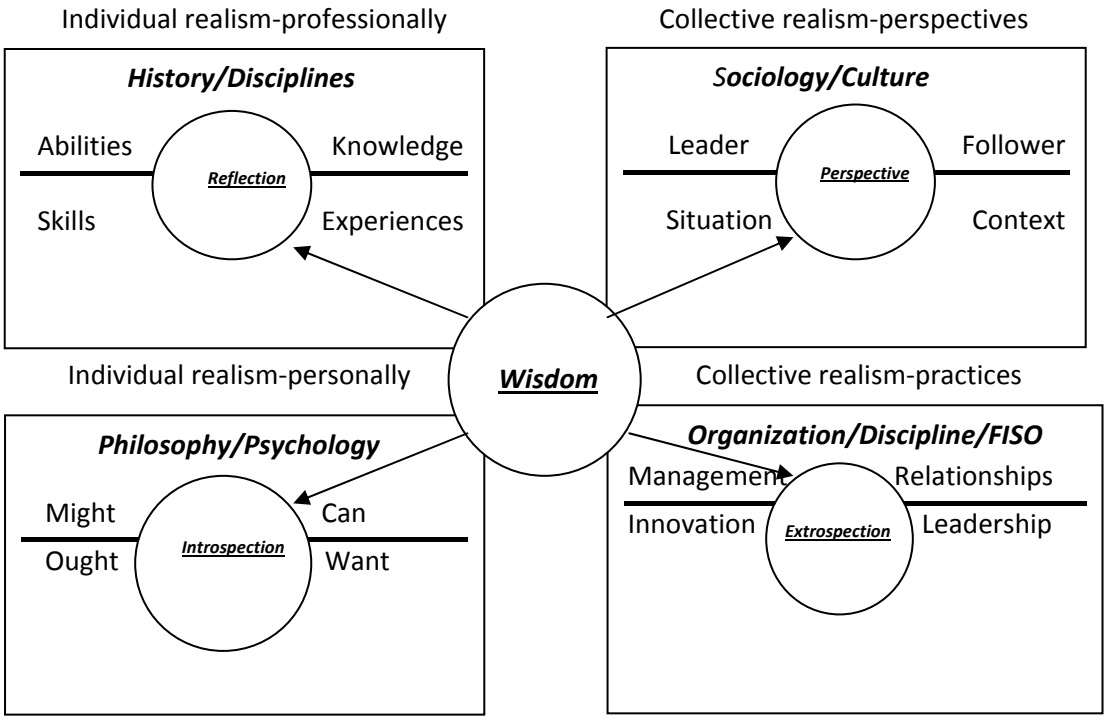
**Key Success Factors** *of effective leadership—considering fit among leaders (content), followers (processes), and environments (contexts).* The secret is how interchanges among the leader, followers and environments find the proper balance when linked by intra-interpersonal relationships. Relationships are keys to all manager-leader success for interims or otherwise. Leadership in the end is simply influence that is defined by one's form of participation as we do things together.

Effective leaders of the future will be open to new ideas and values. They will be trustworthy, respect-worthy, change-worthy and they will learn how to highlight and build on all knowledge, skills, and abilities they can muster. Leaders of the future will be clear on who they are and deeply respectful of the value and dignity of all. These new leaders will be systems thinkers eager to see larger pictures of systems within systems. Highly effective leaders are designers and initiators, always looking for better ways and willing to fix unbroken processes and relationships. Interactive actions required of the new leaders and their followers within various situations are defined by our composite leadership model. Using and understanding it is not easy, but it is one of the best if not

only inclusive guide to continual leadership improvement. Interims and acting managers will do well to study this model and understand its interactions and implications.

> Leaders have always needed to grow constantly as intellects, repositories of information, and guides of behavior, basing this growth on their collected wisdom. Curiosity and the desire for information seem to be self-regenerating phenomena. That is, the more we know, the more we want to know. The effective leader will always find ways to receive and process increasing amounts of information (Warren Wilhelm).

Figure 1.
*Be-Know-Do* Leadership-life Effectiveness Model (adapted from Service and White, 2011)




Complete descriptions of this model are beyond the scope of this article. Their purposes here are to act as reminders and as reviews of the most significant aspects. Which are: 1) Developing an understanding of *Sweet spots* that are the intersections that must be *satisficed* through *optimizing* differing perspectives in a *balanced* and *appropriate* way that *fits* the *people* and *situations*: yes, it depends! 2) Categorizing and understanding your strengths and weaknesses as a manager-leader in those aspects shown in this paper. 3) Developing and following a self-improvement plan for if we know anything it is that improvement as a manager-leader is a life-time commitment not a do it once thing and perhaps missing this point is the reason some interims fail.

The key is to try to understand all (or as many as possible) perspectives of the differing constituents and then work to optimize the solutions you must develop. It is simply impossible to fully meet the wants, desires and needs of all constituents. What is necessary is meeting as many as possible in as satisfactory a manner as possible. Simplification is not always possible with complex human actives.

Yes wisdom is understanding what "it" depends on and being able to apply "it". Think generalize-ability of mindsets of reflective, analytical, worldly, collaboration and action orientation. Realize a leader's, and an interim is a leader, goal has to result in meeting as many of the objectives of varied parties as possible (Mintzberg, 2004 and 2009). And, your self-assessment and resulting development plans must demonstrate an understanding of leadership (Service and Arnott, 2006).

**An Ideal Human Resources Management (HRM) Model**

After grasping more about the necessity of meeting the demanding needs of many and varied groups and the overall accomplishment of leadership influence, the next step is to develop an understanding of an ideal HRM model (Service and Lockamy, 2008 and 2011). Yes, ideal is normally impossible and made even more difficult by being in an acting or interim position, but a solid understanding of an ideal can only improve effectiveness.

The overriding purpose of any practical advice should always begin by identifying in simplified generic terms the principles behind the advice. The simplified purpose of HRM is to handle Hiring, Training and Rewarding (H-T-R) in such a manner that the organization has the *right* people in the *right* positions with the *right* training and motivation to do tasks effectively and efficiently at the *right* time (Service and Cockerham, 2007).

To improve HR management-leadership (again interim or otherwise) a foundational view of what is needed to facilitate HRM's desired strategic partnering role, our practitioner oriented HRM model is forwarded.

HRM Model

1. **Value people** first and last and everywhere in between.
2. **Fit** HRM with resources, purposes, objectives, strategies, and people.
3. Insure **employees know and understand** policies, expectations and objectives.
4. Provide **a way for employees to question** or appeal decisions.
5. **Always look at** the body of research . . . don't reinvent the wheel! Your peer universities will have published policies and procedures that can jump start any needed policies.
6. Put a **progressive disciplinary procedure (PDP)** in place and consistently follow it. **Match** the PDP **with** an **alternative dispute resolution (ADP)** program so employees will know the route to bring up workplace issues (see Cascio, 2010 for descriptions of PDP and ADP).
7. B**e consistent: exceptions** become rules.
8. Always **follow the letter** (exact requirements e.g., the U.S. 1964 Civil Rights Act "prohibits discrimination in employment on the basis of race, color, religion, sex, national origin, or disability [French, 2007: p. 112])" **and spirit of the law** (employment means the conditions and terms of recruiting, hiring, promoting, etc. [supported on p. 112]).
9. **Commit to continuous, honest, two-way communications**.
10. Have HR functions **insure hiring, training, rewarding and promoting**:
    a) provides **best people** in the most effective-efficient way
    b) insures **fair and equitable** treatment
    c) supports **organizational missions** and values
    d) supports individual **unit objectives**

e) **hire slow and fire fast-**acting managers-avoid hiring any full time employees
f) Builds **strategic partnering** mentality: not policing.

Hammonds said that the reasons for the lack of progress on strategic partnering and HR are frightening and "plain laughable." He goes on to answer the lack of progress by saying:

> After close to 20 years of hopeful rhetoric about becoming "strategic partners" with a "seat at the table" where the business decisions that matter are made, most human resources professionals aren't nearly there. . . . . (Further he asks,) Why are annual performance appraisals so time consuming—and so routinely useless? . . . just 41% agreed that performance evaluations were fair (2010: p. 10).

This quote leads us to the most difficult of management task especially for an interim or acting manager-leader. That is the performance appraisal. Ask and you will see that employees generally agree that their performance evaluations depicted on their annual appraisal form are mostly useless, unfair, and a waste of time. Our research from over 1,000 working young professionals shows that in sum the most common statement about an organization's performance appraisal system is: "It's a joke" (Service and Carson, 2010a; and Service and Loudon, 2010). When we follow up at academic conferences almost all professors agree the "it's a joke" tag accurately depicts the appraisal system they are subject to.

But it is not the system's fault. It is the fault of a manger-leader that is charged with monitoring and improving performance. Train all those charged with appraisals and especially yourself to make the performance appraisal an opportunity to manage performance not a perfunctory dreaded task. Managers that do poor appraisals are the problem, and their managers are also part of the problem if they allow it to continue (see Badowski and Gittines, 2003 on managing up; Finkelstein, 2003; and Welch all dates). Even, and perhaps especially an interim should not allow this to continue. A bad system is no excuse. Use the appraisal to inform, guide and develop and you will be a great interim dean.

Although the HRM partnering goal is still cited in many texts (e.g., French, 2007), in reality it is far from being met in most organizations as research results from over 1,000 questionnaires indicate (Service and Arnott, 2006). Although it might seem an interim can affect this little perhaps they are being pessimistic. At least attempt it and realize that a big part of this partnership failure is the poor application of performance reviews and the most responsible for this failure are those that do not evaluate mangers (in academia: department chairs, associate deans and deans) on how well they accomplish performance reviews. The model above, implemented in a balanced fashion, will eliminate many of those problems.

The HRM model and leadership model depicted here center on open two-way effective communications. Major considerations to accomplishing effective communications must focus on several principles when dealing with those of the "New Millennium." A solid understanding of EQ is the start of communications excellence. EQ is simply a basic requirement for anyone to be successful in an interim or acting managerial role for they cannot afford many emotional understanding errors. EQ is emotional intelligence where one can understand and use the emotions

of themselves and others (as depicted in Goldman, 2000; and Service and Fekula, 2008). Following EQ in importance is recognizing the uniqueness of each employee and learning to listen. These simple items are the initial keys to communications related to PAs and the persuasion that is essential to succeed as an interim acting manager (Buhler, 2010 and Cannings, 1988). "I am what I am, and what I am is different from what you are (Fleisher, 2009: p. B24)" is a saying any good managers (acting or otherwise) should remember about everyone. Also the need to both evaluate how managers conduct PAs and to train all who are to do PAs simply cannot be overlooked. In all PAs: 1) Set clear reasonable and fair standards/measures, remembering that we do not all value the same things. 2) Train for accomplishment of standards. 3) Evaluate objectively and point out deficiencies. 4) Address in a fair and timely manner all problems as they occur, not waiting for the periodic PA (Stanley, 2010). Everyone who does an appraisal needs to realize that liking the person you are appraising is simply not a relevant consideration (Perlmutter, 2009). Finally, never surprise anyone when conducting a PA.

In attempting to understand the details of how the above HRM model links understanding and proper use of the performance appraisal as a tool for improvement, one must recall that organizations are simply groups of people working towards common objectives. The use of our HRM model would insure "more" fairness in handling of all individuals as valued employees who will of course always be subject to the evaluation of others higher up in their organizations. This degree of fairness is enabled by the HRM model through the addition of *mutual* understanding of policies, procedures, missions and objectives within an *open communicative* organization. Moreover, this HRM model works beyond understanding of mutual requirements in promoting the *insurance* of fair and equitable treatment for all through an HRM *partnering mentality*. *Fits, understandings, commitments, communications, constancy* and *fairness* are hallmarks of a solid HRM Model. The application of good performance appraisals that are useful in performance management fall under one of the 10 model components helping insure individuals get treated in a way that reflects what is actually considered in PA results (Lobb, Dizik and Porter, 2009). Effective performance appraisals and good HRM are based on dedication, hard work and focus, not luck (Becker, Huselid and Ulrich, 2001). Success is not a matter of mastering theory, but rather of understanding and embracing common sense variables with uncommon levels of discipline (Lencioni, 2002). When you are dealing with people, an ounce of fact greatly outweighs a pound of theory (Tobin, 2003).

To this point we have given you an overall leadership model and an HRM model that require much reflection. Internalization of the principles described in Models 1 and 2 and the other suggestions integrated in the review above can be facilitate success in any managerial or leadership role. But start all activities such as the performance appraisal by not blaming the system; instead, blame the users-you and the department chairs. As Deming said, poor performance is more likely the failure of the manager than the fault of the workers (Service and Lockamy, 2008).

**More Specific Suggestions**

Above we reviewed the relevant literature. Now we will summarize the principles indicated and add some time worn management and leadership suggestions. Remember, as in most things, we start out unconsciously incompetent, after a while we become consciously incompetent, then before you know it we are consciously competent, and, indeed, we finally arrive when we become

unconsciously competent: like riding a bike (Hall, 2011). So it was with the interim deanship and so it has been with the many other executive experiences encountered by the authors. The tough interim dean part is the interim needs to go through all four phases in less than a year. Is that possible? Perhaps, if one studies management and leadership and is prepared to adapt and adjust quickly. The guidelines that follow can help an interim speed the process and become and remain effective very quick.

To be successful as a manager-leader, push yourself into a position where you are required to manage or lead; and look, listen, and ask for help from savvy people to whom everyone turns when there are problems. Observe and emulate those you admire, and always reflect on what you see and think you are learning. The basis of all learning is "minding the gaps;" that is starting with what you know and realizing what you need to know and then filling the gaps.

Generically speaking, anyone desiring to be successful in a deanship or an interim deanship should be able to demonstrate how they will:

- Be the "appropriate" image your "impression management" exemplifies
- Add value - be a net positive plus that always delivers results
- Communicate and exemplify integrity-with everything and everyone
- Invest in relationships in-outside of an organization
- Sell one's self and manage the image others perceive as the real "you"
- Gain perspectives of others: more important than what is, or what you think
- Be easy to manage-have a replacement for yourself
- Always watch all the "little things" and avoid messing up: there are many image, substance, behavior and personality de-railers (Badowski and Gittines, 2003; Begley, 2004; Goleman, 2000; Kawasaki, 2005; Lewicki and Hiam, 2007; O'Toole and Lawler, 2006; Peters and Peters and . . . all dates; Scott, 2007; Service and Arnott, 2006 and; Smith 2000).

Following are areas of review that can help an interim or acting manger hit the ground running and add value as a leader-manager very quickly. The first section of our quick reviews demonstrates guiding principles of the complexities of leadership and provides lofty goals for an interim dean!

**A Few Solid Practitioner Suggestions**

First, really study the leadership model depicted in Figure 1 and determine your strengths and weaknesses and then work to use maximize your strengths and minimize your shortcomings. Second, fully understand and practice the HRM model. Third, realize that you must have and continue to develop mutually dependent relationships with "your" faculty if you are to succeed. Finally, practice the following which have been described above. And, for the last time these suggestions and those that follow are more difficult for the "interims and acting's" but they are not impossible!

1. Act the part-as the dean, not the acting dean: take care in who you tell you are not a candidate for the deanship: review impression and image management shown in this paper.
2. Invest in and focus on building mutual dependent relationship with faculty.

   a. Practice CRT, DIG and VCR in all interactions-communications, respect and trust: give them and demand them.
   b. Follow up all noted failures or observed unwanted actions with TIPS-timely, individualized, performance specific suggestions.
   c. Pop-in often—weekly or monthly depending on size of faculty.
   d. Link future evaluations to faculty actions—maybe say you will be leaving a summary of faculty performance for the new dean?
   e. Reward and note failures very quickly with all faculty and staff—use the what-what-why model described above.
3. Establish mindsets of thinking and reflecting.
4. Performance Appraisals (PA)-use your organizations PA system as a 360-balanced scorecard system. Regardless, don't let your PA or other HRM systems fail you long.
5. Remember Vroom's VAL model and make sure people see the link between what they do and rewards or otherwise.
6. Communicate, communicate, communicate and check by asking if they got it: exemplify integrity.
7. ID change and manage it before it manages you.
8. Always do right—recall the recent events in presidential elections, at Penn State, with major organizational ethics lapses: get it out as soon as you know it!
9. Add value - be a net positive plus that always delivers results.
10. Gain perspectives of others: more important than what is, or what you think,
11. Be easy to manage-have a replacement for yourself.
12. Always watch all the "little things" and avoid messing up: there are many image, substance, behavior and personality de-railers (Badowski and Gittines, 2003; Begley, 2004; Goleman, 2000 and others shown above).

**Conclusions**

We conclude by recognizing that the position of an interim dean is not the normal interim or acting job. Essentially it is generally a year plus appointment because of the academic year and recruiting cycles. In the business world, the normal "acting" manager serves for a much shorter duration on average. Therefore, this article is more applicable to academia than those outside the academy. Nevertheless, the management and leadership principles discussed here apply to anyone in an interim manager or manager position.

This article is about reality and one's ability to see themselves in a new light as one transitions from a faculty member into the managerial role of an interim dean where they must quickly become a true manager-leader. A manager-leader is one who can accomplish overriding organizational objectives both efficiently and effectively. To be an effective and efficient manager/leader, acting or otherwise, move beyond phraseology and develop a deeper understanding to lead others into the foggy unknown while managing in the known. You will not be a successful interim or acting manager-leader by employing short-term tricks. The effective interim or acting manager-leader pays attention to everything and then learns to focus on the important while remembering understanding beats labeling (Levitt and Dubner, 2005 and 2009).

The ability to effectively receive and process ideas from *yourself* and others is the essential skill needed to be ultimately successful as a manager-leader. The critical thinking skills, behavioral skills, and decision-making skills all start with a healthy dose of reality. Reality in part says that there is no real learning without some level of pain or giving up of some level of pleasure. Do a gap analysis of yourself and determine where you are versus where you should be; then develop a speed map of priorities that clarify how you will get there (Hunger and Wheelen, 2011).

We would like the reader to recognize that regardless of the obvious limitations of this article, one can add value to themselves as an interim by improving the knowledge, skills, habits, practices and concepts presented here. Believe that success as an interim, like leadership and management at any and all levels, is more of a skill than a gift (Godin, 2010, and Service and Carson, 2010a and b).

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# A COMPREHENSIVE GLOBAL LEADERSHIP MODEL

**Robert W. Service and Kara Kennedy**
**Brock School of Business**
**Samford University**
**Birmingham, AL 35229**
**rwservic@samford.edu, kkennedy@samford.edu**

**Abstract**

"Integration of technologies, industries, nations, cultures, relationships, and interests continue to characterize the twenty-first century workplace (Potoker, 2011: p. xii)." Most researchers and practitioners are now saying that "[t]he leader of tomorrow is someone who can jump across boundaries and disciplines and analyze cultural and global differences (Shinn, 2011: p. 37)." Mathis and Jackson add, "[l]eading across cultures requires specific skills, and organizations should provide formal training . . . to develop leaders who can achieve results in this demanding environment (2013: p. 15)." Moreover, the required road to leadership understanding and improvement in a "flat" open world remains unforgiving and contradictory (Friedman, 2005 and 2008; and Tracy, 2010). These pronouncements indicate that few executives will succeed without contextually adaptability skills and few organizations will succeed without global leaders (Mintzberg, 2009 and Service, 2006 and 2012). To address these global leadership realities we must develop contextually adaptive people who can lead. A comprehensive leadership model is being forwarded to meet part of these pressing needs.

**Keywords:** Leadership

## Introduction

For the past one hundred plus years, academicians have been attempting to develop a model useful in guiding leadership understanding and development. Service published articles to advance the notion of a Leadership Quotient in 2005 (a, b and c). Then Service and Arnott introduced the complete Leadership Quotient as their copyrighted *LQ*© as a measurable holistic guide that helps one to reach their leadership potential (2006). *LQ*© acknowledges human and situational differences and offers a useful metric that can be tailored to anyone and their followers under wide-ranging contexts.

The *LQ*© concept was extended in 2009 (Service, b) and in 2012 (Service and Dance). Additionally, Service and White's "rest-of-us" leadership model was proposed to include not only humanistic percepts, but holistic precepts related to history, philosophy, psychology and culture (2011). Then in 2012, Service extended *LQ*© to leading across cultures and in differing contexts. This current article further extends the crossing cultures *LQ*© and the rest-of-us leadership model by introducing a comprehensive Model for more global leadership understanding.

An extensive and broad range of extant literature was integrated with questionnaire responses to form a foundational CIQ-contextual intelligence measures model reported in Service, 2012. Supporting this use of research and writing from all fields of study and sources, Porter says: "Researchers in many fields of study are just beginning to recognize that traditional boundaries between fields are limiting. It should be possible to cut across disciplines and examine more variables in order to understand how complex and evolving systems work (1990: p. 29-30)." Academic research and theory, science, history, psychology, religion, editorial opinion, fiction and more can be useful if it helps clear preconceived notions. Indeed, "When perceiving the world without prejudice, . . . our minds judge the world quite differently than when accessing it in the context of belief or expectation (Chopra and Mlodinow, 2011: p. 132)." Let us bring together diverse thoughts, concepts and theories from any and all sources in order to clear our minds. Especially, academicians need to tear down traditional mired-in-the-past silos and move from "who said it?", to "is it useful?" Continuously adjust worldviews as the world changes; or remain useful only in the past.

The leadership literature is clear in a few areas. First, in *Global Leadership: Research, Practice and Development,* (Mendenhall and others, 2008) make it clear that there exist no comprehensive leadership model. Second, we need urgently to find persons with the right mix of knowledge, skills and abilities (KSAs) to succeed in global leadership (Saba, 2011). Third, these requirements indicate we must understand the necessary and correct balance of KSAs (Yukl, 2013). Fourth, these KSAs are rare and difficult to find or develop (Service, 2012). Fifth, a comprehensive interdisciplinary approach to studying effective leadership is a must. In developing a more comprehensive model helpful for leaders to improve Bourdieu's called for using ""cultural capital". . . bound by trust. . . . [For only] [t]rust reduces friction and lowers transaction costs (Brooks, 2011: p. 155)."

Dorner said:" Studying the consequences of our measures gives us excellent opportunities for correcting our incorrect behavioral tendencies and assumptions. . . . If our measures yield unexpected consequences, there must be reasons. By analyzing those reasons, we can learn what we should do better or differently in the future (1996: p. 177)." Yes, researchers and those that use anything from this article need to analyze what works for them and what does not; and then you must attend to the differences between our prescripts predictions and your actual results. Often if we "[d]raw a different frame around the same set of circumstances and new pathways come into view (p. 1). . . . much more is possible than people ordinarily think (Zander and Zander, 2000: p. 2)." Furthermore,

> [a]ll people have untapped leadership potential . . . There are clear differences due to nature and nurture . . . But no matter what level of . . . leadership performance a person currently exhibits, he or she can make quantum improvements. Not everyone can be the CEO of a multibillion-dollar corporation. . . . [But] leadership is there in you (Tichy, 2002, p. 8).

**The Global Leadership Model**

***The Original Foundation is LQ©***

Service and Arnott's *Leadership Quotient-LQ©* (2006) cites over 500 sources, uses 1,100 questionnaires, other empirical academic and popular press work, and 40 years of experience and research, as the initial base for the Model shown here. New research on a Contextual Intelligence Quotient (Service, 2012) and a Rest-of-Us leadership model (Service and White, 2011) move the leadership model toward the complexity and ambiguity of global leadership. The new Model represented here moves us to a comprehensive view of what it takes to be a more effective global leader. Remember that non empirical research can be an innovative direction setter. And, as the great Peter F. Drucker came to realize leadership improvement is necessary and possible if it becomes a life-long self-development activity (Cohen, 2010). Our new Model lies at the appropriate level of simplicity, for as Einstein is reported to have said; things should be as simple as possible not simpler.

***The Model***

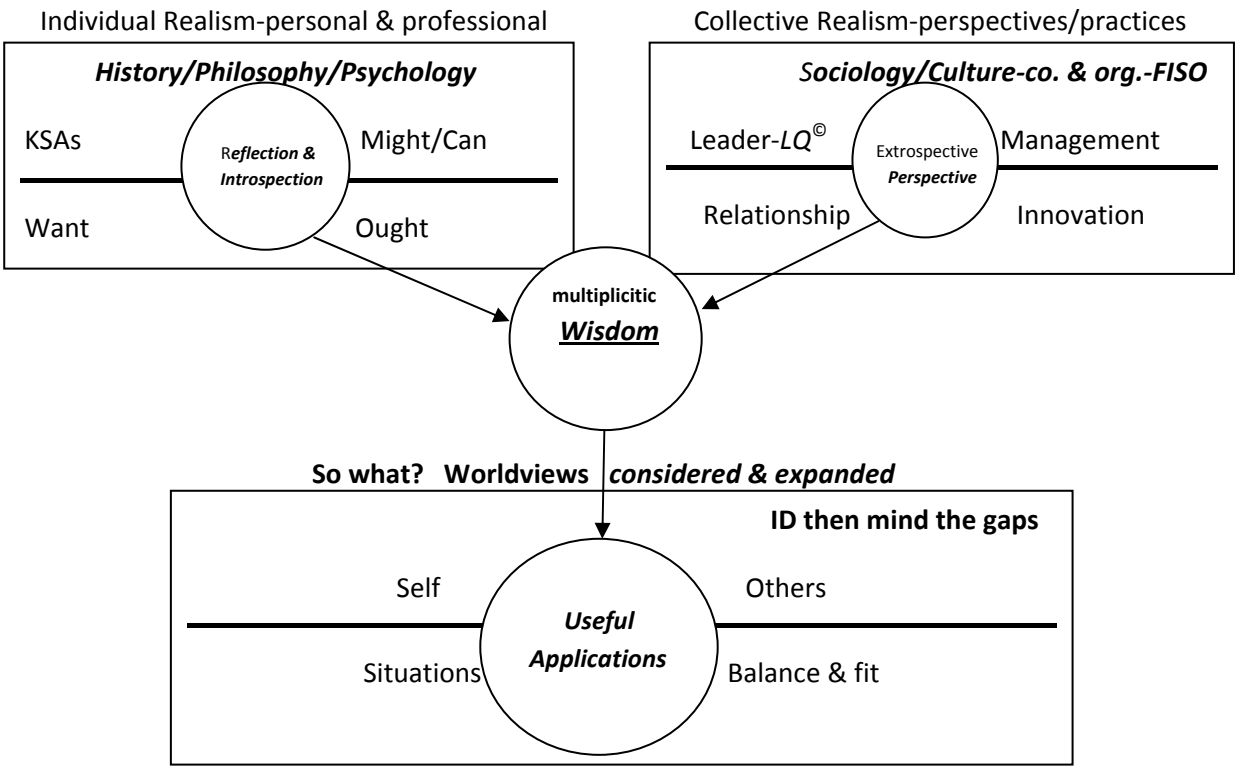
Study Figure 1 keeping in mind that the amalgamation of sweet-spots of leadership effectiveness is "Wisdom." This "Wisdom" balances combinations and permutations of circumstances that fit the involved people at the appropriate time in the proper manner. Wisdom is not only knowledge but more importantly how and when to use the appropriate knowledge. Seek to learn what "it" is and what "it" depends on in order to develop your own insights as to what it takes to be an effective global leader. Focus on analyzing yourself, others and situations and apply new-found knowledge to improve leadership effectiveness in complex contexts (Hall, 2012; Sternberg, 2003; and Tichy and Bennis, 2007).

***Individual Realism-Personal and Professional***

***History:*** Few doubt that every individual is a product of all that has ever happened to them as well as their genetic make-up. Who one interacts with, and what one sees, hears and reads as well as all that has happened to mankind, particularly one's own ancestors, make us all who we are. "[N]one of us exists, self-made, in isolation from it (Brooks, 2011: p. 32)." The Model precepts within the heart of this sub-model have been discovered and cultivated, as the current authors have dissected historical accounts of leadership events with an eye toward discovering underlying variables (Corbin and Strauss, 2008). The objective of this sub-model centers on reflection and introspection.

Two thought practices are significant in their impact on learning and applying leadership precepts depicted here. The first practice is reflection where one thinks back through what they did, saw, heard or read and ponders the lessons the evidence brings (Mintzberg, 2004). The second practice centers on generalizing from past experiences (yours and others) in order to develop "thought experiments" where you mentally practice leadership precepts (Isaacson, 2007; and Service 2009).

Figure 1.
*Global Leadership Effectiveness Model*




> **Sweet spots** are intersections that **satisfice** through **optimizing** differing perspectives in a **balanced** and **appropriate** way that **fits** the **people** and **situations**: it depends!
> **The multiplicity of wisdom** is knowing what ***"it" depends*** on and being able to **apply** "it."
> **Effectiveness** of personal and professional (job-social) emotional and intellectual cosmopolitanism, acumen and relational abilities merge to form GLQ **worldviews** (intellectual and emotional).
> **GLQ** revolves around generalizeable reflective, relational, analytical, creative, applicable, worldly, collaborative, action orientated actions and **mindsets** (Service, 2011; and Mintzberg, 2004 & 2009).

**Success** in global leadership requires **worldviews** that are useful across varied contexts.
(Service, 2012; Service and Arnott, 2006; Service and White, 2011; and White and others, 2008 and 2011).

Knowledge for leadership effectiveness requires an ability to learn, pay attention, recognize, imagine, and keep up to date on technologies as well as worldly directions (Li, 2010; and Service, 2005a). With these foundations one can improve cultural-contextual-adaptability as well as knowledge of how others think and how situations evolve (Blair, 2010; Charan, 2007; Collins, 2003; Mintzberg, 2004; Service, 2009; and White and Lean, 2008).

In the area of leadership skills and abilities, *LQ©* provides a framework of requirements described through 12 quotients which entail 192 "precepts" as strengths and weaknesses (Service and Arnott, 2006). These leadership skills revolve around intellect, emotions, communications, and behavior that can be highly developed and honed once a metric is provided for them (the 12 quotients will be described more fully below in the sub-section entitled ***Leadership-practices-LQ©***).

The final two items, attitude and awareness, revolve around experience which is a distinctive that taken alone can often predict leadership success (Service and Carson, 2010). During experience that

is effective, one learns to be aware and adapt an appropriate attitude. The caveat is that experience is not what happens to a person, but what they do with what happens to them. Gopnik (2012) said clearly, "experience shapes the brain, . . . the brain is so powerful precisely because it is so sensitive to experience. . . . You come to make better decisions by making not-so-good decisions and then correcting them (p. C2)." In the case of major contextual change, leadership wisdom is the understanding, adaptability, balancing, and fit-ability that develops as one evaluates, learns, grows and matures as a leader: gets experience. Useful experience takes time, exposure, attitude and awareness. The four keys are learning: 1) what is appropriate; 2) how to balance; 3) what fits; and 4) what it depends on. One who develops the wisdom to address each of these four issues correctly will be a more effective leader. As Csikszentmihalyi (1990) reminds us, we all spend our lives driving to build and rebuild our models ("operating systems") in order to improve our flow in work, fun, and relationships.

*Might-Can-Want-Ought:* Since leadership is a needed and improvable form of human influence that moves people into the unknown, philosophical and psychological understandings are needed. Being all of the leader one "might, can, ought, want" to be is about understanding ourselves, others, situations and principles that guide us into using more of our potential and avoiding our weaknesses: introspection that results in work. Might represents the possible market for a given type or leader. Can rests on one's abilities and knowledge. Want is simple and for desire plus nothing is greater than nothing. Finally, we see ought as the ethics and values of doing something and how one does it. When one contemplates introspectively the variables about themselves they are being philosophical; but when they help others, they use psychological skills of influencing through reflective questioning and listening.

*Philosophy and Psychology:* In the Model "might" asks if there is a market for the type of leadership you seek to enact or improve (Peters, 2003; and Service and 2012). In the current case leadership (specifically global leadership in some cases) has been shown to be much in demand. However, one must look at the situation from an honest perspective of where your history lies and where your global leadership must work in order to evaluate if there "might" be a market for you. Sadly in some cultures gender, political or religious persuasion may make "might" very difficult if not impossible for some: prefer truth over politically correct.

When you determine you "might" do it, ask the "can" question because not everyone can become a Colin Powell, Barack Obama, Hillary Clinton, Pat Summitt, Bear Bryant, Margret Thatcher, Warren Buffet, Michael Jordon, Steve Jobs, or so on, even if they desired it with all their heart. These outliers are special and rare and are most often poor examples or "comparison others." All the world's "greatest leaders" are made by circumstances as well as unique combinations of nature and nurture.

After the "might" and "can" evaluations ask if you really "want" it. Global leadership is a commitment to "being" not just "doing"; decide you actually want it carefully or be a failed leader. Few accomplish difficult things in their lives unless they value (want) them deep within their souls (Levitt and Dubner, 2005 and 2009). Time and attention are musts (Kouzes and Postner, 2010).

Lastly we go to the heart of our values and the values of followers. Value respect, life, liberty and the pursuit of happiness for yourself and others by exhibiting a selfless attitude of win-win for all;

otherwise you "ought" not to attempt to lead in that context (Blair, 2010). Well done always wins over well said (Covey all dates).

**Collective Realism – Perspectives and Practices**

Collective humanistic influence gets to the nature of leadership as it crosses into the realm of sociology where leaders determine what it takes to motivate and move "groups" of people. Understanding cultural norms underlies required leadership styles and methods that have any chance for success in major contextual changes (Yukl, 2013). Understanding who, what, where, when, why, and how people will react in varied situations requires a realization of differing perspectives. Gain those differing perspectives for success in global leadership.

*Leader-perspectives:* After years of searching and wishing one finds that there are simply no magic solutions or secrets. True human influence revolves around the foundational understandings of leaders, followers, and all levels of environments, and how they interact as leadership occurs (all Service-LQ). All of us want direction, inspiration, validation, and relationships (Charan, 2007). This is particularly true in today's turbulent global environments and complex organizations. We all want leadership that will guide us to the next level. "Leadership is a combination of strategy and character. If you must be without one, be without the strategy (General Norman Schwarzkopf in Corsini, 2006: p. 33)."

*Follower-perspectives:* Followers stirred to act retroactively prove leadership. Without followers there are no leaders. Daniel Goleman's Emotional Quotient (EQ) is a trademark of what it takes to be a great follower (Goleman, all). Followers must be persuadable and capable if they are to follow successfully. They must have IQ and EQ appropriate to the mission and needs. Leaders can move people to where they would not normally go, but they cannot change the core make-up of intellect, emotions and physical capacities. All successful global leaders must understand the cultural orientations of those they wish to make into followers (Service and Carson, 2009). Moreover, all leaders must understand the culture of any organization in which they wish to lead (Collins, 2001 and 2003; and Yukl, 2013).

*Situation-perspectives:* Situational awareness-analysis directed toward understanding situations as they arise provide the foundation for strategic intelligence (Service, 2009b). Strategic intelligence is required because strategy is a journey of planning, implementing, evaluating and adjusting while paying attention and focusing on the right things: current and desired situations. Successful strategy is about understanding the situation that encompass the people for it is through people (leaders, followers, customers, stakeholders, and the public at large-societies and their cultures ) that goals get accomplished (Hunger and Wheelen, 2011). Strategy is defining where one is and where one needs to be and then minding the gaps. An answer to Colin Powell's question, "Why would you follow somebody around a corner?" defines a successful leader's situational analysis, strategy and leadership (Harari, 2002 P: 203).

*Contextual-perspectives:* Humans are unable to understand total reality (Gladwell, 2008; Levitt and Dubner, 2009; and Pink, 2009). However, one can move their perception closer to reality and manage the others involved to move them to enact the situations one wants and needs. First, consider the sampling of the complexities of cultural subsystems:

1) The psychological systems of individuality.

2) The subsistence methods system-how we make a living.

3) The cultural, religious or man-made systems aspects of interrelated life.

4) The social systems-define interactions, roles, and laws.

5) Ecological systems-all aspects of differing physical environments.

6) The inter-individual side-sociology.

7) The projective aspects of myths, fantasies, and religion.

Second, realize that there are other "thinking framework" descriptors which include: ecosystems, demographics, economic systems and conditions, international communities, resource availability, political and governmental issues, legal, competitive flatters and accelerators, family, technological and organizational cultures. Third, realize these "classifications" overlap the seven cultural subsystems above, but taken together allow for many combinations and permutations of complexity that form a realistic view of our complicated contextual worlds (Barney, 1995; Friedman, 2005 and 2008; Gardner, 1993; Pinker, 2002; Service and Ledlow, 2007; and Sternberg, all dates). And, finally, we can conclude that with so many varied viewpoints to choose from, it is amazing that there is any agreed-upon version of contextual reality.

If you wish to lead in a global context reach an understanding of all of the collective views that exist in environments where you will lead. Then embrace the principle of equifinality which says that there are numerous ways to achieve goals in complex situations (Von Bertalanffy, 1968). Those differing "ways" must focus on followers' cultures and contexts: not that simple.

Do not be limited by your frames or filters. Do not ignore arguments that do not fit your mental models. Most of us seek confirming evidence and seek only models and frames that fit our opinions and preferences (Service, Service and Smith, 2009). Global leadership improvement is not just about solving problems, but more about being open to new ideas and views (Blair, 2010; Charan, 2007; Collins, 2003; Drucker, 1967; Mintzberg, 2004; Service, 2009; White and Lean, 2008; among many others).

**Collective Realism - Practices**

This is where collective wisdom starts for in one situation "management"(that is primarily doing things right or more efficiently in a systematic manner) is called for; or the situation might call for "relationship building;" or it might require "innovation" (doing something new and different); or it might require "leadership" to move people into new and different directions. The correct choice requires combining “extrospection” with the perspectives noted in the previous section. The manage-lead-relate-innovate wisdom revolves around when it is time to do what. Normally true leadership requires going through each of these actions as one leads people into the next wave; they must manage them through relationships and innovate as new situations arise.

*Leadership-practices-overview:* Leaders influence followers in new desired directions. They use many styles and ways to accomplish this difficult influence (McIntosh, 2011; and Monarth, 2010). But, leadership wisdom only comes when one knows when to tell, sell, ask, collaborate, back off, jump in, shoot from the hip, do research, become a follower, create or enact a new situation, recruit different followers, return to the old followers, jump up and down and shout, be still and quiet, and so on. Regardless of actions the one thing leaders must avoid is inaction for as Churchill said, "I should have made nothing had I not made mistakes." Avoiding leadership mistakes requires one to stand still, be quiet and do nothing; then they will not be leading for they will be nothing.

Today's pop psychology theories and secrets of leadership are simply a leadership lottery for those that do not realize that leadership development is tough, mentally challenging work. Wishing it were easy does not make it so. We often equate leadership fads to dieting fads, most work, but all have a cost. In dieting, most help for a while and do not hurt much and some are deadly; but most of them simply delay the real needed change, and produced roller-coaster effects. Leadership development is like weight control: at some point you have to forget the fads and practice the basics. Then in both diet and leadership one must continue to practice the fundamentals in a new lifestyle. To be successful in personal leadership development, you have to learn the basics with a *balanced* perspective; and then practice and refine them. There are no simple answers. There exists only *balanced* hard work and discipline behind one becoming an effective global leader that can *fit* the *leaders, followers,* and *environments* facing them in order to *stand out* as an effective leader who has honor and lasting respect (Service and White, 2011).

*Leadership-practices-LQ©:* Earlier in this paper the KSA descriptions of the global leadership model were introduced as the *LQ©* and its 12 quotients. The ***LQ©*** formula and its 12 quotients have proven to help leadership success through learning about the balanced triangulation between the leader, followers and environments. *LQ©* stresses balance, fit, appropriateness, and authenticity.

Here we provide an overview of those skills. For a more complete listing of sources see Service and Arnott's 2006 *LQ© The Leadership Quotient* which describes 12 dimensions for measuring and improving leadership (also Service, 2009b). The skills are shown as quotients to denote generalize-ability.

The following four quotients are about the leader specifically and what guides them internally.

*DQ—Desire Quotient* is the willingness to do whatever it takes. Strengths relate to high-need types, persistent personality and tenacity and selfless passion as well as self-discipline, internal locus of control and commitment to contribution. Weaknesses relate to (lack of or low level of) enthusiasm, commitment, attention or focus, urgency and passion, preference for rewards, urgency and not knowing strengths and weaknesses of your desire.

*RQ—Reality Quotient* is identifying correct objectives, future projections and visions. The better you are at interpreting the reality for your followers, the better leader you are. Strengths relate to objective-inclusive realism about self, others and situations. Weaknesses are *inappropriate* ego, image, pessimism and optimism.

*EQ—Emotional Quotient* is validity of emotional assessment and control for self and others. EQ is the wisdom to separate faulty from appropriate emotions, and effectively use the emotions of self

and others. EQ is level and direction of emotional maturity, awareness, control, trustworthiness and astuteness (Service and Fekula, 2008).

*IQ—Intelligence Quotient* is mental capacity. Replace the IQ of old with the idea of successful intelligence that is learnable (Sternberg, 1996). This IQ is made up of properly applied memory, creativity, reflection, education, thirst for knowledge and experimentation.

The next four quotients require a shift thinking from a "me" to a "them" *LQ©* view. A leader's intellect as defined in the next four quotients is about connecting with people. John Maxwell says many think they communicate but few connect because they forget it is all about others and one's attitude toward others. Connecting increases influence in every situation and influence is the key to leadership effectiveness. These four quotients are from the perspective of the followers and they are designed to shift thinking from a "me" view of communicating, reading others, behaving and even appearing, to a "them" view. They are:

*CQ—Communications Quotient* is level of verbal, written, body language, dialect, presentation skills and listening effectiveness. Improve your CQ by shifting from directing to connecting; and from me to them thinking. CQ requires writing and speaking with clarity, conviction and appropriateness.

*PQ—People Quotient* is relating *with* people through networking, poise, demeanor, teaming and reading others. PQ requires you to think about connecting through reflecting on the perceptions of others.

*BQ—Behavioral Quotient* is exhibited external focus, ethics, social graces, timing and dependability. The negatives of these terms are the weaknesses of BQ.

*AQ- Appearance Quotient* is manifestation of the correct level of confidence, dress, vitality, alertness, mannerisms, poise and demeanor. The leader's appearance must fit with the environment where leadership takes place from the eyes of the followers (Service and Dance, 2011).

The final four quotients require understanding situations using the *Quotients* within the context of where you lead. It requires understanding about situations and how to fit in before standing out (labeled FISO in the Model) using one's own traits within the context of where they must lead. The quotients are:

*XQ—eXperience Quotient* exemplifies how you learn through reflection. A person with a high XQ can mobilize commitment, foster consensus, use hunches and articulate wisdom through mental models followers understand. XQ is about accomplishments, mistakes, discernment, maturity and using generalizations: earned not learned.

*KQ—Knowledge Quotient* is finding and learning the new and different. KQ centers on the leader's ability to pay attention to the correct things, imagine, keep up-to-date on technologies, adapt, innovate and build connections and relationships among processes and people.

*SQ—Situational Quotient* is interpreting cues and developing strategies for addressing. SQ includes timing, instinct, fit-ability and imagination. This is the ability to realize whether to tell, sell, seek for consensus, empower, or delegate. It focuses on strategic direction fitting to situational analysis.

*MQ—Management Quotient* - planning, organizing, leading-managing, controlling, staffing, teaming, motivation, efficiency, TQM, strategy and mentoring. MQ guides tasks, responsibilities, and practices of management in an ethical decisive manner (Service and Lockamy, 2008; and Service and Loudon, 2009).

We realize this is a lot to digest, but remember for every complex problem (becoming a more effective leader) there exists a simple explanation that is wrong!

Remember that: "The leader must be able to self-diagnose and have a high degree of self-awareness. . . . the leader must be an expert observer of others. . . . the leader must be able and willing to intervene, coach, and influence. . . [the] leader's ultimate task is to build organizational competence (Runde and Flanagan, 2007: p. 83)." In global organizations today for success a simple *LQ©* principle must be applied: FISO-Fit In before you Stand Out. FISO is a concept that is a foundational truism in all cultures and contexts.

*Management-practices:* Leadership is management done well and there are more than enough management primers out there so this section will be brief. Most primers start with the truism of "Knowing thyself—and being ready for reinvention (Lublin, 2010: p. D4)." In sum, management is getting things done through others, that is, accomplishment of given objectives through tasks and people. Its functions center on planning, organizing, directing-leading, controlling, and most importantly staffing. Get the people right and other issues matter much less (Service and Cockerham, 2007). One issue that must be addressed is that most business writings are more descriptive than prescriptive. You need to understand the prescripts for doing the right things right. Drucker's 1973 classic *Management*, and Wren and Bedeian's 2009 *History of Management Thought* bring together what it takes to be an effective manager. These requirements are further revealed through the words of famed management professor and writer Henry Mintzberg:

> The practice of management is characterized by its ambiguity. . . . That leaves the managers mostly with the messy stuff—the intractable problems, the complicated connections. And that is what makes the practice of management so fundamentally 'soft' and why labels such as experience, intuition, judgment, and wisdom are so commonly used for it (2004: p. 13).

Mintzberg says that managers need mindsets for: 1) reflection—managing self, 2) analysis—managing organizations, 3) worldliness—managing context, 4) collaboration—managing relationships, and 5) action—managing change. Effective managers operate at an interface between reflective thinking and practical doing. "To manage is to bring out the positive energy that exists naturally within people. Managing thus means engaging based on judgment, *rooted in context* (p. 275)." In global organizations management success is a prerequisite for the chance to lead (Service and Carson, 2010).

*Relationship-practices:* Relationships form the center of humanness. Relationships that are enduring must be based on mutual benefit and mutual trust (Covey, 1991). A successful leader, globally or otherwise, must think win-win-win . . . and always ask but be willing to give before they take. Start by building as many relationships as possible and remember you are no stronger than your weakest relationships (Drucker, 2001).

*Innovation-practices:* The management guru of gurus, Peter F. Drucker, continually stressed "to not innovate is to die." And, Friedman in his 2005 and 2008 books clarifies "new" competitive worlds that require an innovate or die mindset. Friedman identifies our world as flat because we are now competing against everyone in the world. He says that we should not build walls, but dig our way out by acting small if we are big and acting big if we are small. Additionally, Friedman and Mandelbaum (2011) rightly proclaim, "Continuous innovation is not a luxury anymore—it is becoming a necessity. In the hyper-connected world, wherever can be done, will be done (p. 96)."

*Freakonomics* and *SuperFreakonomics* (Levitt and Dubner, 2005 and 2009) also present entertaining, yet eminently useful, findings. Both *Freaks'* six innovative themes are instructive for our Model: 1) Realizing that what we value, and how we value it, is not necessarily related to what others value or how they value it. 2) Recognizing that common sense has become uncommon. 3) Understanding that there are many simple explanations that are wrong. 4) Looking at what an advice giver has to gain. 5) Measuring something most often makes it improve—be sure what "it" is. 6) Knowing that unintended consequences run ramped regardless of "righteousness "of intentions.

Cohen's *Drucker on Leadership: New Lessons from the Father of Modern Management* (2010), does not sugar coat the fact that becoming a more effective leader is difficult and requires a lifetime of "innovation" coupled with energy and effort focused more on "doing than dash." Likewise, Collins and Hansen's *Great by Choice* (2010) which follows on to Collin's 2001, *Good to Great* can help the reader in discovering management and leadership principles starting and ending with innovation of self and one's organizations.

*Wisdom: From Philosophy to Neuroscience* (Hall, 2010) is an excellent book by an educated and practical journalist that has studied neuroscience, and human success and wisdom for the past 20 years. It is a thought provoking learning experience that mixes what is known about emotions, moral reasoning, compassion, humility, patience, and dealing with adversity from youth to old age. It ends with the challenge for us to dare to be wise. The need to become and remain innovative is laced throughout this book. "Balance is a persistent theme in the literature of wisdom (p. 203). . . . People do have the capacity to overcome emotional responses (p. 205)."

Robert J. Sternberg has written hundreds of articles and scores of books; and his *Wisdom, Intelligence, and Creativity Synthesized* (2003) adds must to the understanding about intellect and how it can be enhanced into leadership. Portions of the book's conclusions need to be repeated:

> In sum, the components of intelligence are at the base of successful intelligence, creativity, and wisdom. They are applied in intelligence, broadly defined, to experience in order to adapt to, shape, and select environments. When the components are involved in fairly abstract but familiar kinds of tasks, they are used analytically. When they are involved in relatively novel tasks and situations, they are used creatively. When they are involved in adaptation to, shaping of, and selection of environments, they are used practically.
> Creative intelligence is a part of, but not the entirety of, human creativity. Creativity also involves aspects of knowledge, styles of thinking, personality, and motivation, as well as these psychological components in interaction with the environment. . . .

> Wisdom results from the application of successful intelligence and creativity toward the common good through a balancing of intrapersonal, interpersonal, and extra personal interest over the short and long terms. Wisdom is not just a way of thinking about things; it is a way of doing things. If people wish to be wise, they have to act wisely, not just think wisely P. 188).

These books among many others make readers realize that all leaders and good mangers need to grow as intellects, repositories of information, and guides of behavior, basing their development on derived wisdom (Blanchard, et al, 2002; and Tichy and Bennis, 2007). And, finally, wisdom must result in continuous innovation for it to be of lasting usefulness (Drucker, 1998).

Successful, global leaders must realize two organizational and personal imperatives: 1**)** how to become and remain innovative, and 2) why someone would do business with you or your organization (Service, 2010). Becoming and remaining innovative is a function of an innovative leader emphasizing the necessity of innovating. Someone does business with you or your organization because your or it provides something of value that has no substitutes, cannot be imitated, and is rare (Barney, 1995).

Highly effective global leaders shift the emphasis from *management* of stability and control to *leadership* directed toward speed, empowerment, flexibility, and continuous improvement, all directed at organizational innovation (Drucker, 1985). Failure to innovate results in organizational demise and the only sustainable competitive advantage comes through continuous improvements (Drucker, 1985; Porter, all; and others). Much more could be said on this topic.

**So What?**

In this sub-model we see applying all parts of the other two sub-models by using relevant earned and learned relational, management and leadership "wisdoms." Years of research, application, thought and work show that these "wisdoms" can NOT be reduced to principles or secrets presented by the rich and famous (Gladwell, 2008). Additionally, wisdom indicates that limited empirical evidence of limited principles cannot enable one to improve someone else's or their own global leadership effectiveness. Our new Model uses as much as possible from the useful but limited "principles and secrets" and combines that with solid research and experience to drive home the point that leadership effectiveness, especially at a global level, is a lifetime commitment or it is harmful. The leadership "wisdom" objective must be continuous improvement.

Effective learners can see wisdom revolves around: 1) understanding self, others and situations; 2) balancing goal achievements from many and varied perspectives; and 3) seeking "the common good through balancing of intrapersonal, interpersonal and extrapersonal interests over the short and long terms (Sternberg, 2003: p. 188)." Our Global Leadership Effectiveness Model (Figure 1) guides one into becoming all the leader they are capable of becoming through their understanding of the wisdom sweet-spot of varied reflections, perspectives and extro-and-introspections.

One additional area needs to be considered in today's media crazed world is that leadership and especially multicultural leadership must start and end from within. For indeed in this case thinking often makes it so. In order to build multicultural and transnational talent, managers need to structure programs within their companies that expose promising talent to new geographies and

cultures. Given the personal challenges of picking up and moving halfway around the world, such programs may need to draw on new technologies and models that allow more flexibility in cross-cultural collaboration. New technologies in social media, transportation, and telecommunications permeate our lives and consequently it is more important than ever that companies recruit and retain multicultural leaders. This must include:

1) Re-focusing recruitment efforts in order to bring diverse, multicultural candidates into a company: may require rebranding messages.

2) Making multicultural experiences an explicit part of career path conversations and performance reviews. This most often requires organizations to revise their performance appraisal systems in the direction of performance management (Service and Loudon, 2010).

3) Building multicultural elements into management training programs.

4) Launching structured mobility programs to bring rising managers to different cultures on short-term and mid-term projects.

5) Integrating multicultural insights into business decisions and strategy (some points noted by from Karl, Peluchette, and Schlaegel, 2010; and Kleinschmidt, 2009).

So what and how do social media relate to our Model?

**Social Media's Role in Leadership-an Emerging Example (move from 10,000 feet to ground level)**

Dawning on the horizon and outside of realms traditionally considered as tools used in global leadership development is something called the "New Media Age," which really came into its own at the beginning of 2011. In fact 2011 is being labeled by news websites like *Mashable* as *The Year of Social Democracy* (see websites). Political dictators and leaders of nations, even corporations, are finding their ability to suppress citizens or employees is diminishing. Social Media has found its way into people's hands and is being used literally to topple nations. When the political protests began in Egypt last year many of Egypt's protestors took to the streets because they had been encouraged to do so by their peers through social media platforms such as Twitter, Facebook and Youtube. When the Mubarack Government could no longer disperse the crowds at Tahir Square, they disconnected the Internet. Years before, this would have been the end of the protestors' uprising, but because of the power of social media, crowds at Tahir Square grew larger and larger. The protestors became even more determined to seek freedom. The Internet was restored five days later, according to the article in *The New York Times, Egyptians Were Unplugged, and Uncowed.* The Mubarack Government was eventually toppled, something clearly unthinkable just a few years ago. Because of what happened in Egypt, other Middle Eastern nations followed Egypt's lead and turned to social media platforms to protest their governments. As a result, Libya was the next nation to overturn its government, and subsequently, their leader Ghaddafi was killed.

In the United States, the "Tea Party" and "Occupy Wall Street" were clearly movements that were born on the Internet in social media platforms. Overnight these types of movements have grown from a few to tens of thousands and to country wide or worldwide movements. Now, issues brought to light by these movements are real players in the US presidential campaigns. Candidates and leaders in the U.S. are being forced to answer the questions raised through these movements.

Moreover, as we have witnessed in the 2012 Presidential race, "The Internet and the social media such as Facebook and Twitter also provide channels for making known a candidate's program that can serve as alternatives to established news organizations and that cost far less. . . .employing these channels a candidate can both raise money and save money (Freidman and Mandelbaum, 2011: p. 342)."

We have seen similar uprisings in Bharain, Syria, China and Russia, those governments for now, have been able to suppress a number of the protests, but only time will tell how much longer the governments can control their citizens' access to the Internet and social media. Leaders of nations and corporations are being called on to become more transparent in the way they conduct business. What seemed a passing fad for some social media has now become the number one platform used to insist on governmental and personal transparency. Only time will tell if the emerging technology will be used for good or evil. But remember, regardless of the success or failures of movements, the outcomes will be determined more by content than channel. Keep the power of social media in mind as you maneuver your way through the labyrinth of major contextual changes.

It is true that there can be significant value to properly used social media where messages and images can be built and rebuilt as they are universally shared quickly and easily. They are not without problems, however, as evidenced by 1) employment and promotion issues caused by inappropriate Facebook or Youtube images, 2) tendency to use Twitter over listening, reading, and learning, 3) short attention spans, 4) preferences for simplistic categorizations over rich understandings, etc. However, it is recognized that anything can be used or abused; and that all leaders and managers are called on to strategically control the image they portray in all forms of communication (from appearance - live and otherwise), behavior and writing regardless of channel (Service and Dance, 2012). As Friedman and Mandelbaum (2011) say strongly throughout their latest book, content must always take preference regardless of delivery medium; in part because, mass internet distribution of a message greatly increases the likelihood that a message will be misunderstood. But regardless, "Globalization and the IT revolution are totally intertwined, each being spurred on by the other (57)."

**Conclusion**

Everyone wants to feel needed and appreciated and they want something to build their lives around. Leaders have to give them those things and more importantly remember: "What people want in leaders today, more than ever before, is integrity—walking their talk, (p. xvii)." J. Dennis Hastert, former Speaker of the House said, "I have come to understand the truth behind the saying 'leaders aren't born, they are made (first unnumbered introductory page)." Despain and Converse (2003) based their book on a lifetime of experiences and they espoused that the key is values defined with shared beliefs coupled with standards for workplace behaviors. "Leadership is about others and not about self (p. xxii). . . . I give people freedom to handle work their own way, I listen more than I talk, I work with ever employee to create a development plan, and I say something positive to every employee in my group every day (p. 148)." Indeed, leaders must move from a control-based leadership to a values-based-leadership model.

Yes, leaders need enough intellect to handle the tasks, but they also must motivate, guide, inspire, listen, know how to gain consensus, teach and learn, innovate, anticipate and analyze. Leaders must

ultimately move and act because beyond talent and principles lay all the usual words: discipline, endurance, love and luck. Life and its close subset, leadership are truly tests and they do not come with clear exact directions. The principles outlined within our Model can lead to a shift toward a more effective way of leveraging leadership.

The long and winding road to leadership understanding and improvement has been crooked, crowded, rough, and bumpy; but the tough road unquestionably has led us to a greater understanding that allows for freedom of choice in striving for opportunity of success through fulfillment as a leader. Our Model will help smooth that journey through the presentation of principles you can use no matter your level of leadership development or your ultimate leadership goal. Though we categorize to assist understanding, we must never allow categorization to preclude understanding. To improve capabilities as a leader or help others do so, one has to learn and practice the fundamentals of leadership regardless of the leadership level you now occupy or the level to which you aspire.

From Figure 1 understand our three blocks of overall leadership effectiveness and their individual sweet-spots of: 1) reflection and introspection; 2) Extrospection and perspective; and 3) useful application. Once you find out what each of the three is made-up of, and find your leadership sweet-spot within each of these building blocks, then complete your leadership *you* by finding the sweet-spot among sweet-spots of leadership wisdom. We say multiplicitic wisdom because it is truly a wisdom which changes with who you are, who they are and with differing situations.

The Model is not the final work, so do not be deterred by its limitations; use the amalgamation of wisdom and linking of concepts and ideas within the total Model. For anyone that is willing to work and study, the elements within our Model improvement is probable. There is little to no doubt that the world is becoming more open and change is the new norm and that "*progress is not made by conceding defeat* (italics in Wertheim, 2011: p. 228)."

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# A GLOBAL LEADERSHIP QUOTIENT-GLQ: MEASURING, ASSESSING AND DEVELOPING

**Robert W. Service and David Loudon**
**Brock School of Business**
**Samford University**
**Birmingham, AL 35229**
**rwservic@samford.edu, dloudon@samford.edu**

**Abstract**

"Nothing is more mysterious than another person's worldview. Each of us has one. We believe that our worldview expresses reality (Chopra and Mlodinow, 2011: p. xvii)." And, nothing influences success of leading across cultures more than one's worldview (Black, 2006). Therefore, for success in international situations, "[T]he choice is not between a framework and not taking one, but between taking one that is implicit and unconsidered, and one that is explicit and susceptible to conscious thought and challenge (Bate and Child, 1987; p.37)." The first step in improving potential as a global leader is to understand one's own worldview and the probable worldviews of those one expects to lead. To that end, we are introducing a Global Leader Quotient (GLQ) that can serve as the beginning benchmark for assessment, strategic development and continuous learning.

**Keywords:** Leadership

## Introduction

The literature is thoroughly consistent that international experience has become a must for those desiring to lead in today's globally interrelated world (Bisoux, 2011 and Phan, 2011). "Integration of technologies, industries, nations, cultures, relationships, and interests continue to characterize the twenty-first century workplace (Potoker, 2011: p. xii)." Most researchers and practitioners are now saying that "[t]he leader of tomorrow is someone who can jump across boundaries and disciplines and analyze cultural and global differences (Shinn, 2011: p. 37)." Mathis and Jackson add:

> It is becoming more important for individuals in top management positions to have international experience . . . Effective selection and development processes are needed to ensure that the right individuals are chosen . . . Leading across cultures requires specific skills, and organizations should provide formal training along with expatriate assignments to develop leaders who can achieve results in this demanding environment (2013: p. 15).

Moreover, the required road to leadership understanding and improvement in a "flat" open world remains all too contradictory and unforgiving (Friedman, 2005 and 2008; and Tracy, 2010). These pronouncements indicate that few executives will succeed without worldly contextual adaptability skills and few organizations will succeed without global leaders (Mintzberg, 2009 and Service, 2006). To address global leadership realities we must develop contextually adaptive people who can lead.

**Initial Research Questions**

Leadership in any form is a matter of the attitudes and experiences that shape our worldviews (Gundling, 2003; and Mendenhall, et, al, 2008). Most negative issues in global ventures arise because of attitudes and lack of the appropriate interpersonal relational knowledge, skill, and ability (KSA). Desired KSAs revolve around self-awareness and relating "with" people from different cultures and countries on their terms (Klopf and McCroskey, 2007). Yet, the complexity of emergent systems make effectively handling major contextual changes such as cultural adaptation tough at best. This article begins to codify that complexity into useful precepts. Here a precept is defined as knowledge, skill, ability, attitude, awareness, theory or abstraction that can be a useful conceptualization directed toward understanding how to improve as a leader in any context. The first precpt is that leadership occurs in any context; that is, moving people into places they would not go without the leader's influence. Our answer will not be simple for simplicity normally fails in complex problems. "What is important is that research findings do not oversimplify phenomena, but rather capture some of the complexity . . . conditions/consequences do not exist in a vacuum p. 91). . . . [and,] the primary purpose of doing qualitative research is discovery, not hypothesis testing . . . . not trying to control variables, but to discover them (Corbin and Strauss, 2008: p. 317)."

The research question is: What precepts can be of use in identifying where one is and where one needs to be in order to strategically "mind the gaps" in global leadership effectiveness?

Our answer revolves around a proposed global leadership quotient (GLQ) which denotes a category of intelligence akin to IQ, EQ and LQ. Any GLQ formula needs to classify variables for empirical testing. And, naturally some GLQ precepts presented here might prove to be mediating, moderating or directly causal variables. However, the intent here is not to categorize variables, but to establish a composite of variables that influence GLQ regardless of how.

**Overview and Needs**

For the past one hundred plus years, we academicians have been endeavoring to develop a metric for measuring and improving leadership. In 2005 Service published research and related theory to evolve the notion of a Leadership Quotient (2005 a, b and c). Then in 2006 Service and Arnott introduced their complete Leadership Quotient as the copyrighted *LQ©*. The *LQ©* as proposed is a wide-ranging model for measuring and improving one's ability as a leader and for furthering the understanding of leadership. This *LQ©* formula was research-based, yet practical as a guide for leadership measurement and improvement. And, because the *LQ©* is measurable and malleable, it provides clear advice to help everyone reach their leadership potential. The *LQ©* acknowledges differences among leaders and followers, and offers everyone a useful metric that can be tailored to anyone and their followers under wide-ranging contexts. The *LQ©* concepts have been successfully used to teach leadership at undergraduate, graduate and executive levels.

The 2006 *LQ©* concept was extended in 2009 (Service, a and b) and in 2012 (Service and Dance). Then in 2012, Service extended *LQ©* to leading across cultures and in differing contexts. Also Service and White's "rest-of-us" leadership model was proposed in 2011 as a more complete and far-reaching leadership model. This current article further extends the crossing cultures *LQ©* and the

rest-of-us leadership model by introducing the foundations of a comprehensive Global Leadership Quotient (GLQ).

Many "organizations . . . accumulating foreign markets . . . face the challenges of selection [and], management of the most appropriate individuals (Lee, 2005: p. 273)." Additionally, "Globalization and changing demographic patterns are making it more important for leaders to understand how to influence and manage people with different values, beliefs, and expectations (Yukl, 2013: p. 360)." To meet these pressing needs, GLQ depicts a worldview that guides developing proven tools for measuring and improving individuals in their knowledge, skills and abilities to lead in diverse contexts.

"Virtually all of our thoughts, convictions and values exist and have meaning--whether or not we are conscious of it--within models of the world that have been developed over the course of intellectual history (Rosen, 2011: p. A11)." "The world we live in does influence what we do with ourselves on a day-to-day basis and can largely shape our ultimate destiny. . . . [Therefore] "we must recognize the importance of what we are and how we think about things (Neck and Manz, 2013: p 9)." While *doing, thinking and being,* humans evolved into building institutions, religions, academic disciplines, technological wonders, families and politically divergent groups that underpin the multifaceted frameworks of civilizations. This resulted in cultures. Discovering the fabric of cultures in order to exercise influence within varied societies is usually problematic. Providing "beginning" order into this complexity to jump start the development of individuals that can lead in vastly differing contexts is our goal. "The wisest of insights that can be gained by any man or woman is the realization that our world is not so much what it is but what we choose it to be (Neck and Manz, 2013:p. 8)."

An extensive and broad range extant literature was integrated with questionnaire responses to form a foundational CIQ -- contextual intelligence measures model reported in Service, 2012. Supporting the use of research and writing from all fields of study and sources, Porter says: “Researchers in many fields of study are just beginning to recognize that traditional boundaries between fields are limiting. It should be possible to cut across disciplines and examine more variables in order to understand how complex and evolving systems work (1990: p. 29-30).” Academic research and theory, science, history, psychology, religion, editorial opinion, fiction and more can be useful if it helps clear preconceived notions. Indeed, "When perceiving the world without prejudice, . . . our minds judge the world quite differently than when accessing it in the context of belief or expectation (Chopra and Mlodinow, 2011: p. 132)." Let us bring together diverse thoughts, concepts and theories from any and all sources in order to clear our minds. Academicians must tear down traditional mired-in-the-past silos and move to become more innovatively open. We all must incessantly fine-tune our worldview to match the world as it changes around us, or we will be left in the dust bin of history.

"No one can ignore the question of how to perceive the world (Chopra and Mlodinow, 2011: p. Xix)." Psychology Professor Seven Pinker adds: “the expansion of people’s . . . worlds through literacy, mobility, education, science, history, journalism and mass media . . . can prompt people to take the perspectives of people unlike themselves and to expand their circle of sympathy to embrace them (Pinker, 2011: p. C2).” Ridley adds: “collaboration is necessary for society to work. . . . Human progress waxes and wanes according to how much people connect and exchange (Ridley 2011: p

A15)." Chopra, Mlodinow, Pinker and Ridley are joined by many others in describing human progress which increasingly depends on mutuality because individuals are incapable of producing and surviving alone. Individuals who learn to more effectively and innovatively handle major contextual changes are essential to cross cultural leadership successes (Kouzes and Posner, 2010). It starts with the need to understand your mindsets and related knowledge, skills and abilities for "firms will not ultimately succeed unless they . . . [hold] a realistic understanding of their national environment (Porter, 1990: p. 30)."

**Literature Review-Culture and Context**

In fairness this section must start by acknowledging the 2008 book, *Global Leadership: Research, Practice and Development,* by Mendenhall and others. Although this book was not reviewed until this paper was near completion, it proved to be the most complete source we have found in our 25+ year search. It would indeed be a fine text or reference guide for anyone needing a summary of relevant global leadership literature or anyone wanting to improve in that area. Its most significant contributions, besides those cited directly in this paper, relate to validation of the need for and the possibility of producing more effective leaders capable of crossing cultures and handling major contextual changes. Further, it validates the separately-derived GLQ mindset precepts shown later in this paper. It also supports the notion that only the inquisitive person capable of handling much perplexity, paradox, ambiguity and uncertainty should attempt to lead across significant cultural barriers-barriers guided by multifaceted, passionately different worldviews.

The literature, academic and otherwise, is super clear in a few areas: First, it rightly says we are in urgent need to build people with the right mix of knowledges, skills and abilities that are willing to work to succeed in global leadership. Second people with the correct balance of KSAs are rare and difficult to find or develop; they can be imitated to a degree and that is a key GLQ concept. Third, a comprehensive interdisciplinary approach to studying effective global leadership, where change is initiated by a leader's influence, is a must. Lastly, in our age of globalization, leaders truly do exist in

> a world where variety, complex interaction patterns among various subunits, host governments, customers, pressures for change and stability, and the need to re-assert individual identity in a complex web of organizational relationship are the norm. This world is one beset with ambiguity and stress. Facts, emotions, anxieties, power and dependence, competition and collaboration, individual and team efforts are present (Mendenhall, et al, 2008: p. xi).

All forms of leadership development and adaptability require some level of self discovery. Yet, "we must admit that everyone else probably understands us better than we do ourselves (Jung, 1933: p. 77)." There are numerous self-defining models, frames, metaphors, and filters that we all use to make sense of our worlds. Additionally, effective leadership and cultural awareness are about *commitment and necessity* directed toward accomplishment:

> [A] common series of . . . . processes seems required . . . sensing needs, amplifying understanding, building awareness, creating credibility, legitimizing viewpoints, generating partial solutions, broadening support, identifying zones of opposition and indifference, changing perceived risks, structuring needed flexibilities, putting forward trial concepts, creating pockets of commitment,

> eliminating undesired options, crystallizing focus and consensus, managing coalitions (Quinn, 1980: p. 146).

Success with these wide ranging adjustments, goes beyond seeing and observing to immersing.

> [Fi]gure out what sort of environment [you need to succeed] in and carve mental maps that would help navigate it. . . . [These are the] sophisticated models, which are then used to anticipate, interpret, and navigate through life (p. 46). . . . [T]houghts are profoundly molded by this long historic flow, and none of us exists, self-made, in isolation from (p. 32). . . . the essential feature of a human being, a culture, or a society (Brooks, 2011: p. 108-109).

In developing a more comprehensive model helpful for leaders to improve Bourdieu's called for using

> "cultural capital"—the tastes, opinions, cultural references, and conversational styles that will enable you to rise in polite society (p. 146). . . . We absorb ethnic cultures, institutional cultures, regional cultures, which do most of our thinking for us (p. 149). . . . society is a layering of networks . . . . bound by trust. . . . Trust reduces friction and lowers transaction costs (p. 155).

Ideas from Klopf and McCroskey (2007) can also help in this GLQ pursuit:

> Ignorance of another's culture is a major factor causing intercultural miscommunications (p. 9). . . . All cultures are characterized by distinctive attributes. . . . [1] pervasiveness, [2] learned behavior, [2] shared behavior, [4] adaptability, [5] explicit/implicit behavior, [6] change and [7] ethnocentricity (p. 26).

These seven common cultural characteristics are accounted for in GLQ. Additionally, "major findings in the research on how current cultural values are related to leadership beliefs, leadership behavior, and leadership development practices [show the need to include the following] six value dimensions: . . . (1) power distance, (2) uncertainty avoidance, (3) individualism verse collectivism, (4) gender egalitarianism, (5) performance orientation, and (6) humane orientation (Yukl, 2013: p. 365)," Finally, Americans, in particular, need to realize the extent and impact of our wealth and military compared to the small percent of world population (Rue and Byars, 2005). Regardless, "Americans might be less quick to impose their values on others if they understood the cultural values of others (Sternberg, 2003: p. 167)."

In *The Art of Crossing Cultures* Storti (2001) says:

> cultural effectiveness comes at the cost of vigilance and sustained effort (p. 106). . . . [Y]ou either open yourself up to the experience and are greatly enriched by it, or you turn away—and are greatly diminished (p. 115). . . . If there's one thing nearly everyone who lives and works abroad has to get right, it is this: they must be able to get along with the local people (p. xv). . . . [If one depends on luck] chances of having a really satisfying experience living abroad would be about one in seven (p. xvi). . . . Becoming culturally effective does not mean becoming a local; it means trying to see the world the way locals do and trying to imagine how they see you [and,] . . . know[ing] when to give way and when not to (p. 96). . . . [Moreover,] the

> better you understand the local culture, the harder it is for the locals to hide behind it (p. 107). . . . The ability to see situations, problems, practices—the way we do things—from multiple perspectives . . . . is a tremendous benefit to you and to your company. . . . [C]onvictions and certainties are too often the concomitants of ignorance (p. 111).

Modern researchers say that culture is transmitted through symbols representing patterns of behavior. Experience and research suggests that when attempting to test our more Western theories on non-Western cultures we can obtain erroneous conclusions about conditions or capabilities (Sternberg, 2003). "A major issue is the extent to which leadership theories developed and tested in one culture can be generalized to different cultures (Yukl, 2013: p. 360)." Though we cannot totally work this out in this paper, our own experiences, backed up by much anecdotal evidence, indicates that in America we tend to value speed whereas Eastern cultures view speed suspiciously. The American value of creative thinking and disagreeing with professors shows up in many American classes; but experience with Chinese students shows that creativity is not a goal and disagreeing with a professor is a "no-no" in China. Additionally, Chinese students have often said to a current author, "I can't believe students ask you and you said, "I don't know!"" The patterns here are not inclusive or subtle: differences abound. We have found that testing creativity and measuring in-class dialogue is tough with many Eastern-born students. And, surely the act of testing changes the dynamics of relationships and distorts measures.

In *The Logic of FAILURE* (1996) Dorner said:" Studying the consequences of our measures gives us excellent opportunities for correcting our incorrect behavioral tendencies and assumptions. . . . If our measures yield unexpected consequences, there must be reasons. By analyzing those reasons, we can learn what we should do better or differently in the future (p. 177)." Yes, researchers and those that use anything from this article need to analyze what works for them and what does not; and then you must attend to the differences between our prescripts predictions and your actual results.

In a dynamic and challenging account American Lieutenant Fiske Handley II experienced a cultural lesson in March of 1945 after being captured by the Japanese. Admittedly Handley knew little of the Japanese. Luckily for Handley a Japanese doctor warned him: ""It is a death offense for a barbarian to mention the Emperor's name. All non-Japanese are barbarians." . . . I heeded the doctor's advice religiously and warned other prisoners (Hanley, 1997: p. 94)." In the related and more well-known story of Olympian Louis Zamperini and his years of torture as a Japanese WWII prisoner of war, we can see other reasons for survival. “It remains a mystery why these three young men, veterans of the same training and the same crash, differed so radically in their perception of their plight. Maybe the difference was biological; some men may be wired for optimism, others for doubt. . . . Perhaps the men’s histories had given them opposing convictions about their capacity to overcome adversity (Hillenbrand, 2010: p. 147).” One quickly gave up and died. Of the two who survived, one was deeply religious, and the other not so much so. But, the survivors both had humor, hope and rebellion with truly resilient minds, bodies and spirits that kept survival in the forefront of their minds.

Victor Frankl in a classic on the human condition (1992) described how as a Holocaust survivor he had to adapt to the most dehumanizing treatment. His advice was that when you cannot change your circumstances, you have to realize you can change your reactions to them. Frankl showed that when faced with unbelievable circumstances, some men act like saints while others react as swine. Much can be learned about fitting to new and very trying circumstances from such accounts. Perhaps these lessons can be summarized by the Stockdale Paradox: they confronted the brutal facts, but believed they would prevail in the end (in Collins, 2001; and reinforced throughout Collins and Hansen, 2011).

**Difficult-Yes; Impossible-No**

"Draw a different frame around the same set of circumstances and new pathways come into view (p. 1). . . . much more is possible than people ordinarily think (p. 2)." All of us seek confirming evidence based on limited assumptions and frames and seldom really listen to or see dissenting views. Think about what Picasso said about why he did not paint people "as they really are: show me a picture of her. Isn't she rather small and flat (Zander and Zander, 2000: p. 11)?" Or consider words from a *Business Week* book of the year to help in understanding more about why we should study difficult concepts like culture and influence (leadership):

> All people have untapped leadership potential . . . There are clear differences due to nature and nurture, that is, genes and development, as to how much untapped potential there may be. But no matter what level of . . . leadership performance a person currently exhibits, he or she can make quantum improvements. Not everyone can be the CEO of a multibillion-dollar corporation. . . . [But] leadership is there in you (Tichy, 2002, p. 8).

Leading edge science gives lessons for a GLQ. First, relationships rule. Second, time is only relative related to change. Third, "measuring" changes the measured. Fourth, cultures are never static. Fifth, cultures like clouds cannot simply be broken down to understand as can clocks. Sixth, to address the complexity of a useful GLQ we must cross disciplines and views. Indeed, with these six pronouncements it may seem we are adding too much complexity to the GLQ. However, such complex conceptualizations as GLQ can only be simplified to a certain level or they become too simple to work.

*BizEd* authors stress that MBA skills and knowledge of globalization, leadership development, innovation and creativity, critical thinking and all forms of self-presentation and communication need to be the focus. Personal reflection and crossing cultures are key concepts in these articles ("Best Practices;" Phan; Bisoux; and Shinn all 2011). These authors, as do we, suggest that when you experience a major contextual change, start by going with the flow. But do not get stuck in what you know and do not know; or in correcting others involved. Most of us will figure it out when we simply must.

Most who are sent abroad get sent because they are at the top of their game and show much potential. But, that changes when they get there for,

> [y]ou have to be able to sustain reversals, upsets, accidents (p. 21). . . . get beyond the temptation to withdraw from the local culture (p. 63). . . . People from different

> cultures can fail to get along with each other for any number of reasons (p. 45). . . . The capacity of the average person to fully conceive of the "other" has always been greatly exaggerated (p. 70). . . . [Too often] expectation, not . . . behaviour, is the real sticking point (p. 75). . . . Become aware of your . . . reactions (p. 77). . . . [for] responses are influenced by the individual's expectations (Storti, 2001: p. 82).

Storti goes on to say that "to do" and "not to do" lists cannot cover all the contingencies and they generally oversimplify the difficulty of cross-cultural effectiveness (p. 87). Our GLQ shows the appropriate fit of complexity and is useful in developing mind-sets needed for success in crossing cultures or facing other major contextual changes.

"We are born into a society and nurtured by that society in a process of socialization. Individuals are familiarized with it from their infancy, custom has rendered it habitual to them, and they are very apt to regard it as, what is called, the way of the world . . . (Smith, 1976: p. 201)." And, "As individuals we make judgments but the judgments we make are based in part on the social norms which have evolved through time. These judgments also impact the evolution of future norms (Marshall, 2011: p. 8)." For as long as we have been studying societal customs, we have seen humans use customs to shape their views. And, existing customs of society frame the evolution of new customs. However, be reminded that when mores are sufficient, you do not need laws; but when mores are insufficient, laws cannot be enforced (Covey, 1991 and 2004).

Much value can be found in the "business" expatriate literature. Articles from Andreason (2008), Baker and Roberts, (2006), Bhaskar-Shrinivas, et al, (2005), Harrison, Shaffer and Bhaskar-Schrinivas (2004), Kleinschmidt (2009), Kupka and Cathro (2007), Lee and Sukoco (2008), Shen and Hall (2009), Takeuchi (2010), Takeuchi and others (2002), and Weeks and others (2010) get into the realms of technical and simple humanistic aspects that support the need for varying views to build a useful GLQ. However, because of article space requirements, a more comprehensive review is difficult and will not be recounted here. Clearly it can be seen that influence and leadership, global or otherwise, are characterized by interrelated, ambiguously-complex relationships, values, communications, motivations, missions and visions (Service and Arnott, 2006; and Service and White, 2011). Further, this is even more complex when there are many varied constituents commanding attention with all too often mutually exclusive stresses. For our model and quotient to be of use, its user must make much of it second nature and react at a more sub-conscious level for:

> Unconscious processes are better when everything is ambiguous (p. 243). . . . [Acquire] a set of practical skills that enable [you] to anticipate change (p. 249). . . . being wise is the art of knowing what to overlook (p. 264). . . . Behavior does not exhibit what the researchers call "cross-situational stability." Rather, it seems to be powerfully influenced by context (p. 282). . . . [Learn about yourself.] How pathetically scant my self-knowledge is (Brooks, 2011: p. 371).

**Competing in a Global Context**

The "must have" international experience deserves a book of its own; but in this article we can start by stating that international leadership-management-influence is tough but it is more a matter of attitude than of experience. Additionally, the literature shows clearly another main reason for

failures is the lack of leaders with appropriate skills to relate to people from different cultures. Management-leadership interpersonal skills helpful to effectiveness in international situations are:

1) Establishing credibility with actions that back up words—not appearing boastful or arrogant.
2) Taking care in giving and receiving feedback—level of directness -- err on the side of humility.
3) Obtaining information—don't equate perceptions with facts; other's perceptions=their realities.
4) Learning to evaluate people without offending—asking versus telling is always a good start.
5) When working on a global team, watch your tendency to defend national interest.
6) Handling training and development—realize that trainers must train differently in many cultures.
7) When selling is a goal, learn to speak their language: learn to introduce yourself, say thank you.
8) When negotiating seek a native to help you—confidentiality differs from culture to culture.
9) Get native support for strategic planning—strategic mindsets are different from culture to culture.
10) Remember when transferring knowledge—accept what host country experts give you and use it.
11) Be innovative whereever you are—set up systems that encourage differences in differing cultures.
12) Managing change—requires tremendous momentum-go slow (Adapted from Gundling, 2003).
13) Learn to listen.
14) Use social media for good and strategically.

The use or need for speed and consensus differ in most cultures. The more "Americanized" cultures move quickly when accomplishing change; whereas Eastern cultural mindsets require a change maker to wait for nearly total consensus before even mentioning change.

In an unknown culture, start by "knowing what you don't know;" and then read, study, ask, and recognize to learn and use (non-judgmentally) what you have learned. As Steven Covey has preached for years, seek first to understand before seeking to be understood (supported by Peters, 2003; Porter, 1990; and Service, 2006).

As one's management and leadership grows and as one develops a better GLQ one moves from unconsciously incompetent to consciously incompetent, then to consciously competent before arriving at the ultimate destination of unconsciously competent. To aid in moving toward the betterment of GLQ and correct level of unconscious competence let us review foundations for models of global leadership.

**Successful Intelligence as a Guide for GLQ's Foundation**

In his classic work Gardner (1983) demonstrated that intelligence is not one thing but many. Likewise, Sternberg in his comprehensive and evolving work asks, is intelligence one thing or many? And, Sternberg answers his own question clearly, it is many (1996). Any would-be global leader must realize there is a distinctive intelligence, a malleable intelligence, that can guide one to work successfully across varying cultures and contexts in our shrinking world. Our following GLQ worldview-mindset model is designed to describe that intellect for measurement and development.

The traditional IQ as we know it is important. But it does not take genius-level intelligence to have high intellect in other areas. In our chosen fields of leadership and management the literature

contains many theories promoting IQ, EQ, or both as predictors of leadership success. On the other hand, more have found, as Drucker said: "There seems to be little correlation between a man's effectiveness and intelligence. . . . Brilliant men are often strikingly ineffectual; they fail to realize that the brilliant insight is not by itself achievement (in Henninger, 2002: p. A16)." Moreover, most major leadership theories—behavioral, trait, situational, contextual, or contingent approaches, do not fully answer needs of contextual intelligence as a definable, teachable, measurable and improvable component of crossing cultures.

A need exists to extend understandings of the IQ of old in order to build success crossing cultures (contexts) at an ever increasing pace. Brooks (2010), Hall (2011) and Sternberg (1996 and 2003) are among many that reduce the importance of traditional IQ and replace it with something coming to be known as "successful intelligence." These authors say successful intelligence is the kind that matters in reaching life's important goals. Here we want to extend that into a contextual intelligence (GLQ) that can insure cross cultural and differing contextual fit effectiveness.

> Successful intelligence is not an accident; it can be nurtured and developed . . . It is my contention that successful intelligence should be taught, because it is the kind of intelligence that will be the most valuable and rewarding in the real world after school (p. 269). . . . [It] involves analytical, creative, and practical aspects (p. 47). . . is primarily an issue not of amount but balance, of knowing when and how to use analytic, creative, and practical abilities. . . . Successfully intelligent people figure out their strengths and their weaknesses, and then find ways to capitalize on their strengths. (Sternberg, 1996: p. 47-49).

Two quotes should help us with the GLQ concept: 1) "One of the most enduring lessons of social psychology is that behavior change often precedes changes in attitude and feelings (p. 129)." And 2) "He ignored arguments that didn't fit his mental framework (Brooks, p. 163)." These quotes provide different approaches that we should recall when attempting to change attitudes and expand understandings.

> [IQ] is surprisingly malleable (p. 164). . . . IQ predicts only about 4 percent of variance in job performance (p. 165). . . . Wisdom doesn't consist of knowing specific facts or possessing knowledge . . . It consists of knowing how to treat knowledge: being confident but not too confident; adventurous but grounded. It is a willingness to confront counterevidence and to have a feel for the vast spaces beyond what's known (p. 168-169). . . . people who succeed tend to find one goal in the distant future and then chase it through thick and thin (p. Brooks, 2011: 177).

Sternberg lists common characteristics and attributes found among successfully intelligent people. Those that are of use in the GLQ show that successful intelligent people: 1) learn to control their impulses, persevere and make the most of their abilities; 2) do not procrastinate-translating thought into action- initiating and completing tasks; 3) are not afraid to risk failure-accepting fair blame and rejecting pity; 4) independently surmount personal difficulties; 5) see the forest and the trees, not spreading themselves too thin nor too thick; 6) have reasonable levels of self-confidence; 7) balance analytical, creative, and practical thinking (Sternberg, 1996: Chapter 8). "Successfully intelligent people . . . . eventually, come to lead it (p. 189). . . . Thus, the true measure of your intelligence is not in a test score; it is in your willingness to develop your own talents (1996: p. 150)."

The literature is filled with accounts of leaders who have improved their own successful intelligence by identifying shortcomings and working to improve them. George W. Bush, Abraham Lincoln, Thomas Edison, Condoleezza Rice, Woodrow Wilson, Mother Teresa and Teddy Roosevelt are historical exemplars of formally educated and uneducated leaders who improved their IQs in the way that indicates successful intelligence. This brief overview of IQ and successful intelligence provides a beginning platform for a useful GLQ.

**The GLQ**

The GLQ precepts came from the models and literature reviewed in this research, and extended by adding the results of interpretive analysis to fifty preliminary Questionnaires (Service, 2012). Using methods clearly described in Chopra and Mlodinow (2011), Corbin and Strauss (2008), Eisenhardt (1989), Mendenhall and others (2008) and Ropo and Hunt (1991) the GLQ precepts shown below were developed - coded from the Questionnaire narratives in light of the research and writings shown in this paper. It was difficult to code varied statements into meaningful concepts that could be defined and researched. The "coding" as percepts-labels is subject to normal human biases and knowledge.

Encouragingly, the range of nationalities and situations represented in the completed Questionnaires (shown in Service, 2012) was broad. It included people with experiences in America that are from Germany, Vietnam, China, South Africa, Sweden, Cuba and Spain; and American's who have worked or lived in many countries. A next step will involve a larger and more randomly inclusive sample to be analyzed with several experts in a predefined and uniform fashion.

At this point, Figure 1 is the resulting proposed initial guide to developing a GLQ capable of being further refined and then empirically tested.

Figure 1. *GLQ "Required Worldview" Strengths and Weaknesses*

**I. Strengths - advantages that are enablers in contextual adaptive development**

**A. Natural - more uncontrollable 'good' traits-key abilities and attitudes**

1. Flexible-openness: equifinality
2. Dispassionate
3. Gender and gender orientations
4. Internal locus of control
5. Abilities under psychological hardiness
6. Attitudes & awareness-curiosity

**B. Nurtured - more controllable 'good' traits-key knowledge and skills**

1. Known "open" mindsets
2. High social/cultural intellect
3. Weak ethnocentricity
4. Observant
5. Knowledge/skills-job/tasks
6. High EQ

**II. Weaknesses - disadvantages and derailers to leadership development**

**A. Natural - more uncontrollable 'bad' traits-key self-centered**

1. Strong national affiliation
2. Narcissistic
3. Change avoidance
4. Large power distance
5. Cognitive simplicity
6. Psychological immaturity

**B. Nurtured - more controllable 'bad' traits-key avoidance**

1. Disdaining other views
2. Confirming mindset
3. Learned behavior pervasiveness
4. Un-accepting of differences
5. Low EQ
6. Relationship challenged

Reviewing the research and popular press accounts, gathering data and talking to hundreds who have experienced cross cultural leadership situations it is clear a wide range of approaches can be successful. However, following best practices should be avoided and instead replaced by a broad understanding of complex and competing principles. GLQ strengths do require a high level of psychological fitness coupled with extensive abilities to consider, build and use a multiplicity of people, perspectives and contextual comprehensions. Also, a top GLQ requires self-awareness without self-centeredness coupled with an ambitious sincerity and sensitivity folded into a questioning willfulness that seems impossible in a human. "[Reject] this displacement of the human self from the center of validity, and insist that [your] own experience must be the starting point for [your] understanding of the world (Wertheim, 2011: p. 50)." Moreover, it should go without saying that confidence, desire, focus and attention to detail must be coupled with hard work for a superior GLQ. However, the desire, attention and focus are quite different for GLQ than many other metrics. GLQ's desire must be more adventurous and its attention and focus must be more "other-situation" centric than in many other areas. Additionally, the literacy, resilience, energy, flexibility, openness and overall street savvy required for superior GLQ are daunting. But, GLQ's percepts are very malleable. In fact, recent studies have shown that traditional IQs and EQs once thought to be relatively fixed are also very changeable (Goleman, all dates; Hall, 2011; Service, 2005b and c and 2009a and b; and Sternberg, all dates).

> Successfully intelligent people are flexible in adapting to the roles they need to fulfill. They recognize that they will have to change the way they work to fit the task and situation at hand, and then they analyze what these changes will have to be and make them (p. 153). . . . All of us know people who succeed in school but fail in their careers (Sternberg, 1996: p. 220).

This quote defines what must be included for any GLQ to be useful as a guide to self-assessment, teaching, growth and learning how to improve cross cultural effectiveness.

There is much in this model that needs explaining, but the purpose here is not to totally explain, but to forward a testable model. Four areas to contemplate are: First, for anyone familiar with the so called big five in personality (Openness, Conscientiousness, Extraversion, Amiableness, Narcissism), you will notice portions of those factors. Second, for those that study cultures we see ethnocentricity (the degree of belief in the superiority of one's ethnic group), a dispassionate view of humanness and the power distance factor which is close in more open societies and far in more closed societies. Third, locus of control, where an internal locus indicates a feeling of self-control and external indicates the opposite. Lastly, we see many items that indicate the need to know your own frames, mindsets, views and tendencies in order that you might know in which area you need to change or do otherwise.

The key is going to be world-views; that is the mind-sets one has and can develop. World-views that indicate flexibility and openness to one’s limits and the values and value of others is a must. World-views that revolve around complexity and understand the equifinality—many ways to the same end—, and that are known and considered will win out in crossing cultures. A love for different views and learning from any and all sources is a must as are the abilities to form and hold relationships based on mutual trust and competency. Be wary of those that cannot accept differences or bide those that express themselves in ways you are yet to encounter.

Interdependence and independence must be tolerated and used without social or emotional laziness or distain. Do not seek to confirm your own world-views but seek to understand those of others. Accept those that say and behave in a matter that says, "I am what I am; and I am different from you."

Notice we have said nothing about gender, for indeed, your sex is what it is. However, in certain cultures it gender does make a difference. "Gender egalitarianism [is of concern and it] is the extent to which men and women receive equal treatment, and both masculine and feminine attributes are considered important and desirable (Yukl, 2013: p. 366)." You must realize as we do, this is not right, but it just is. Additionally, we will not address gender orientations, beyond saying that it is a consideration. Finally, humane orientation, the concern for the welfare of others, is often a consideration because altruism, benevolence, compassion, kindness, friendliness and so on, are not universally thought of or valued in the same way. Some see them as weaknesses versus desirable attributes.

The precepts shown here are not either or, but are on a continuum and, consequently most do not have to change much to be improved. The intent is for one seeking improvement to study the GLQ and discover their strengths and weaknesses. Then use our max-min principle, depicted in Figure 2, which says to maximize strengths and hone or deflect weaknesses as possible. The key management and education rule is: "measure it and it will improve." Just be sure what "it" is: GLQ is an intellect that directs one to correctly read situations, discover important knowledge and identify skills and abilities useful in handling new and different situations.

Do not be put off by lack of GLQ knowledge, skills or abilities; practice the Max-Min principles and develop an improvement plan using Figure 2 as a guide.

Please note, that those items listed as natural are precepts that are established early in life and unlikely to change when one reaches mid-to-early teenage years. In most cases, someone is born with a tendency toward a certain type of behavior and that is amplified early in life. For example you hear someone say of their first female child, "She is so sensitive." Consequently the child is treated as being sensitive and therefore, a trait that appeared early in life is solidified and often embedded in personality.

In a recent conference a current author was discussing the topic of crossing cultures with a psychologist who consulted with large international organizations. In this capacity the consultant evaluated candidates for expatriate assignments. The psychologist said the key factor that predicted success in her experience over the years was curiosity (Saba, 2011). Additionally, in a recent paper on adaptation in expatriate situations identified both psychological hardiness and cultural distance as key factors predictive of expatriate success (White, Absher and Huggins, 2011). These factors, though not discovered for our preliminary testing, are worthy of consideration. Our expectation is that curiosity and psychological hardness would be mediating variables between the GLQ precepts shown above as independent variables (IV) and the dependent variable (DV) of success in cross cultural assignments. That is, curiosity and psychological hardness could both be shown to be necessary catalysts in a regression equation where the DV expatriate success is a function of the restated IVs from the GLQ model shown above.

This is a very brief overview of how one might evaluate themselves and work toward improvement in the ability to adapt to cultural or major contextual changes. Please do not be put off by this brevity of the description of this GLQ model, just get on with knowing yourself better and developing a "wisdom" improvement plan. Hall (2011) in his discussion of wisdom from views of philosophy to neuroscience, stresses a key point that relates back to the global leadership model. That point is that wisdom only occurs when one can deal effectively with uncertainty and complexity under their known values and judgments.

**Figure 2: Improvement planning guide**

1. Clearly & honestly assess vs. precepts.
2. Set doable goals as SMART objectives & measure -Express as events & behaviors.
3. Make goals under your control.
4. Develop a strategy that insures you accomplish objectives.
5. Establish support group.
6. Create rewards & punishments for results.

***Care ID-ing controllable & not. Skills ID-ing, limiting distractions, studying, learning, relearning, internalizing & using CIQ will serve you well.***

1. List & acknowledge all GLQ shortcomings:
2. Describe how you will improve on the shortcomings:
3. Establish measures of progress:
4. ID & use people in your change support group:

Each individual has the potential to improve themselves as a global leader though enhancing their GLQ as depicted in Figure 1. This article is designed to help you do so. Go beyond media hype of feel good, self-help articles and books to truly evaluate yourself, then develop a plan and do it! Understand where you are in each precept and where you need to be and then mind your gaps. Remember that, categorization must never win out over understanding.

> Clearly simplistic classifications do not work (p. 9). . . . The world is very complex. There are no simple explanation for things. Rather, events are the result of multiple factors coming together and interacting in complex and often unanticipated ways. . . . it is important to capture as much of this complexity . . . as possible. . . . Obtain multiple perspectives (p.8). . . . . something occurs when doing analysis that is beyond the ability of a person to articulate or explain. . . . Interpretation is an art that cannot be formalized (Corbin and Strauss, 2008: p. 9).

**Conclusion**

For one wishing to improve as a global leader the GLQ is not the end, simply the end of a new beginning. The GLQ is not the final work for we realize it is limited. However, do not be deterred by limitations; use the amalgamation of wisdom and linking of concepts and ideas to improve your GLQ. For anyone that is willing to work and study, successful intelligence in the form of a GLQ is useful in crossing cultures and contexts. There is little to no doubt the world is becoming more open and change is the new norm. A new worldview based on GLQ assessment and improvement is possible if you just get on with it. Do not be deterred by your or our shortcomings nor by other obstacles for, "Few of us will walk this earth and not be touched in some way by tragedy, but there's an old saying that adversity has a way of introducing you to yourself (George W. Bush in Nantz and Spielman, 2008: p. viii)."

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# PEER MENTORING: WRITING WRONGS

**Jo Ann B. Summers**
**School of Education**
**Auburn Montgomery**
**Montgomery, Al 36117**
**joannsummers@dishmail.net**

**Shelly Hudson Bowden**
**School of Education**
**Auburn Montgomery**
**Montgomery, Al 36117**
**shudsonb@aum.edu**

**Abstract**

The purpose of this descriptive research was to determine if peer mentoring would be an effective teaching strategy to encourage reading and writing and affect positive social change in a diverse seventh grade classroom that was out of control. Qualitative methods were used to collect and analyze data through coding themes within field notes, a student questionnaire, and student artifacts. The emergent themes of negativity toward reading and writing and disrespect toward peers were investigated through the implementation of a Writers' Workshop forum that facilitates writing through a collective effort. Writers' Workshop was the perfect delivery system for implementing a peer mentoring intervention in that it is a collaborative interaction tool that gives each student an opportunity to have a shared social view of the world. For this study, I selected eight students as the sample for a total of four mentoring teams. The remainder of the class paired up according to friendships and participated in the same lessons as did the chosen dyads. Students qualifying as needing mentoring were reading on a 4th or 5th grade level based on fluency rates of under 109 words per minute and whose baseline writing lacked basic grammatical conventions and cohesiveness. Mentors were trained in two sessions with ongoing monitoring by this active participant, with the emphasis on respecting the two-way relationship of mentoring. The findings of this study revealed an affirmation of socio-cultural theory based on the work of L.S. Vygotsky, that posits that to develop cognition, humans learn from one another.

**Keywords:** Peer mentoring**,** One-on-one tutoring, Student tutoring, Cooperative learning, Dyadic learning, Collaborative learning, Apprenticeship learning

> Jackson: I hate when someone…you know, pisses me off. For me it's not all about color. (He looks up momentarily to Raceed who is African American) But, mostly us white guys get suspended when we get in trouble but black kids, man, they get away with it and the office doesn't do anything about it. (Lots of murmuring between students) But no one has ever told me to hate someone because of their skin color. My parents especially remind me not to use the "N" word just because it's popular. They don't like the word at all. I can lose my cell phone if they hear me talkin' to like Jahred, who is black, and uses the word all the time. He likes it when I

> say it to him. It took me forever to explain that to 'em. It's just part of our conversation. But, I think hate is out there and it is on both sides. I have some really good friends that are not white. We get along alright. My girlfriend, Angelia, is Mexican. But, I have friends that do hate and think that if you aren't white you're just dirt and that's just wrong. Jahred's parents don't like me much coming over to his house cuz I'm white. Or maybe it cuz I live in a double-wide. I don't know. But we've been friends at school for a long time. What can we do about it? Stop picking on each other. And when someone is doing it, man, tell 'em to stop.
> (Field notes February 2, 2010)

**Introduction**

When students can respond in writing by telling it like it is without being obnoxious, accept differences in one another, and learn how to take constructive criticism without becoming angry, I (Jan, first author) know that peer mentoring has become a successful teaching strategy in my classroom. Arwood, Jolevette, and Massey (2000) define peer mentoring as "…a relationship wherein the mentor and mentee benefit from one another" (p. 36). A search of literature in the area of peer mentoring, also found under keywords such as one-on-one tutoring, student tutoring, cooperative learning and dyadic learning provided a framework from which to build a caring and cooperative learning environment for my students within which students would work cooperatively to facilitate comprehension of figurative language, develop short answer responses to literature, and respond to each others' written ideas in the form of feedback given both verbally and written. Through the socio-cultural theory of psychologist L.S. Vygotsky (1997), whose work revealed that cognitive development is dependent upon interaction with each other, mentoring can be used as a tool for challenging existing schemata or beliefs and providing guidance through practice (in my study, writing) for change that may reinforce societal ideals (Arwood, et al, 2000).

It is my experience that cooperation and communication drive a successful classroom. For the purposes of this research, I chose to study the effects of peer mentoring on a more open-ended task of writing and problem solving to address students' poor writing skills and to affect social change in the classroom. The inquiry was completed in my seventh and eighth grade Title I reading classes and in reading intervention for grades four-six during the spring semester 2010 for a qualitative course under Dr. Sally Beal (second author). Daiute and Dalton (1993) suggest that, "Complex skills such as reading and writing are influenced by myriad aspects of social life, including the nature of discourse among…students of different sociocultural groups" (p. 283). Furthermore, O'Donnell ( 1999) argues that "Dialogue and discussion serve to support change more effectively than independent, individual work " (p.35). She goes on to say that allowing students to work together will be more productive in producing "…sophisticated and creative answers to challenging questions than children working alone (p. 35)." Based on these concepts, I wanted to know if at-risk students, who are given an opportunity to tap into higher-order thinking processes through the availability of a mentor, who models and questions the mentee through the more complex levels of the cognitive processes, then will mentees begin to develop their own questions about what they believe, challenge the veracity of what they know, and subsequently, develop stronger rational cognitive processes?

Yet allowing mentoring is an exception in most classrooms, not the rule. Today, language arts instruction has regressed to scripted, teacher dominated program-based basal textbook teaching curriculum. This methodology of instruction keeps students in their seats, noise levels almost to zero, and the kids that "get it", keep excelling. However, those that require differentiated instruction, such as hearing or seeing concepts on their own level, lose out and continue to fail. Even worse, it has been my experience that these students are those who usually become classroom behavior problems.

Contradiction exists that argues against the effectiveness of peer mentoring. According to Hoffman (2002), "…Cognitive loafing…[and] …fail [failure] to challenge one another sloppy thinking results" which can become "…potential elements of academic regression and behavior issues." (p. 51). However, training mentors prior to intervention how to remain actively engaged using questioning and the importance of task completion may address Hoffman's concerns. Teachers must learn how to facilitate small group interaction; as students will slack off and let others do the work and some will completely take over the task if learning expectations as well as the rules for cooperative learning strategies have not been modeled and practiced before implementing a peer mentoring program.

***Gaining Entry***

During this study, I am serving as a substitute teacher for three months. I met with the classroom teacher who would be out on leave and shadowed her for several days prior to taking over the class. It was her seventh grade class of readers that concerned me the most, as I observed a real need for the acquisition and practice of writing and reading skills as well as social skills. For this class, instruction began with a prompt written on the board before students arrived. Students came in and some got seated and went to work writing to the prompt. I observed Mrs. Sams to not read or explain the prompt. The prompt was not linked to the novel being read to the class: Bridge to Teribithia, written by Katherine Patterson. After responding, time for discussion or sharing of written responses of the prompt was not given. Worksheets were used for chapter assessments. Mrs. Sams had chosen a book of which she had the only copy. She was doing all of the reading out loud. First, she would read the chapter, and then she used an ELMO projector to display the novel's pages for students to locate answers to the knowledge level questions referenced in the current lesson's worksheet. When I inquired as to why she chose a book that the library did not have class copies of, she replied that she had gotten a unit of work from another teacher for the novel and as a culminating lesson, if they behaved, she was going to let students watch the movie. I inquired about the purpose of the prompt of which the reply related the task completion to busy work. This Title I class did not receive a letter-score grade at the end of the nine weeks nor was for credit. It was formed for remediation and took the place of a study hall. To my surprise, Mrs. Sams expressed joy at leaving the "lazy and lost learners behind."

Although the students were out of control, I understood their acting out as reactionary over the frustration of wasteful learning time of what was supposed to be a reading class for intensive reading instruction. The teacher's negligence in providing actual instruction and practice of reading and writing skills made it easy for the students to rationalize doing nothing and as well, and easy for them to run the classroom. I observed students whose behavior appeared normal on most days,

deteriorate the minute a student distracted learning with inappropriate behavior. Vygotsky (1986) argued that "We actively internalize a sense of our behavior as compared to the behavior of others acting in related roles and positions" ((Daniels, H., Cole, M., & Wertsch, J.V., 2007, p. 107). Unfortunately, besides academic problems, there existed a deep division through-out the class predicated on race and social-economic status that manifested itself in the form of racist remarks, disrespect to gender through references to sexual acts and outbursts levied at distracting learning. I met with extreme defiance and began thinking how right it is of education to have as its over-all to create productive citizens for our democratic society. I had my work cut out for me, and even knowing what a huge challenge it would be to take over this class, I did so thinking that if I succeeded, I would be a better educator as I learned how to turn a class around. I couldn't do it alone! I would enlist the influence and muscle of the students in the classroom.

**Review of Literature**

Arwood, B.S., Jolivette, K. & Massey (2000) application of Vygotsky's Constructivist Theory offered three process and outcome principles for mentoring: First the principle that the mentoring relationship must be allowed to grow into a reciprocal relationship for both partners to gain in their investments within the partnership. Second, for academic purposes, the dyads should be attending to a task: projects, assignments, test preparation through quizzing, drill, or creating dumby tests. The third principle, and the one I believe to most valuable in the constructivism theory, is that children learn from each other through engaging cognitive scaffolding using inquiry and problem solving. Vygotskian focus is to learn through appropriate social interaction which constructs meaning and subsequently, builds character to become a good citizen. In so much, the third principle is that mentoring among less socially developed learners could be viewed as a mechanism to "…reinforce and build appropriate social values and norms from the community's perspective". (Arwood, et al., 2000, 37) "controlled…with the intervention being implemented only after specific training and/or rigid procedures have occurred (p. 37). " My genuine concern with teaching has always been how to assure quality learning for everyone. look to the strength of what has been learned and its potential in helping those whose learning of a skill or concept requires more than teacher modeling and a once or twice around the block practice session with a worksheet and possible turn and talk cooperative learning strategy to have a positive effect on cognitive schemata development.

In this paper I will describe how grounded theory based in the work of constructivism became the answer to my goal of providing quality learning to all students in that I will show how peer mentoring was used to turn around a classroom that not only couldn't wait to get to class to read and write, but began to demonstrate respect for themselves, rules, and empathy for the feelings of others. Peer mentoring can be a successful teaching strategy. My research questions were how peer mentoring:

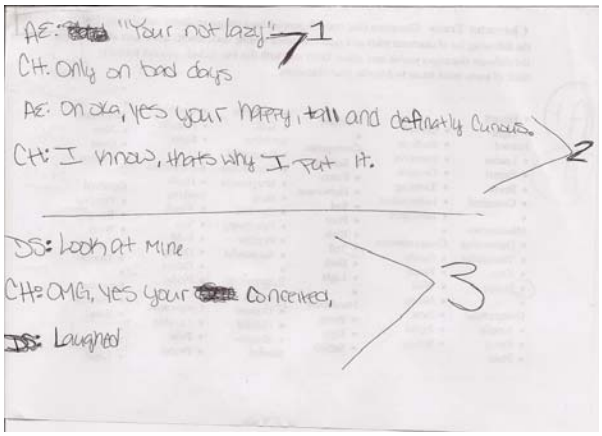
1- will be used to encourage students to read and write,
2- encouraged respect for one another, and
3-fostered empathy among classmates.

What I think this research will tell others is that within the definition of peer mentoring is found the success of its process: it requires both mentor and mentee to be engaged in learning with each other, communicating both verbally and through writing. The relationship has to be two-way. It must be agreed upon. Also, peer mentoring success is dependent upon the teacher's desire to frame and plan effectively for such a learning method to be successful. What some might view as an unstructured classroom upon first entering the room, as students will be moving about, verbal questioning and dialogue will be the impetus of learning and those first entering should need only to question a student to know that quality learning is happening.

**Setting and Methods**

Mrs. Sams did not have a permanent classroom. She (then I) used a high school teacher's science lab during that teacher's planning time. During this time, the science teacher left the room. Instructional materials were wheeled to the room in a small cart from a resource room. For instructional purposes, technology was readily available with an ELMO, laptop and screen. Mixed gender and race pairs of students sat on stools set at high lab-like table tops. The class had 31 students and not enough tables, so one student sat at a materials table in the back of the room. Another student sat at the front of the classroom hid between file cabinets and the front wall. During shadowing, he had not been addressed nor did he say a word to the teacher. He could not see the class, nor could they see him. I didn't know he was there until I called roll on the first day!

Consent forms generated by Angel University were sent home to gain permission for student participation. Informal observations, scripted as well as antidotal recollections, and dialogue between students were transcribed into field notes. To find potential mentors and to learn how students viewed themselves as well as how others viewed them, a character survey was used. Verbal directions were given that directed students to imagine the trait page like a mirror and find the traits that they thought best reflected their personality. The next step was to have students trade with a person in the classroom who knew them well enough to "score" how well that student knew themselves compared to how they project their image to their peers. I asked students to script their verbal interaction on the back.




Top: list of traits to choose from Bottom: dialogue scripted from students

I coded observations within my field notes that could be used to identify potential 7th grade mentors and mentees. A questionnaire was located within the work of Juel (1996) that I revised and used to interview and screen potential mentors as I began to look for social normalcy as well as success academically.

1. Do you like school?
2. What is your favorite subject(s) in school?
3. How do you show you are responsible? Give some examples.
4. Do you give up on harder or challenging assignments?
5. Tell how you get ready to study or learn the hard stuff.
6. When you are reading or listening to something for the first time, do you begin to put it into your own words in your mind?
7. Do you think of yourself as a good writer?
8. How do you feel about a classmate who continually fails? (I know how they feel, I don't care)
9. Do you mind listening to other people's problems?
10. How do you feel about people who are not the same as you?
11. Would you like to "train" to learn how to help others learn?

Daily journals monitored the effectiveness of teacher paired learning teams. I relied heavily upon observed dialogue exchanges as well as written reflections to determine if attitudes about reading and writing change through daily Writers' Workshop interaction as a means to determine the effectiveness of peer mentoring.

Writers' Workshop was the perfect delivery system for using peer mentoring in that it is a collaborative interaction tool that would give each student an opportunity to have a shared social view of the world. Peer mentoring was used to encourage students to read and write through careful planning and matching of compatible pairs for discussion and feedback purposes. For this study, I selected four mentors and four mentees. The remainder of the class paired up according to friendships and participated in the same lessons as did the chosen dyads. These students needing mentoring were chosen because I had an opportunity to "see" into the culture of this classroom prior to becoming their teacher and quickly learned student clicks and behaviors. From the earlier Character Trait and survey responses, I was able to identify potentially strong mentors. Subsequently, I was able to plan for Writers' Workshop writing teams using insightful student ideas for careful matching of compatible Mentor-mentee pairs. The following is a flow chart of the steps I used to plan and implement the four mentoring teams which I specifically observed for the purpose of this study to explore the affect of peer mentoring on student motivation to read and write, it's effect on demonstrating respect for each other as well as showing empathy to create a more cohesive and democratic classroom environment.

T= Classroom Teacher M= Mentors m= Mentees ARS=At Risk Students

Students who were considered at risk for failure or who needed positive social interaction were targeted first and then paired with a qualified mentor. Although every student had a writing buddy, Mm teams were built upon the needs of the mentees. In this class, four students stood out clearly as students who would benefit from a mentor relationship. To qualify as a mentor, the student had to demonstrate academic and social efficacy. The idea was to pair so that the more socially and cognitively developed student would be the influence in helping the student who had deficits grow into the changing class culture. Because the focus was on writing, the student had to have an acceptable command of sentence structure, grammar and content in writing. In looking for social aptitude, I skimmed character trait chart responses and identified students that thought of themselves as motivated and as a leader. I also used field notes to identify students who stood up for others, or had a natural way of negotiating when interacting with peers on important issues.

By the time I had mentor teams matched, the class had also taken over Writers' Workshop. What this meant was that the 20 to 30 minute block of time belonged to them. Students took turns leading class, reading their own prompt, giving time to reflect and write to the prompt, selecting four or five students to read or share their writing and then incorporated the responsive element, writing back to the writer on a sticky note. Most teachers wouldn't attempt this, but the students appreciated the time to be in charge of their own learning, get to know what others thought and were given discussion time. Mm teams flourished as discussions became words on paper through the guiding questions of mentors and the responsive questions and comments of mentors. What might look to be an unstructured learning environment upon first entering the classroom, as students could be moving about, involved in discussion or busy writing a response, one would only need to question a student to know that quality learning is in progress with inquiry and dialogue as the catalyst for cognitive development.

**Findings**

Susie was chosen as a mentor because of her responses to the questionnaire about enjoying learning with others in a group context. Her easy-going and articulate communication style demonstrated that she would be able to lead and to be part of a mentoring team. She was also able to summarize

on the go as she had demonstrated in class so many times. In the transcript below, students have finished writing to a prompt and I am observing the interaction between a dyad to see how effective training was for the mentor in questioning as well as to see if both members are working toward completion of the task.

Susie/Mentor: Reread what you wrote and ask yourself did I find the answer to who wants to live forever?

Notes: A prompt has been read by a WW leader and all students are now discussing the question and writing an independent response in their journals. This team is a mixed race and gender team. The mentor is a white female who is able to express herself well both verbally and through written expression. The mentee is a slacker, and often cracks jokes and tries to manipulate class time with silly questions and requests. This mentor agreed to pair with this mentee because they get along. She expressed concern for his repeating 7th grade for a second time.

John/Mentee: K. Like the boy played the violin and he wants to live forever? Naw, dog. This ain't feelin' it.
Susie/Mentor: Feeling what? Believe it or not you have half of the answer. What thing in the poem is acting human and it's not a dog?

Notes: I like how she ignored the "Naw dog" comment and focused on a part of the dialogue she could use to rein her mentee in on the task. We have only met twice on questioning techniques, but this mentor is really working on her partner to dig the answer up on their own. I think it is also important to allow for play while learning. The mentor's reference back to "dog" was classroom appropriate. I think trust is beginning to develop.

John/Mentee: uhhhh. The music?
Susie/Mentor: How do you know?
John/Mentee: Cuz it wants to live forever! Like in the peeps mind. (Getting excited and flips journal page and begins to write)
Susie/Mentor: Okay. Now in the poem, who wants to live forever? Read yours again.
John/Mentee: In the poem, "Who Wants to Live Forever", it is the music from the violin that wants to live forever. I know because it tries to escape and float away with the wind.
Susie/Mentor: I agree. Good job on having a complete thought and answering the question!

Notes: The mentor writes what she just told her mentee on a sticky note and sticks on to her partner's page. She smiles, he smiles and they do the knuckle to knuckle victory shake. Next, I wait closely by to see if the two way relationship emerges without my reminding them.

John/Mentee: Now yours. Who wants to live forever in the poem?
Susie/Mentor: In the poem, Who Wants to Live Forever, the author uses personification and the music becomes a living thing. It escapes from the violin and rushes out to mesmerize its listeners and then meets the wind and be carried away to live forever.

Notes: The mentee writes *I like how you write. It's very detailed. You are very smart.* On a sticky note and places it on his mentors' page. The mentor reads it out loud and says "Thanks. You are too."
(Field notes February 4, 2010)

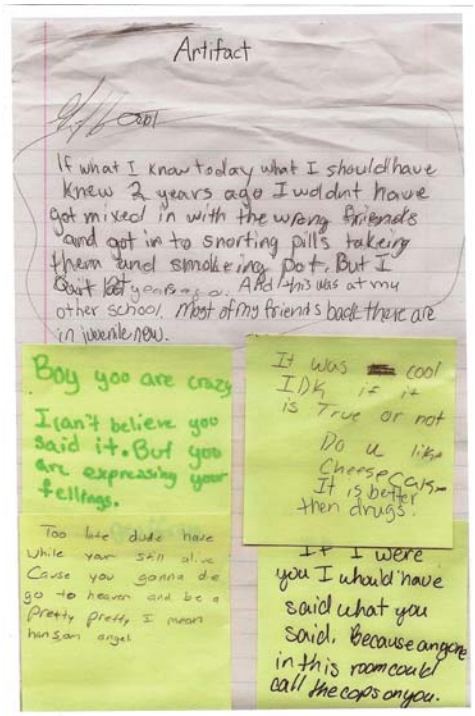
The idea was to pair so that the more socially and cognitively developed student would be the influence in helping the student who had language/communication deficits grow into the changing class culture. In the exchange above, the Susie led John to find the answer without giving it to him through the use of questioning. Reflecting on the writers' style is also important in aiding in the development of writing. Reflecting on the writer's style and ability to answer all parts of a question is also important in aiding in the development of writing, especially to short answer questions. Feedback within the dyads must tell the other how their writing is strong and how it can become stronger. Giving and receiving feedback can occur through writing or discussion. Positive interaction is noted as well as completing the task assigned.

Writers' Workshop and the use of peer mentoring were used to facilitate demonstrating respect for one another. The WW leader read a prompt about being able to change one thing from the past to make it better.

Geoffrey: Can I go next? Please, D?
Desiree/student leader: Okay, you can go. Everyone listen, then write the second time. (she is reminding them of directions)
Geoffrey: Okay…mine is kinda personal, but most of you know me, so it's okay and this happened at my other school. If I knew today what I should have known two years ago, I wouldn't have gotten mixed up with the wrong friends and got into snorting pills, taking them and smoking pot. But I have quit. Some of my friends are in juvenile because of it. I am glad I quit and it's because I made some new friends that don't do that.

Notes: I can't believe this kid just spilled his guts like this. It is an affirmation to me that the classroom has become risk free! There is a lot of movement and quiet talk between peer to peer teams of students but no outbursts of disrespect or judgments made.

To better show how Writers' Workshop works, this artifact from this student shows the process. The writer listens to the prompt, writes to the prompt, and then may receive feedback from peers. Writers' Workshop is a performer, audience and then interactive teaching tool. While the students are seated in paired teams, they are also part of a larger learning group that is learning how to positively interact with each other. It is a culture of writing that is being learned as well as how to respond to different life experiences and opinions in a positive way.




Empathy for others is also illustrated through this artifact. The boy had been involved in drug use that one student responds to as "You are expressing your feelings". The incredulousness of this student in exposing himself to the judgments and belief systems of others is quite a phenomenon. The student who wrote " If I were you, I wouldn't have said what you said." may be experiencing the same social pressures. There is also play involved with the question of "Do you like cheesecake?" The seriousness of this student's response is lightened a little with humor. This student also thinks it was "cool" for the writer to admit to doing to something wrong that has now been changed. There is total engagement in the process of learning from one another that was lacking prior to the implementation of Writers' Workshop or the use of peer mentoring.

**Conclusions and Recommendations**

French scientist and philosopher Blaise Paschel once wrote that "Curiosity is only vanity. Most frequently we wish not to know, but to talk. We would not take a sea voyage for the sole pleasure of seeing without hope of ever telling." Peer mentoring is one way to implement discussion that brings about positive change. Decisive pairing was used for students with the greatest needs to the best mentor based on character traits and responses to questionnaire; although all students were paired according to high/low achievement. Teachers who wish to pursue the use of mentors in the classroom for any type of learning would gain more productiveness from dyads if pre-planning for matching were done prior to training. Time could then be spent targeting specific needs to help students catch-up on skills that passed them by. As the teacher becomes more of a mediator for these learning teams, monitoring is essential to ensure that there is a two-way relationship developing. Also, monitoring would determine the need to end or reassign mentoring teams as needed through-out the school year. Finally, qualitative research allowed this teacher/researcher to have permission to become the mirror, to learn from the learners, and reflect the results back to the educational profession. This study was done over a short period of time and therefore any long-term effects were not observed.

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# OUT OF AN ABUNDANCE OF CAUTION: A REVIEW OF THE FINAL PRESS RELEASES OF PEANUT CORPORATION OF AMERICA

**Elisabeth J. Teal**
**Mike Cottrell School of Business**
**North Georgia College & State University**
**Dahlonega, GA 30597**
**ejteal@northgeorgia.edu**

**Abstract**

Peanut Corporation of America (PCA) was identified as the source of the 2009 salmonella outbreak in the U.S.. The outbreak resulted in over 700 people sickened and nine deaths linked to eating tainted products made of peanuts processed by PCA. The resulting recall of peanut products was one of the largest in U.S. history and included over 3,900 products produced by over 200 companies. The purpose of this case study of Peanut Corporation of America (PCA) is to provide documentation of the company's press releases and reported actions during this crisis. Designed for small business management, entrepreneurship, public relations, and business ethics university level courses, this case allows students to observe how the peanut scare was traced to PCA's tainted products, and how this ultimately resulted in PCA's bankruptcy and closure. This case analysis provides background about PCA and that of its founder, Stewart Parnell. Special emphasis is placed on the PCA press releases that were issued during the crisis. While the press releases emphasize that the recalls were initiated "out of an abundance of caution" for the "safety of our consumers," (1/13/09 press release, PCA website) the reader may be led to question whether the safety of consumers was truly the greatest concern of the company. Thus, the value of this case study is that it provides the student the opportunity to observe an actual business crisis and reflect on how the company both contributed to, and responded to, the crisis.

**Keywords:** Product recall(s), Business crisis, Business ethics, Small business, Entrepreneurship, Family business

## Introduction

The Class 1 recall of products made of peanuts processed by Peanut Corporation of America (PCA) ultimately included over 3,900 products produced by over 200 companies which ranged from peanut butter crackers to pet food making this one of the largest, most expensive, and most damaging recalls in U.S. history.

The recall was in response to state department of health workers finding *Salmonella* in containers of King Nut brand peanut butter, which was manufactured by PCA, in Minnesota and Connecticut where people were becoming ill. The recall began on January 13, 2009 and was expanded on January 28, 2009 to include all peanuts and peanut products produced by Peanut Corporation of America on or after January 1, 2007 in its Blakely, GA facility and on or after March 2005 in its Plainview, TX facility (AJC Feb 24, 2009).

Although plant conditions did not seem to be a cause of major concern for inspectors prior to the recalls, most consumers would find the conditions to be appalling. The final six-page FDA report identified the plant's failure to maintain equipment, sanitize machinery and tools to protect against salmonella, and to properly store food. One observation in the report stated that "there are no records to document the cleaning of the peanut paste line after salmonella was detected," and another indicated "the sink located in the peanut butter room is used interchangeably as a point for cleaning hands and utensils and for washing out mops." (AJC 1/29/09) Other sanitation problems reported were buildups of grease and dirt, unmarked chemical containers and gaps in doors large enough for rodents to enter. (AJC 1/28/09)

The final web update published by the Centers of Disease Control and Prevention (CDC) on April 29, 2009 reported a total of 714 people in 46 states sickened and nine deaths linked to the consumption of food containing peanuts processed by PCA. All of the deceased had eaten a product which contained peanuts processed by PCA and all were infected with *Salmonella* Typhimurium. Please see Appendix 1 for the number and residence by state for those sickened and deceased. (CDC May 18, 2009 After Action Report).

To make a bad situation even worse, suggestions were surfacing that PCA's CEO and majority owner, Stewart Parnell, knew about the *Salmonella* contamination and shipped the product anyway. A headline in the January 28, 2009 edition of The Washington Post claimed "Peanut Processor Knowingly Sold Tainted Products; It Found Salmonella 12 Times." (The Washington Post January 28, 2009), suggesting apparent knowing misconduct on the part of the executive. William Marler, managing partner of the largest law firm in the U.S. which handles food-borne illness litigation, a Seattle attorney currently handling lawsuits for many of the victims said, "In 17 years of litigating every major food-borne illness outbreak in the U.S., I have not seen a clearer situation that demanded criminal prosecution." (AJC 1/31/10) However, as of December 31, 2011 no criminal charges had been filed against Parnell.

**Who is Stewart Parnell?**

Stewart Parnell, PCA's main owner and CEO, was quickly identified as a key player in the peanut crisis. Stewart, along with family members, had been involved in the peanut industry for over thirty years. They had owned a number of peanut businesses in Texas and the southeast, and Stewart served as a peanut-quality adviser to the U.S. Department of Agriculture. (AJC Feb 8, 2009)

At the time of the crisis, Stewart was 55 years old and living just outside Lynchburg, VA with his wife, Gloria, in a red-brick and yellow-sided home they built in 1986. A current tax appraisal valued the home at $465,000 which included the two-story converted garage just behind the house where the Peanut Corporation of America headquarters was located. His brother Hugh, Jr. said of Stewart, "work and family occupy his ... time. He doesn't drink, smoke or socialize. He's a family man. You never see him without a grandchild around." (AJC, Feb 8, 2009).

Stewart Parnell graduated from Brookville High School in Lynchburg where he played football. Bert Dodson, a Lynchburg City Councilperson and a classmate said, "We weren't close in high school, but we knew each other and I respected him. He was a decent football player." (The News & Advance

(Lynchburg) Feb 8, 2009). Stewart went on to earn a bachelor's degree in oceanography but rather than pursuing that career he went into the peanut business with his father, Hugh.

PCA and Parnell kept a low profile in Lynchburg, so low in fact that Rex Hammond, president of the Lynchburg Regional Chamber of Commerce for the past eleven years, indicated that "he had never heard of PCA before the outbreak of salmonella illness" and that the "the company's (Chamber) membership lapsed in 1991." (Washington Post Feb 15, 2009)

In one published account Stewart was described as "a hard worker whose life revolves around Peanut Corp., family, flying, tennis and fishing." (AJC Feb 8, 2009) He and his wife were members of Oakwood Country Club in Lynchburg where he played tennis, and they also enjoyed fishing at their home in Nags Head, NC. (AJC Feb 8, 2009) Stewart had been a licensed pilot for many years, flying for both business and pleasure. PCA owned a single engine plane and Stewart's aviation skills strongly supported the business by allowing him to fly between geographically dispersed facilities in Texas and to locations in Georgia and Virginia. He was a ' "hands on" manager,' per brother Hugh, flying between company locations and when calling on customers. (Washington Post Feb 15, 2009)

Stewart shared the company plane and his skill as a pilot to help others through Angel Flight Mid-Atlantic, a charity provider of free air transportation for medical patients in need. Parnell provided flights for David Charnock, a disabled cancer patient living on Tangier Island in the Chesapeake Bay, through Angel Flight. Charnock said Parnell was "just as nice as he could be. He'd do anything for you." (The News & Advance) Lynchburg Feb 19, 2009).

**The Company: Peanut Corporation of America**

In early 2009 PCA press releases included the statement, "Peanut Corporation of America is a family-owned and operated business since 1976 based in Lynchburg, VA and operating facilities in Blakely, GA, Suffolk, VA and Plainview, TX.." PCA's businesses were in the areas of manufacturing "Salted and roasted nuts and seeds" (SIC code 2068) as well as "Farm-product raw materials" (SIC code 5159), and "Crop preparation services for market (SIC code 0723). Their primary NAICS code classification was "Other animal food manufacturing (311119). As a private company conclusive financial information was not available, but reliable sources estimated PCA's 2005 sales at about $15,000,000, with a little over $4,500,000 of that total processed by the Blakely, GA facility. (LexusNexus, Global Duns Market Identifiers)

Many successful entrepreneurs get their start by identifying a need in the market and meeting that need, and that is what the founder of PCA, Hugh Parnell, Sr., did. Hugh was selling ice cream sandwich machines in the 1960's in a territory that stretched from Baltimore to Miami. When his customers complained that they couldn't readily buy peanuts in bulk, Hugh decided to go into the business of brokering and distributing specialty nuts. "I bought a chopping machine and a few bags of peanuts," Parnell told The Lynchburg (Va.) News & Advance in 1983, "and went to work." (AJC Feb 8, 2009).

It was a family business from the start, owned by Mr. Parnell and his wife and their oldest son, Stewart. Mrs. Parnell handled all of the accounting from their home-based business in Lynchburg,

VA, (PCA website of Jan 11, 2009), and younger siblings Hugh Brian, Jr., Mike, and Beth were involved in the business from time to time. Hugh, Jr. worked as a peanut broker earning a 3% commission until the firm filed bankruptcy, and Beth was connected to the family of the late Rev. Jerry Falwell through her marriage to Jimmy Falwell, a manager of Falwell Aviation and Jerry's cousin.

The business had a chance to expand when a group of peanut growers in Gorman, TX approached Hugh and Stewart about taking over their peanut roasting facility. The Parnell's agreed, and in late 1977 they began roasting peanuts in a 50'x100' building. Sales the first year were about $50,000.00 and they knew that they would have to have more customers if they were to be successful. They developed a plan to grow the business by selling roasted and chopped peanuts to bakeries, candy manufacturers, and other snack manufacturers. (PCA website history) "Have you ever eaten a Nutty-Buddy? How about Trail Mix? Then you've tasted our product," Hugh Parnell (Sr.) told the Lynchburg News & Advance in a 1983 article about the company a year after annual sales had grown to $12 million." (Washington Post Feb 15, 2009) By 1994 the Gorman plant had expanded to over 65,000 square feet and PCA had sales of more than $30,000,000 with 95 permanent employees. (PCA website history)

In 1995 the Parnell family cashed out of the business by selling PCA and the Parnell's Pride brand name to Morven Partners, a conglomerate owned by billionaire investor John Kluge that purchased a number of peanut processors in the 1990's (AJC Feb 8, 2009). Hugh, Sr. retired from the peanut business and Stewart, Hugh Jr., and Mike stayed on as consultants for Morven. (Washington Post Feb 15, 2009)

From early adulthood Stewart had been exposed to his father's entrepreneurial talent and had been a part of the leadership of a successful family business. He had gained his business experience in the peanut industry and now he had new ideas for developing yet another peanut company. The Gorman plant had been closed by Morven and in 2000 Parnell repurchased the plant, the PCA name, and Parnell's Pride brand name, and proceeded to reopen the plant after resigning his position with Morven.

In 2001 Stewart went into business with David Royster, Jr., a businessperson from Shelby, NC, who had owned and operated a peanut-processing plant in Blakely, GA since 1987. The plant, which had been previously owned by several companies including J.R. Britt Peanut Co., Georgia Food & Nut Processors, and Casey's Food Products, was operating at a loss. (AJC Feb 8 2009) Parnell and Royster formed a partnership to operate the plant as the Peanut Corporation of America Blakely facility, and by 2004 revenue had tripled and the plant was profitable for the first time in 15 years (PCA website history). In early 2009 the facility was processing more than 2.5 million pounds of peanuts each month by blanching, roasting, granulating, salting, and packaging peanuts, as well as making peanut butter and peanut paste. (AJC Feb 8, 2009)

PCA also purchased Tidewater Blanching Corporation in Suffolk, VA., a peanut blanching facility where peanut skins were separated from the nut. At its peak this plant produced annual sales of about $5,000,000. (AJC Feb 8 2009) Parnell and Royster believed that Texas was the gateway to the

West Coast peanut market so they increased the company's presence there by opening a new plant for processing and packaging peanuts in Plainview, TX., subsequently closing the Gorman plant.

Thus, in 2009 PCA had three peanut processing facilities: Peanut Corporation of America in Blakely, GA with about 50 employees where peanuts were blanched, roasted, granulated, salted and packaged, and also where peanut butter and peanut paste were made; Tidewater Blanching Corporation in Suffolk, VA with about 13 employees where peanuts were blanched and the skins removed for further processing at other locations; and Plainview Peanut Company, LLC (PPC) in Plainview, TX with about 30 employees where peanut meal, granulated peanuts and dry roasted peanuts were produced (www.cleveland.com) All of these businesses were managed through PCA's corporate headquarters in the converted garage behind the Parnell home. According to Dun and Bradstreet, PCA did $25,000,000 in sales in 2008 which was up from $15,000,000 in 2005. PCA manufactured about 2.5 percent of the nations' processed peanuts and Stewart Parnell served as a peanut-quality adviser to the U.S. Department of Agriculture. (AJC Feb 8, 2009) "We continue to grow by realizing that quality and freshness of product are what bring our customers back," Stewart Parnell said on the company Web site (AJC Feb 8, 2009).

From the outside, as late as Fall 2008 external measures indicated that PCA was a very successful privately-held business that provided a comfortable lifestyle for several families. The firm had experienced sales growth of more than 66% in the past three years. In just eight years PCA either acquired or built three peanut processing locations. The company had many national brand customers including Kellogg, Sara Lee, and Little Debbie, as well as the U.S. federal government buying for school lunch, disaster relief, and military programs. (Washington Post, Feb 15, 2009) Stewart's appointment to the prestigious national-level position of peanut-quality adviser to the U.S. Department of Agriculture was further evidence of the respect accorded to Parnell and PCA within the industry. On the surface, PCA appeared to be a viable and expanding small business with strong future prospects. Just below the surface, however, brewed suggestions of filthy plant conditions, disregard for the importance of product testing, and an emphasis on earning a fast profit regardless of the consequences.

**The Crisis Erupts**

On November 10, 2008 PulseNet USA, a central database maintained in connection with the Centers for Disease Control that linked health departments in each state and 75 labs nationwide, identified a cluster of 13 genetically identical salmonella Typhimurium cases across 12 states in the U.S.. Two weeks later another cluster of 27 cases in 14 states was identified. Although Typhimurium is a common type of salmonella, these were unusual infection patterns that suggested a common source of contamination for each cluster.

The number of reported cases continued to grow, and by late December 2008 nine genetically identical salmonella cases had been identified in Minnesota. Health officials there were intent on identifying the source of the contamination, and after careful examination they discovered that victims had eaten at two nursing homes and one elementary school. They found that Sysco, a national food distributor, had shipped tubs of King Nut creamy peanut butter to the school and the nursing homes, as well as to Mount Union College in Ohio where some students had been sickened

by the same strain of salmonella. On January 9, 2009 inspectors found salmonella Typhimurium at a nursing home in an open five-pound tub of King Nut peanut butter that had been manufactured by Peanut Corporation of America.

Since the can was open the source of contamination could not be conclusively determined, so federal inspectors paid a surprise visit to PCA's plant in Blakely, GA. They stayed at the plant about two weeks, taking swab tests of inventory, processed products, equipment and also reviewing product testing records. During the inspection production was stopped and PCA subsequently began recalling products. About the same time investigators in Connecticut identified a genetically matching salmonella strain in an unopened tub of King Nut peanut butter produced in Blakely. Since the tub was unopened it was clear that the salmonella had been inside since it was produced. (AJC March 15, 2009)

**The Press Releases**

In a press release dated January 13, 2009 PCA announced the first of what would ultimately become several product recalls. The first was a voluntary recall of peanut butter produced in its Blakely plant on or after July 1, 2008 because it "had the potential to be contaminated with salmonella." It included peanut butter and peanut paste in sizes ranging from five-pound containers in packages of six to containers of 35, 45, and 50 pounds.

The PCA press release stated,

> "The peanut butter being recalled is sold by PCA in bulk packaging to distributors for institutional and food service industry use. It is also sold under the brand name Parnell's Pride to those same industries. Additionally, it is sold by the King Nut Company under the label King Nut. PCA customers who received the recalled product are being notified by telephone and in writing."
>
> *"None of the peanut butter being recalled is sold directly to consumers through retail stores."*
>
> "We deeply regret that this has happened," said Stewart Parnell, owner and president of PCA. "Out of an abundance of caution, we are voluntarily withdrawing this product and contacting our customers. We are taking these actions with the safety of our consumers as our first priority."
> (1/13/09 press release, PCA website).

On January 18 the recall was expanded to include additional lots of peanut butter, peanut paste, pet food paste, and feed grade peanut butter in additional sizes of 475 and 1700 pounds. In this press release Parnell said, "We deeply regret that this product recall has expanded, and our first priority is to protect the health of our customers." (PCA press release 1/18/09).

The recall was further expanded on January 28 to include all of the peanuts and peanut products processed in the PCA Blakely facility since January 1, 2007. Thus all styles and all sizes of peanut

butter, peanut paste, peanut meal, peanut granules and peanuts produced by PCA since 1/1/07 were recalled. The opening paragraph of the press release reiterated

> "PCA sells its products to institutional and industrial users for service in large institutions or for sale and further processing by other companies. PCA does not sell peanuts or peanut products directly to consumers in stores." Parnell said, "We have been devastated by this, and we have been working around the clock with the FDA to ensure any potentially unsafe products are removed from the market immediately...Additionally, we are working alongside state and federal food safety experts in every way we can to help them protect consumers, both now and in the future. We want our customers and consumers to know that PCA is taking extraordinary measures, out of an abundance of caution, to identify and recall all products that have been identified as potential risks." (PCA press release 1/28/09)

Three other press releases, one from the Parnell family and PCA dated January 28 and others from PCA dated January 31 and February 4, 2009 indicated deep regret at the distress the company had caused consumers, their customers and employees and asked for patience to allow the company to investigate further and the opportunity to respond to what they considered "confusing and misleading information in the media." (PCA press release Feb 4, 2009)

A press release dated February 8, 2009 attempted to clarify any confusion that might exist regarding the January 28 press release. Correction was necessary because PCA did, in fact, sell products labeled Casey's, Parnell's Pride, Reggie, and Robinson Crusoe direct to retailers which included 99 Cent Stuff, 99 Cents Only Stores, Dollar General, and Dollar Tree Stores.

PCA's final press release was issued on February 20, 2009 and contained four brief paragraphs with three key points. First, per a Texas Department of State Health Services order all products manufactured by the Plainview plant since its opening in March 2005 were recalled. Second, PCA filed Chapter 7 bankruptcy in U.S. bankruptcy court in Virginia on February 13, 2009, and all of "The firm's assets are currently under the control of a bankruptcy trustee, which impacts the Company's ability to take any actions regarding recalled products that were shipped from its Georgia and Texas plants." (PCA press release dated 2/20/09). Finally, customers of recalled products should no longer contact PCA since the company had filed bankruptcy but should instead contact "the FDA recall coordinators listed at
http://www.fda.gov/oc/opacom/hottopics/salmonellatyph/recallcoordlist.html.". (PCA press release dated 2/20/09)

**Sample Teaching Questions**

1. What did Stewart Parnell intend to convey to consumers when on January 13, 2009 he said "Out of an abundance of caution, we are voluntarily withdrawing this product and contacting our customers"?
2. Do you believe the following statement, also issued by PCA on January 13, 2009, "We are taking these actions with the safety of our consumers as our first priority"? Why or why not?
3. How would you define the extraordinary measures taken by PCA and identified by Stewart Parnell in the January 28, 2009 press release when he said "We want our customers and consumers

to know that PCA is taking extraordinary measures, out of an abundance of caution, to identify and recall all products that have been identified as potential risks."

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**Appendix 1**

"As of 9PM EDT, Monday, April 20, 2009, 714 persons infected with the outbreak strain of *Salmonella* Typhimurium have been reported from 46 states. The number of ill persons identified in each state is as follows: Alabama (2), Arizona (14), Arkansas (6), California (81), Colorado (18), Connecticut (11), Florida (1), Georgia (6), Hawaii (6), Idaho (17), Illinois (12), Indiana (11), Iowa (3), Kansas (2), Kentucky (3), Louisiana (1), Maine (5), Maryland (11), Massachusetts (49), Michigan (38), Minnesota (44), Missouri (15), Mississippi (7), Montana (2), Nebraska (1), New Hampshire (14), New Jersey (24), New York (34), Nevada (7), North Carolina (6), North Dakota (17), Ohio (102), Oklahoma (4), Oregon (15), Pennsylvania (19), Rhode Island (5), South Dakota (4), Tennessee (14), Texas (10), Utah (8), Vermont (4), Virginia (24), Washington (25), West Virginia (2), Wisconsin (5), and Wyoming (2). Additionally, one ill person was reported from Canada."
"Among the persons with confirmed, reported dates available, illnesses began between September 1, 2008 and March 31, 2009. Patients range in age from <1 to 98 years. The median age of patients is 16 years which means that half of ill persons are younger than 16 years. 21% are age <5 years, 17% are >59 years. 48% of patients are female. Among persons with available information, 24% reported being hospitalized. Infection may have contributed to nine deaths: Idaho (1), Minnesota (3), North Carolina (1), Ohio (2), and Virginia (2)." (www.cdc.gov/salmonella/typhimurium/update.html).

# A QUALITATIVE STUDY OF THE EFFECTS OF INFORMATION TECHNOLOGY DEVELOPMENT ON THE EFFICIENCY OF COMPANY FINANCIAL AUDITING IN VIETNAM

**Tran Dinh Sang**
**Vietnam Institute For Trade And Industry Studying**
**Vietnam**
**trandinhsang@gmail.com**

**Pesi Amaria**
**Professor Emeritus**
**pamaria@comcast.net**

**Robert Rabidoux**
**Professor of Accounting & Finance**
**Argosy University**
**rrabidoux@argosy.edu**

**Augustine Enofe**
**Enofe and Associates, LLC**
**augustine@enofe.com**

**Abstract**

In the audit and accounting sector, the implementations of IT as a tool of auditing and accounting still have some restrictions in Vietnam. A qualitative study of the effects of IT development on the efficiency of company financial audits in Vietnam examined four main factors: information security, development of auditing, and accounting software, IT communication networks and the expansion of electronic business. Twenty-five Vietnamese auditors were interviewed. The results revealed that IT has a minimal effect on audit efficiency. There does not appear to be a high level of concern for information security. The development in accounting and auditing software and application focused mostly on updating new policies and presented little difficulties for auditors. The IT communication networks in Vietnam are at a beginning stage of development and are focused mainly with E-mail. E-business is relatively new in Vietnam and expansion has been slow. E-business transactions cannot be completed online due to lack of support by the Vietnamese banking system.

**Keywords:** Vietnam, Financial audits, Efficiency, Information technology

## Introduction

*The overview of audit efficiency and the development of IT in Vietnam*

The accounting system in Vietnam is governed by the Ordinance on Accounting and Statistics 1988 and the Vietnamese Accounting System (VAS), which was introduced in 1995. The VAS is completely regulated and all forms are standardized and controlled by the Ministry of Finance (MOF). The VAS is a reporting system intended to be used by both public and private sector enterprises in Vietnam (Asian Development Bank, 2000; eStandards Forum, 2008). The first two Vietnamese auditing firms

Vietnam Auditing Company (VACO) and Accounting and Auditing Financial Consultancy Service Company (AASC) were established in 1991 in response to the changes in Vietnam economy from a centrally planned to an open market economy (KTC, n. d.). Therefore, professional auditing has evolved over a twenty year span.

According to Duong Quynh Ngoc, Deputy Managing Director of VietSourcing Business Services Co. Ltd., the need for high-quality training in accounting, auditing, and finance has been increasing relentlessly (Vietnam Financial Review, 2007). The April, 2010 report by the Vietnam Association of Certified Public Accountants (VACPA) stated that there are 143 auditing companies in Vietnam, employing 8,000 people in total of which only 1,116 certified auditors. About 55 per cent of the total market revenue (audit fees) is held by auditing companies from abroad including the big four (Vietnam News, April 16, 2010). In a report published by the Vietnam Ministry of Finance, the efficiency of audits in Vietnam was characterized as low and reflects a significant number of material mistakes (VACPA, 2007). The competency of Vietnam auditors is also a problem due to the lack of experienced auditors. Audit efficiency in Vietnam remains an on-going issue and needs more attention from lawmakers, audit firms, and audit clients. Vietnam ranked 108th out of 133 countries for the strength of its auditing and reporting standards in the World Economic Forum's 2009-2010 Global Competitiveness Report (New Zealand Trade & Enterprise, 2010; World Economic Forum, 2009).

Vietnam, although still a developing country, has recognized the intense use of Information Technology globally. The use of this technology has evolved in Vietnam but more slowly than in other parts of the industrialized world. However, in the audit and accounting sector, the implementations of IT as a tool of auditing and accounting has a restricted use in Vietnam. The cost associated with implementation and the limited ability of users to apply this technology in their profession has created serious impediments to the expanded use of IT. As a result of these obstacles, a new IT application is not the first choice for Vietnamese auditors and accountants, but Vietnamese audit firms have access to new IT application in auditing and attestation services, by developing an association with an international audit firm. A limiting factor is the challenges faced by Vietnamese auditors in finding resources to update their skills relative to their ability to utilize the new IT software (Bui Van Mai, 2010).

Although E-business has developed dramatically in many countries, it is still a new concept in Vietnam. Ninety-seven percent of Vietnamese enterprises have yet to implement E-business primarily due to the lack of legislation; and the restrictions posed by the banking system. However, with expansive development of IT in the world, Vietnam will increase their use of E-business in the near future (Hung, 2007).

Vietnam's audit sector continues to be a young and rising market. There remain many concerns involving the efficiency of auditing in Vietnam. However, as Vietnam's audit sector matures, IT and its applications will continue to present opportunities for improving the efficiency of auditing.

**Problem background**

The advantages of IT and its effects on the auditing field remain inconclusive. Some studies (Curtis & Viator, 2001; Rechtman, 2009) suggest that the development of IT could improve the efficiency of auditing by improving the competence of auditors. Rechtman (2009) suggests that auditors who are interested in assessing and evaluating the quality of IT processing, should consider software quality as a primary method of evaluation and assessing control and detection risks within the audit risk assessment process. The debate about the effects of IT on the audit efficiency focus on four main factors of IT: information security, the development of accounting and auditing software, IT communication networks, and the increase of E-business.

Information security has a direct relationship to the audit efficiency by virtue of the quality of financial data and the need for audit data (Singleton & Singleton, 2008). The level of information security plays an important role in the efficiency of auditing. As audit clients continue to shift toward electronic data storage to enhance efficiency, accounting firms will no longer be able to audit around the computer. (Bierstaker, Burnaby, & Thibodeau, 2001). To assess the level of information security, the auditor needs to test it. However, the auditor may encounter difficulties in testing information security such as testing the information control system, and the information security risks (attack of terrorists, hackers, earthquakes, floods and other disasters). These difficulties may increase auditing risks, and force the auditors to change the audit plan such as increasing the sample size, or changing the nature, extend and timing of audit tests. Those effects would reduce the efficiency in auditing.

The dramatic development of IT has created various kinds of accounting and auditing software for implementation into business activities (Rechtman, 2009). The use of software may increase the efficiency of auditing (Paukowits, 1998). However, the development of IT requires that the auditor's IT technology skills and new software need to be kept current by companies to gain efficient use by the update of software. Not meeting these requirements may prove to be detrimental to auditors and their firms by reducing the efficiency of auditing due to the lack of appropriate skill sets and knowledge of specific systems or technologies (Antonucci, Lordi, & Tucker, 1998; Phillips, 2001). Therefore, discussion continues relative to the relationship between the development of accounting and auditing software and the efficiency of auditing.

IT communication network is an important factor that influences the audit efficiency. Auditors should share knowledge and experience to improve their audit competence (Piot, 2007). However, the efficiency of an IT communication network depends on the knowledge, skills, and the willing in sharing of the users (Douglas, 2002; Salisbury, 2003). The issue then becomes how auditors and audit firms could improve the efficiency of an IT communication network to achieve improved audit efficiency.

The development and global acceptance of the internet create a new kind of business commonly referred to as E-business. The capital expenditures of American companies that went into information technology quickly evolved from 5% in the year 1965 to 50% in the year 2000 (Carr, 2003). It changes the economic environment of enterprises and consumers (Hong, 2009). E-business to some users seems much more convenient than the traditional business. The absence of a need to meet face to face has helped to increase the popularity of e-commerce as a way of doing business.

However, the expansion of E-commerce has created new auditing challenges due to E-business creating transactions with digital records (Liu, Ruan, & Li, 2007).

The volume of digital records and its effect on audit efficiency remains a concern. Discussions continue as to the effects of digital records on the audit efficiency. Digital records may reduce the efficiency of auditing due to the difficulty in following the transactions and difficulty in checking the authenticity of transactions (Nearon, 2005). The counter view of auditing e-business is that the digital record may increase the audit efficiency because the accuracy of recording digital data is much higher than that of physical data (Porter & Miller, 1985).
Vietnam is a developing country. The implementation of IT remains limited due to the lack of sufficiently trained IT employees, the traditional working methods and the lack of adequate funding to apply IT in business operations. The audit market continues to develop, however stringent laws and restrictive regulations tend to slow this growth even after twenty years of evolution. The first audit firm started working in Vietnam in 1991 after Vietnam instituted national economic reforms (Asian Development Bank, 2000). The efficiency of auditing in Vietnam has been problematic due to limitations in implementing IT in this new auditing market.

The study on the effects of the development of IT on the efficiency of auditing in Vietnam is necessary to complete in view of the reasons cited above. This research analyzes how information security, the development of accounting and auditing software, IT communication networks, and the expansion of E-business affect the efficiency of auditing in Vietnam.

**Literature Review**

*The Concept of Audit Efficiency*

Fischer and McAllister (1993) stated that audit efficiency is created by the replacement of old by something new. Audit efficiency is created by the reduction or elimination of outdated procedures that were performed in the past. According to this concept, every change or effect that reduces or eliminates some audit procedures would improve the efficiency for auditing.

Concerning audit risks, Robertson and Rouse (1994) stated that the audit efficiency would be reduced when the audit risk is increased. Audit time increases as more audit procedures are necessary to assure the accuracy of the client's financial statement. One may suggest that the time burden renders the audit more inefficient and costly.

In summary, audit efficiency is a measurement of a successful audit. All the factors that improve the dynamics of an audit would improve the efficiency of auditing. In contrast, all factors that restrict the performance of auditing would reduce the efficiency of auditing or audit inefficiency.

*The Concept of IT*

Information technology is a broad concept. IT is not only the software and hardware used to process, store, and transfer information but it includes all information that would be used in organizations and linked with the technology that processes the information (Porter & Millar, 1985).

Pispa and Eriksson (2003) defines the term IT as techniques and facilities designed to enable the transfer, storing, and processing of data. Carr (2003) emphasized on the core functions of IT such as storing, processing, and transporting data. The data was defined as information in a digital form. Carr also considered IT as the latest technology affecting the economy like the steam engine and the railroad had done in the past. The concept of information technology also considers human interaction with the information system, using the information system as a tool and highlighting IT task as examples of the work product (Pispa & Eriksson, 2003).

*The Factors of IT Effect on the Efficiency of Auditing*

Banker, Chang, and Kao (2002) stated that public accounting firms rely on IT for retrieving data, knowledge, and information to gain the efficiency in auditing. Brazel, Agoglia, and Hatfield (2004) stated that the advancement of IT could help the auditors review clients' work papers with no constraint of time and place, reducing costs for the audit firms. IT may help banks increase the audit efficiency by providing more funds through cost reductions for additional audit procedures. Fischer and McAllister (1993) stated that audit efficiency could be improved by applying two types of technology in auditing. Those are (1) technologies that automate existing, established audit procedures, and (2) technologies that introduce new approaches to auditing. Curtis and Viator (2001) found that auditors who understand the transaction flows and the control objectives of electronic data processing (EDP) would reflect a more positive relationship with the efficiency of auditing.

*The Information Security*

IT users are heavily dependent on new application development. This dependency places a primary concern. Audit firms and their clients must face information security risks such as attack of terrorists, hackers, earthquakes, floods and other disasters. Security lapses may lead to the theft of trade secrets and the loss of information (Saint-Germain, 2005, p.60). Weidenmier and Ramamoorti (2006) stated that applying IT in business operations may increase the security of information and also increase the privacy risks because there would have be more information that needs to be stored over time. A survey of chief audit executives (CAEs) and chief information officers (CIOs) of the United Kingdom, Ireland, and Sweden revealed information security as a top concern of the IT risks (McCollum, 2008).

Singleton and Singleton (2008, p.81) stated that there is an inter-relationship between the information security and the financial auditing in detecting errors. Information security has direct effects on the efficiency of financial auditing through their effects on two items: (1) the impact of the information technology on the financial data, and (2) the need of auditors to have reliable data to audit. Information security not only has a direct effect on the data for a financial audit but also for a non-financial audit. To have a safe security protection, the implementation of the internal information security management standard is one of the best outside solutions to protect information security from risks (Saint-Germain, 2005).

*IT Communication Network*

According to the studies of Ramsay (1994), Davidson and Gist (1996), Rich, Solomon, and Trotman (1997), Harding and Trotman (1999), and Murthy and Kerr (2004), there are inconsistencies among auditors and audit teams in the knowledge and experience about the client's environment, industry, business, and operation. These inconsistencies exacerbate the need for the auditors and audit firms to share their knowledge via networks to resolve the challenges of the audit environment (Vera-Munoz, Ho, & Chow, 2006, p.134).

The development of IT increased inter-connectivity and interoperability with the internet (Carr, 2003). With the support of an IT network, auditors can conduct electronic reviews anywhere. It helps auditors to be more flexible, comfortable in their job and increase their efficiency (Brazel, Agoglia, & Hatfield, 2004). IT communication networks is an important factor to improve the efficiency of auditing (Piot, 2007). Porter and Millar (1985) stated that IT can help the "companies to coordinate value activities in far flung geographical locations" (p. 154).

Independent of geographical locations, meetings may be organized with no traveling limitations. Auditors can share their knowledge and experience with others from all over the world. This polling of knowledge and experience might help auditors reduce the frauds and improve the efficiency of auditing. Some studies (Eccles & Gladstone, 1991; Winograd, Gerson, & Berlin, 2000; Zack, 1999a, 1999b) found that an electronic network would help the auditors to more easily share their knowledge, skills, and practice in auditing. Auditors could immediately access the network to review the best studies, surveys, knowledge, and experience associated with resolving their particular audit challenge. The sharing of knowledge is one of the resources of a company that often has an immediate and positive impact on the competitiveness and the value of the company. If the value of the company increases with the knowledge base of their employees as suggested by (Vera-Munoz et al., 2006), then one may argue that audit efficiency would be increased by the improvement of auditor's competence.

However, Douglas (2002) and Salisbury (2003) found that IT is the only network distribution among auditors and audit firms without any guarantee for the success of its application. The success of using an IT sharing network depends on the level of technology and on the competency of auditors and audit firms. IT electronic knowledge sharing network is an efficient solution for the auditors and audit firms in this complex working environment (Vera-Munoz et al., 2006).

*The Expansion of E-Business*

E-business changes the total living environment of enterprises and consumers (Hong, 2009). The concept of e-business can be defined as the combination of digital technology, customer power, and business activities. E-business changes the conventional business paradigm. The buyers and sellers do not need to meet each other to complete the transaction. They can transact business in cyberspace (Chang & Li, 2003). E-business transactions are recorded as digital opposed to document. The development of E-business increases audit risk and expands the testing necessary to review the data. Checking digital evidence is a difficult work. Auditors cannot always depend on the physical document to check the reliability of the digital record. The digital evidence can only be checked by

other digital record. The difficulties in testing the digital record create the barriers to audit efficiency (Nearon, 2005).

The development of IT did change the way that companies record the data from physical evidence to digital evidence. Now, more than 90% of business activities are recorded as digital compared with 5% in 1965. The increase of digital record places a critical task for an auditor when checking the reliability and the authenticity of the digital record. The auditor must have the ability to verify the authenticity and accuracy of the digital record (Nearon, 2005). One of the biggest challenges that the auditor must face in checking the digital record is the possible lack of an audit trail because digital evidence is more easily altered without a trail than physical documents (Retchman, 2009; Nearon, 2005). As opposed with digital evidence, physical documents can easily be checked for changes due to observable ink or pencil erasures (Nearon, 2005).

*The Development of Accounting and Auditing Software*

With the development of IT, a variety of software packages have been created with application to accounting, auditing and attestation. Software is often designed to help companies increase the speed of transactions, operations, and volume of activities in the organization (Smith, 2008). There is a direct relationship between the efficiency of the auditing and the software used. Paukowits (1998) stated that with the development of IT, computer assisted audit tools (CAATs) are widely applied in audit firms. Paukowits research suggests that audits dependent highly on sophisticated software tend to be more efficient in terms of time and accuracy. Companies should avoid software that is unnecessarily complex which tend to be inefficient and expensive (Smith, 2008). In a survey of 60 large organizations by Butter Group LLC, in England, 50% of the enterprise resource planning (ERP) system is not used in the enterprise and end users in the business still find IT to be complex and a big challenge in its use (Saran, 2006).

According to the statement of Gibbs (a senior internal auditor manager with Deloitte in Los Angeles), the clients use of software is not consistent and this inconsistency presents a challenge to auditors. Auditors must be literate in many applications of software and training is a major hurdle for auditing firms (Smith, 2008, p. 46). Antonucci et al. (1998) also stated that auditors working with complex IT must always be the first people to update the development of IT to ensure accurate services and to survivability in the market place (p. 26, 27).

In summary, IT has both advantages and disadvantages in terms of the efficiency of the auditing process. Applying IT may increase the efficiency of auditors in performing the audit process but also may reduce the accuracy and reliability of audit opinions due to the low level of information security. To increase the audit efficiency, auditors need to be mindful of how to gain the advantages of IT in auditing while reducing the disadvantages of IT.

**Research Design**

Qualitative methodology is ideal for this study as the process supports an in depth interview of auditors to find how IT can affect company financial audit efficiency. In addition, the development of IT and the efficiency of auditing are not easy to quantify. Those are salient elements of qualitative

research as Creswell (2008) had stated in his study that "in qualitative research, we identify our participants and sites based on places and people that can best help us understand our central phenomenal" (p.203).

The research relied mainly on telephone interviews. The study used the method of non-probability samplings, "convenience sampling". There were twenty five auditors interviewed for this research. The average age of auditors was 32 years. The youngest was twenty four years old and the oldest was fifty years old. The average of years of experience was 6.5. The average of years in business of audit firms was 9.5. Twenty five auditors interviewed came from twelve audit firms in Vietnam. There were eight auditors working for Big Four Audit Firms. Fifteen auditors were working for other small and medium audit firms, and two auditors were working for State Audit of Vietnam. Four out of twenty five auditors were CEOS of Vietnamese audit firms. The educational background of participants ranges from a bachelor degree to a doctorate degree. Seventy-six percent (19 participants) had bachelor degrees, twenty percent had master degrees and only four percent (one person) had a doctoral degree.

**Findings**

Most auditors agree about the existence of audit risks. However, they also believe that audit risks could be reduced by applying IT in accounting. Errors caused by faulty inputting could be significantly reduced by using the use of accounting software. This finding is similar to the study of Porter and Millar (1985). In addition, when auditing the company using accounting software, the auditors would significantly reduce audit time when compared with not using that software. Some auditors argue that audit risks are not only dependent on IT but also on the users. IT is a tool that requires well trained users to reduce the possibility of creating errors by carelessness. Those (careless) types of errors are not difficult to discover but if well trained users who intentionally commit fraud, audit risks in that event obviously would increase.

The development of IT created a new form of audit referred to as an "IT Audit". The IT audit is a new concept for Vietnam. Most auditors in Vietnam are unfamiliar with this type of audit. Seventeen auditors out of twenty five (68%) indicated that do not have IT audit customers. Eight auditors (32%) answered that the IT audit customers are at a minimal part of their audit business. Similar to the IT audit customer, the IT audit department in audit firms is not fully developed. Twenty-two auditors (88%) responded that their company does not have an IT audit department. Only three auditors (12%) work for companies that have an IT audit function.

*Research Question One*

Research question one asked, "How do the difficulties in testing information security affect the efficiency of auditing in Vietnam?" The auditors were asked three interview questions: the first related to the importance of information security in financial auditing; the second was concerned with the difficulty in testing audit client's information security; and the last questions probed the difficulties that have an adverse affect on audit efficiency.

All auditors answered that information security plays an important role with the financial audits. Concerns about the information security in the customer's company may lead to the cancellation of the audit contract. One auditor stated that he had to cancel an audit contract because of the low level of information security in his customer's company. There is no cross check for each accounting activity.

Most auditors agreed that testing of information security is difficult. Some of the difficulties encountered are inability to test the level of sharing information, failure to use appropriate testing techniques, restrictions in the auditing scope, and customer's deception by providing false information. However, when auditors met difficulties in testing information security, some of them said that they receive the support from their audit firms to complete their audit by using the IT experts. Others indicated that they must use some unusual techniques to complete their test. In general, information security remains a problem in Vietnamese companies. Most of them do not have adequate concerns about information security as some big companies do. Thus, most Vietnamese companies have weak information security. To test information security, the auditor must assess the various management levels. The auditor must test the control system of customers such as determining who would supervise the inputting data. Also, how do they provide supervision when inputting data? Who would supervise the data process and how do they supervise it? Most Vietnamese companies are small and medium in size. Information security does not involve too many people in those companies so testing information security is not difficult.

When auditors were asked about the effects of difficulties in testing information security on the audit efficiency, most auditors answered that the effects are low or unremarkable. These answers were expected since testing information security in Vietnam is easy and IT experts were available as needed. Auditors also agree that the high level of information security contributes to the high reliability and accuracy in the data. If the information security is low, the efficiency of auditing would likewise be low.

In general, information security is an important factor in financial auditing. The higher level of information security in the customer's company may have a resultant higher accuracy in the financial audit. This finding is also similar to the study of Singleton and Singleton (2008). Those authors found that information security has a significant direct relationship with audit efficiency. In Vietnam, information security still does not receive the appropriate concern. This remains a problem. However, most Vietnamese companies are small and medium with small numbers of people involved with information security. Therefore, the difficulties facing Vietnamese auditors in testing information security are low and unremarkable. The effects of difficulties in testing information security on audit efficiency in Vietnam are low and unremarkable.

*Research Question Two*

Research question two asked, "How does the development of software application for accounting and auditing affect the efficiency of auditing?" The development of software applications in accounting and auditing could be generalized as three types of software: professional audit software, applications that substitute for audit software, and accounting software.

Nearly half the interviewees affirmed that their company use audit software and that the software was updated frequently. The rate of using audit software is not higher in Vietnamese audit firms because of two main reasons: The current audit software is not compatible with the accounting software used in Vietnam and the small size of Vietnamese audit firms lacks the capital funds to invest in updated audit software. Some audit firms tried to use updated audit software but it was not useful due to lack of training in its use and less features in the use of the software. The lack of current professional audit software creates disadvantages and more work for Vietnamese auditors. Those interviewees who responded negatively generally used Excel application for auditing. Some auditors had difficulties in migrating from Excel 2003 to Excel 2007 expressing concerns about having to spend valuable time to become familiar with the upgrade.

The second type of software that auditors were asked about was accounting software. Most Vietnamese auditors said that Vietnamese accounting software is simple. Few companies provide accounting software in Vietnam. Some auditors said that the efficiency of Vietnamese accounting software is very low. The software interface is not user friendly and the appearance is of low quality. When asked about their suggestions for good accounting software, Vietnamese auditors stated good accounting software was unavailable for their customers. Vietnamese accounting software suppliers do not seem to make an effort to secure quality accounting software for customers due to lack of competition. Also, they are not motivated to correct software bugs for customers. The reason these difficulties continue is that accounting software suppliers can still sell their product so there is no incentive to spend the time and effort to transform the software into a more professional quality. Some large Vietnamese companies spent significant amounts of money for software but were not satisfied. Overall, updated accounting software is in demand by Vietnamese companies and they are willing to pay for quality. But the problem is good accounting software is not available for purchase. This presents a problem with Vietnamese companies.

When asked about the difficulties that the auditors met when auditing customers with new accounting software, most auditors stated that they just need time to become familiar with the software. It takes little time to learn about the customer's accounting software. Normally, the auditor just needs about half an hour because Vietnamese accounting software is simple and shares basic features among the different types. Only a few auditors felt that it was difficult to understand the software systems but only with non-Vietnamese software. Accounting software is frequently updated. However, most updates reflect new policies that do not pose problems for auditors. Most auditors stated that changing accounting software did not affect audit efficiency. The only issue seems to be time (about one hour) needed to understand the customer's accounting system.

Most auditors agree that the knowledge of an auditor about the client's accounting software has a positive relationship with the efficiency of auditing because the auditor can easily analyze customer's data to identify the errors. In addition, the auditor does not need to spend time to become familiar with the software. The auditor can save this time for other audit tests to improve audit efficiency. However, some auditors stated that knowledge on the accounting software is only one small factor that may affect the audit efficiency. Concerning the accounting software of the customer, the main task of the auditor is to extract the data to transfer to audit software or Excel for final auditing. Therefore, it is not so important to thoroughly understand the customer's accounting software. Also, the audit efficiency depends on many other more important factors such as: the

accuracy of inputting data, the auditor's knowledge on the industry that he is working on, the auditor's ethics, and auditor's experience on other matters (such as finance, financial analysis, accounting, tax, and law). Knowledge of accounting software is not enough. The auditor also needs to know the purpose of the board of managers. By understanding the management goals of managers, auditors may identify the audit risks.

Antonucci, Lordi, and Tucker (1998) stated that auditors must be the first people to update the development of IT to ensure accurate services and survivability in the market place. The effects of changing or updating accounting software to audit efficiency are unremarkable because most Vietnamese accounting software is simple to use. The updates mostly reflect new policies. This finding is opposite with the study of Smith (2008). Smith stated that the different kinds of the business software that the auditor's client used would be a big challenge for the auditor in becoming competent in his understanding of all types of software used by his client. Overall, with the development of IT in software applications support for auditors and accountants, the most difficulty that Vietnamese auditors met is the time to learn new skills and new functions. This is the burden that some studies (Antonucci, Lordi, & Tucker, 1998; Phillips, 2001) also emphasized.

*Research Question Three*

Research question three asked, "How does an IT network affect the efficiency of auditing?" To more fully answer this, the Vietnamese auditors were asked a subset of three questions relating to the audit firm having an IT communication network for sharing the knowledge and experience in auditing, the benefits of IT communication network to users, and the requirements for users to gain the best advantages of IT communication network.

About half the auditors answered that they do not have an IT communication network in their companies. The other half that said they do but only for network email. Only one auditor said his company has a forum for auditors to discuss and share knowledge, experience and policies. When asked further about the way they communicate among members of the audit firm, all auditors answered that they mainly use telephone and email. Some of main reasons that the IT communication networks have not been developing are because most Vietnamese audit firms are small and medium in size, the operating area of Vietnamese audit firms is limited unlike larger audit firms (such as the Big Four Audit Firms), the internet service in Vietnam is largely unavailable except in larger cities, small cities and the countryside lack internet service, funding is lacking for creating and improving IT networks, and the lack of IT infrastructure to support for operating IT network in Vietnam such as electric, telephone, and internet. Some auditors commented that accessing the internet is troublesome even in big cities like Hanoi and Ho Chi Minh City. Some days there is long waiting time just to access their email. In addition, auditors said that the internet connection speed is slow.

When asked about the benefits of an IT communication network, most Vietnamese auditors agreed that IT communication networks are beneficial to users. Auditor may have some of the benefits such as saving time, keeping in contact with each other over long distances, improving their audit competence, and helping the auditor solve his problems. Some auditors commented that time is extremely important with auditors. There are more tasks (tasks at hand and preparing for the future)

than time available to complete them and they feel constrained and pressured. The audit season is only in the first and second quarter of each year, and for the other quarters auditors spend time searching for new customers for the next auditing season.

The top two suggestions of auditors for users to gain the optimal benefits from IT communication network are that they must be enthusiastic in participating in their professional community by posing and answering questions from the network and frequently accessing the network on a daily basis. Most Vietnamese audit firms do not have the time and resources to update the policies by themselves. They usually contract with information agencies for new policy updates. Auditors also frequently access websites of Vietnamese ministries to update information by themselves. The biggest difficulty in using IT communication networks in Vietnam is the weak IT infrastructure. This is the major reason holding back the development of state of the art IT communication networks in Vietnam.

According to the study of Piot (2007), audit network environment is an important factor to improve the efficiency of auditing. This research also found that audit network environment would increase the audit competence and improve the audit efficiency. IT communication network helps auditors to save time and money for updating new policies, skills, and experience. Auditors could update any facet of their job by having access to a modern network. This finding is similar to the findings of several studies (Brazel, Agoglia, & Hatfield, 2004; Eccles & Gladstone, 1991; Winograd, Gerson, & Berlin, 2000; Zack, 1999a, 1999b). These studies stated that auditors with the support of an IT network can easily share and gain knowledge, skills, and practice in auditing.

*Researched Question Four*

Research question four asked, "How does the expansion of E-business affect the efficiency of auditing?" To answer this research question, the auditors were asked a subset of interview questions relating to whether they audited clients who either have E-business transactions or do not, the difficulties that the auditors met in testing E-business transactions and how do these difficulties affect the audit efficiency, and about the effects of expanding E-business on audit efficiency.

A quarter of the interviewees had audited customers who had E-business transactions. The majority of the auditors had not. These answers revealed that E-business is not widespread in Vietnam. The main reason is that Vietnamese banking system does not provide support for financial transactions though some auditors said that E-business transactions would expand in Vietnam in the next few years. Those auditors who audited E-business transactions agreed that they did encounter difficulties in testing the veracity of E-business transactions. E-business transactions in Vietnam are not a complete process since buyers can place the order on-line but they cannot pay online. Payments are made by sending money through money sending services, money orders, cash, checks, or direct deposit money into the seller's bank. Most auditors also agreed that the difficulties in testing E-business transactions affect the audit efficiency. The audit risks may increase due to the difficulties in testing the veracity of E-business transactions. Customers may deceptively create virtual E-business transactions to simulate sales and these are difficult to detect at this time. Therefore, the audit efficiency would be reduced. Most auditors agreed that the audit risks would increase with the increase of E-business. The difficult in testing the veracity of E-business

transactions plus the increase in the volume of E-business transaction would reduce the efficiency of auditing by increasing the risks of audit processes.

*Summary of Findings*

In summary, the main reason why E-business has not expanded in Vietnam is related to the absence of significant involvement from the Vietnamese banking system for online financial transactions. However, this will likely change with the strong development of IT within the Vietnamese banking system as it appears that they will soon offer online payment options to support E-business. E-business will then have a chance to flourish. Vietnamese auditors agreed that the audit risks would increase with this expansion. That may reduce the efficiency of auditing, due to the difficulty in testing the reliability and accuracy of the E-business transactions. The development of E-business ushered in the development of digital records (Liu, Ruan, & Li, 2007). Rechtman (2009) stated that testing the veracity of the digital record is the most challenging audit task. Nearon (2005) also had similar findings. Nearon also stated that the expansion of digital records increased audit risks which may lead to the decrease of the audit efficiency. The difficulty in testing the veracity of the E-business transaction places a crucial requirement for auditors in testing digital records. Auditors must develop the ability to determine the veracity of the digital records (Nearon, 2005).

*The Limitations of the Research*

This research was conducted by telephone interviews with Vietnamese auditors. The unique conditions of Vietnam means the results of the research may not have the same value in other countries. The research was completed by qualitative research with a sample of twenty-five auditors. It is recognized that this sample size may present some limitations in applicability in specific audit firms and with some auditors.

*Implications for the Future Research*

IT and the Vietnam audit sectors are still a developing process in Vietnam. Ongoing studies about the relationship between IT and audit is necessary. Studies about this topic would be useful for the Vietnamese government, audit firms, auditors, and programmers as they are all inter-related. The diversion in responses when interviewing auditors suggests the need for a quantitative approach to study the effects of IT on audit efficiency in Vietnam.

An important topic can be to investigate the effectiveness of IT investment on auditing and accounting in Vietnam. The development of IT will increase the demand for IT audits that are currently at the conceptual stage in Vietnam. Therefore, future studies about the development of IT and its effects on the IT audit will be necessary.

In next few years, the development of IT in auditing and accounting will be more extensive and clearer. Each factor of IT will be more evident and seen with clarity. Therefore, future studies would be wise to study each of four IT factors - information security, development of auditing and accounting software, IT communication networks, and the expansion of electronic business on the audit efficiency and quality in Vietnam. The results of any research would be useful for Vietnamese

users in knowing the reality of Vietnamese audit efficiency and quality so that appropriate changes occur in future.

**Conclusions**

The effects of the development of IT on the efficiency of auditing in Vietnam can be characterized by referencing four main concepts: information security, development of auditing and accounting software, IT communication networks, and the expansion of E-business.

*The Information Security*

The study reveals that the information security has a positive relationship with the accuracy of auditing in Vietnam. Most Vietnamese companies are small and medium size. Information security has involved a limited staff and a minor number of security levels in those companies, therefore testing information security has not been difficult and the effects of the difficulties in testing information security on the audit efficiency in Vietnam are insignificant. Vietnam continues to solve this perplexing problem. It seems apparent that until this issue is voiced by the leaders of business progress will continue to be marginal.

*The Development of Audit and Accounting Software*

The effects of the development of accounting and auditing in Vietnam on the audit efficiency are minimal since most of the development changes are in updating new policies. However, with a small percentage of the change in skills and functions, that would have a negative effect on audit efficiency, because Vietnamese auditors seem to have no time for updating new skills and functions of the software.

The use of professional audit software is not popular in Vietnam. The incompatibility between audit software and accounting software is the biggest restriction in the use of audit software. Excel still remains a main powerful audit tool in Vietnam. However, Vietnamese auditors were still not willing to update the new Excel version because of the time pressure. The development of IT in accounting software is also problematic. Accounting software used in Vietnam has low quality with poor functions. There is a development in accounting software in Vietnam. However, the change mainly focused on updating new policies. The new functions and skills are ignored. Therefore, updating new policies in the accounting software would not have effect on the efficiency of the auditing in Vietnam.

*IT Communication Networks*

In Vietnam, the implementation of IT communication networks in audit firms is at the early stage of the development and has a long way to go. The implementation is mostly in email within the network. Despite this, Vietnamese auditors agree that implementation of IT communication networks would increase the audit efficiency. Some of the main reasons that restrict the development of IT communication networks in Vietnam are the weak IT infrastructure in Vietnam,

the small size of Vietnamese audit firms, the shortage of IT investment capital in Vietnamese audit firms, and the narrow operating geographic scope of Vietnamese audit firms.

*The Expansion of E-Business*

E-business in Vietnam is an emerging concept. The operational infrastructure of E-business in Vietnam is not fully developed. Buyers or sellers only can place orders or offers but they cannot complete the payment on the internet. The lack of support from Vietnamese banking system leads to restrictions in the development of E-business. Due to the underdevelopment of E-business in Vietnam, the effects of the expansion of E-business on audit efficiency of Vietnam are low or unremarkable. However, Vietnamese auditors agreed that the increase of E-business transaction may increase the audit risks due to the difficulties in testing the reliability and accuracy of E-business transactions.

**Recommendations**

The development of IT and its implementation in accounting and auditing will rapidly increase. To improve the audits competence, updating IT skills is an essential goal. Delay in updating auditors' skills will result in severe competitive handicaps for both the individual and their companies.

Vietnamese audit firms should have requirements for their auditors to have the responsibility of maintaining IT professional standards. In addition, audit firms should arrange to send their employees to attend yearly IT training class. Applying the advantages of IT would improve the competence of their auditors swiftly and efficiently. With the latest IT developments in the audit field such as the upgrades of software or applications, the updates should be required for all employees. New versions usually have more useful and efficient functions for users. Therefore, applying new IT may reduce manual audit tasks leaving more time to ensure and improve the accuracy in audit opinions. However, in the beginning stage of applying new IT procedures, the audit process may be adversely affected, because auditors would still be not familiar with the new software. The benefit of upgrading new IT would be seen after that stage.

Vietnamese managers should be committed to implementing IT in their company. The applications of IT should focus on both accounting and management activities. The recommendations of implementing new IT to each process, each department, and each activity should be the first concern of Vietnamese managers, however, cost and benefit of implementing new IT must be thoroughly assessed. That would help Vietnamese companies improve their efficiency of IT investment, and increase their business competitiveness.

The demand for the accounting software and auditing software is increasing in Vietnam which should create an opportunity for leading application software suppliers. The software developers need to involve the participation of customers in the development stage and seriously consider the users suggestions and recommendations. Auditors do not purchase the accounting software but they act as consultants for Vietnamese companies in choosing software. Therefore, involving the participation of auditors in choosing accounting software upgrades ensures intelligent selections and ensures full use of the capabilities of the software.

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# FACTOR ANALYSIS OF INTERN TEACHING EFFECTIVENESS

**Sid T. Womack**
**Department of Curriculum and Instruction**
**Arkansas Tech University**
**Russellville, Arkansas 72801**
**swomack@atu.edu**

**Shellie L. Hanna**
**Department of Health and Physical Education**
**Arkansas Tech University**
**Russellville, Arkansas 72801**
**shanna@atu.edu**

**David Bell**
**Department of Curriculum and Instruction**
**Arkansas Tech University**
**Russellville, Arkansas 72801**
**dbell@atu.edu**

## Abstract

The purpose of the study was to determine the principal factors of effective teaching as measured by a Praxis III-like instrument with university interns. Principal factor analyses of effective teaching appear to be rare. This study helps to answer questions that teacher education programs have asked as to where their program emphases need to be placed. We were examining teacher effectiveness to not only look at program effectiveness, but to learn what determines good, effective teaching. Four factors in teaching intern effectiveness were found among observational data of teaching interns during the 2010 spring semester. Those factors were lesson planning, teacher/student reflection, fairness & safe environment, and professionalism/efficacy. Forty-one percent of effective teaching was found to be in the lesson planning.

**Keywords:** Effective teaching, Supervision, Efficacy, Intern reflection

## Introduction

At our university we are constantly looking for ways to help teacher education candidates improve their teaching. As is probably the case in most teacher education units in the United States, our college of education uses an observation form for assessing teacher intern performance and for giving feedback. When the *Formative Observation and Intervention Form* was created several years ago, it was constructed so that items and domains had a great resemblance to the Pathwise evaluation (ETS, 1996). Accordingly, out of respect for intellectual property rights, we obtained written permission from the Educational Testing Service before beginning to use it with our candidates. This form has become useful not only for assessing intern performance, but also for

identifying the most salient elements of effective teaching. Put another way, "What is *really* being identified as being effective in my teaching?"

Pathwise was developed through Educational Testing Service as an observation system to gather rich, research-based, objective classroom data based on evidence stemming from the effective teaching research (Chan, 1998). The effectiveness of teachers during classroom settings is rated as a category one, category two, or category three, depending upon very specific scoring criteria (ETS, 1996), with a category one denoting an unacceptable level of effectiveness. The assessment of teaching competency is thus a very authentic portrayal of teaching performance since a minimum of subjectivity is employed. In addition to the 19 heavily research-based items related to the Pathwise system, two items were added locally for administrative and pragmatic reasons: one under Domain A to denote total preparedness to teach, and another under Domain D about the candidate meeting professional responsibilities.

The observation form was used to collect data on 21 research-based items of teacher performance. Those 21 areas were grouped into four domains of (A) Organizing Content for Student Learning (B) Creating an Environment for Student Learning (C) Teaching for Student Learning (D) Teacher Professionalism. Since the data obtained using the *Formative Observation and Intervention* form were used to make personnel decisions about candidates, we decided to study it in depth, using candidate data from the Spring Semester of 2010. We felt that we could gain insight into the characteristics of effective teaching in addition to exploring some technical aspects of the instrument by doing this study.

Lesson planning and delivery, when quantified, are correlated and are predictive, but the planning was not causal of the delivery in a correlational study involving 309 university level pre-service teachers in Australia (Dorovolomo, Phan, & Maebuta, J., 2010).

***A Priori* Assumptions**

Factor analysis can be used to test whether initial assumptions about a factor structure of an assessment instrument have empirical validity. Our assumptions were

1. Four factors would be found, corresponding to the four domains of Pathwise;

2. The items that measured those factors would be located within the domain structure suggested by Pathwise.

3. The two items that had been added locally would not "load" (correlate) significantly upon the rest of the factor structure.

4. Decisions about the factor structure would not be based heavily upon the two locally-developed items alone.

**Definitions**

*Domain:* A collection of five or more items on the *Formative Observation and Intervention Form* designed to assess the same construct. The number of items on the form exceeded the minimum

number of three items to create a component (expected factor) as described by Hatcher and Stepanski (p. 460).

*Effective teaching*: An assessment of teaching using the *Formative Observation and Intervention Form* (sometimes referred to as the *form*) which yielded measurements of 2 or above in every one of 21 items on the form. Teaching was not regarded as effective if there was not enough evidence during an observation to support a category of at least a 2 in each and every one of the 21 items.

*Factor:* A mathematical communality with an Eigenvalue of at least 1. On the *Formative Observation and Intervention Form,* a mathematical communality that accounted for at least 1/21st of the variance of the entire 21-item instrument used to measure teacher effectiveness.

*Factor name:* The name given to a collection of items from the *form* identified during the factor analysis process whose items have a statistically significant (P<.01, n=130, one-tailed test; Ferguson p. 494) correlation to the factor and which seem to best typify the construct of the five items most correlated to the factor.

**Purpose of the Study**

The purpose of the study was to confirm or deny the four *a priori* assumptions about the factors suggested by the instrument design.

**Method**

Hatchett and Stepanski (1994, p. 461) state that for factor analysis, the sample size should be the larger of 100 subjects or five times the number of variables being analyzed. Five times 21 items is 105. There were 130 teaching interns in the sample, and 416 teaching observations recorded, so the sample was more than adequate in size to accommodate this type of analysis. Methodologically this study should be considered a "common factor analysis" (Ingram, 2011).

**Participants**

Participants were 63 early childhood, 9 middle level, and 58 secondary education interns, a total of 130 senior intern candidates. They were assigned to school campuses in the Western part of Arkansas, particularly along the I-40 corridor from Morrilton westward to the Arkansas-Oklahoma state line. All were assigned to accredited public schools and in content areas appropriate to their majors and expected licensures. Placement was done through the office of Teacher Education Student Services at the university. All public school and university faculty who participated in any direct way in intern evaluations were made thoroughly familiar with the Pathwise Evaluation System from the Educational Testing Service through professional development experiences provided through the College of Education. The items of the form and their organization into subscales called domains is shown in Table 1. Table 1 also depicts the factor structure anticipated by the creators of the *form* at the time the evaluation instrument was made.

Table 1

*Item specification and split-half reliability for a performance-based assessment of teacher effectiveness.*

| Item | |
|---|---|
| Subscale: Domain A, Organizing Content For Student Learning | |
| A1. | Demonstrates knowledge of students' backgrounds, awareness of diversity in planning lessons |
| A2. | Prepare clear learning objectives appropriate for all students |
| A3. | Connect past, present, future content |
| A4. | Vary methods and materials for learning . . . developmentally appropriate |
| A5. | Align learning goals with assessments . . . systematic, monitoring, diagnostic |
| A6. | Total preparedness for teaching |
| Subscale: Domain B. Creating Environment for Student Learning | |
| B1. | Models and promotes fairness with and among all students |
| B2. | Generates a working rapport with all students |
| B3. | Establishes high realistic expectations for all students |
| B4. | Exercises consistent, appropriate behavior management |
| B5. | Construct safe environment beneficial to learning for all students |
| Domain C: Teaching for Student Learning | |
| C1. | Clear Goals & Instructional Procedures |
| C2. | Makes content Comprehensible, Meaningful Engagements, Connections |
| C3. | Encourage all students to Extend thinking, Questioning, Critical thinking, Creative thinking |
| C4. | Monitor understanding, give specific Feedback, and Adjust for all students |
| C5. | Use instructional time effectively, Effective pacing, Time on Task |
| Domain D: Professionalism | |
| D1. | Reflect on extent of goals met |
| D2. | Initiates modifications, accepts responsibility, efficacy |
| D3. | Build professional relationships, collaborates |
| D4. | Parent/guardian communication |
| D5. | On time, professional appearance, meets deadlines, follows policies |
| Odds-Evens correlation | 0.967, N=416 obs. |

*Note.* Categories for each item were 1=Insufficiently motivated and insufficiently knowledgeable to perform in classrooms unless assisted 2=Sufficiently motivated and knowledgeable to perform and performs adequately appropriately in most classroom situations, meeting most learners' needs 3=Very well motivated, very knowledgeable about performance, and performs capably and flexibly in varied classroom situations with all learners

**Materials and Procedures**

Before interns located to their respective placements, they were briefed about the expectations for the field experience. Early childhood majors and middle level majors enrolled in a 16 week course for 15 and 12 semester hours, respectively; secondary majors enrolled in a nine-semester hour course encompassing a 12-week internship. Secondary majors completed an on-campus course in public school law, history and philosophy of education, and content area reading before beginning their 12-week internship. All interns had completed substantially all of the requirements for their respective majors except for the internship itself.

The *Formative Observation and Intervention Form* was used by campus-based and field-based supervisor for evaluation purposes and to provide feedback to interns. For the purposes of this study, we decided to use the *form* to investigate the factor structure of effective teaching, using data from 130 interns of the spring semester of 2010. It was the intent of the supervisory experience to observe each intern at least four times while the intern was teaching; this occurred in most but not entirely all instances. Prior to this investigation, a previous study utilizing the same data had been done to determine the reliability, validity, and suitability of the *Formative Observation and Intervention Form* in our application of it. Those facets of the f*orm* were believed to be more than adequate (Womack, Hanna, Woodall, & Callaway, 2011).

*Artifact Reliability*

The uncorrected split-half reliability of the Formative Observation and intervention form was 0.976 with 416 usable observations. The standard error of measurement was 2.6 points out of 63 possible points on the entire 21-item instrument. It appeared that the assessment was reliable.

*Artifact validity*

All items on the *form* were mapped to the state's licensing standards and to the Praxis III (Pathwise) assessments. These mappings were recorded on several documents that became part of the teacher education unit's electronic exhibits pursuant to accreditation by the National Council for Accreditation for Teacher Education (NCATE) and by the State.

**Results**

Data from 416 observations of 130 candidates were obtained during the spring semester of 2010. These occurred as faculty or clinical practice instructors completed four cycles of evaluations while observing interns in teaching situations.

*Factor Loading*

The principal purpose of our study was to determine if there were factor loadings on this measure of effective teaching and, if principal factors were found, to determine what those factors were by carefully assigning names to them. Procedure FACTOR of the Statistical Analysis System was used to discover factors, using the suggested prior communality estimate of one and a minimum Eigenvalue of one (Hatcher & Stepanskie, 1994).

Table 2

*Eigenvalues of the Correlation Matrix*

| Factor | Eigenvalue | Difference | Variance accounted for | Cumulative % |
|---|---|---|---|---|
| 1 | 8.63922 | 7.28065 | 41.14 % | 41.14 |
| 2 | 1.35857 | 0.09839 | 6.47 | 47.61 |
| 3 | 1.26018 | 0.21271 | 6.00 | 53.61 |
| 4 | 1.04748 | 0.06676 | 4.99 | 58.60 |
| 5 | 0.98072 | 0.03118 | 4.67 | 63.27 |

N=416 observations from 130 teaching interns.

SAS output indicated that were likely four factors within the observational data from the interns that met those criteria. The fifth factor was shown on Table 2 to show the reader where the Eigen break was. The scree plot was somewhat consonant with that finding while indicating the presence of an initial large factor that accounted for 41 percent of the variance in teaching effectiveness scores (Figure 1).

**Factor Detection**

As Hatcher and Stepanski (1994) and Ingram (2011) indicate, interpretation of factors and of items correlating with factors is subjective. This may seem counter to the appearance of the mathematical precision of the output of a program like PROC FACTOR, but researchers are left to adopt their own criteria for factors and items, given a few suggestions from the statistical literature. We determined that we would recognize a factor if it had an Eigenvalue of at least one, appeared distinct on the scree plot, and accounted for at least five percent of the variance. We determined that we would recognize an item as being associated with a factor if its correlation with a factor reached statistical significance at the .01 level. We planned to name a factor in special consideration of its five greatest correlates (assuming there would be at least five), in view of the *a priori* domains from which the items came, and in view of the language of the items. The number five was chosen because of the original minimum of five items per domain on the *form.*

**Item-factor identification**

Items from the *Formative Observation and Intervention* form were allowed to remain in the factor structure if they correlated significantly (critical r=.230, p<.001) with the factor. Statistical significance is not mandated in factor-naming, but it is a standard that is commonly used. Fifteen items correlated significantly with the first factor (see Table 3), a factor that accounted for 41 percent of the total variance.

Figure 1.

*Scree Plot of Eigenvalues for ratings of teacher intern performance*

Initial Factor Method: Principal Components

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Table 3

*Rotated factor pattern*

| **Factor** | **1 Planning** | **2 Reflection** | **3 Fair/safe** | **4 Professionalism** |
|---|---|---|---|---|
| Items/correlations | A3/0.67 | C3/.77 | B1/.77 | D5/.71 |
| | C4/.66 | D1/.66 | B4/.63 | D3/.64 |
| | A4/.62 | D2/.66 | B5/.54 | D2/.46 |
| | D2/.59 | C5/.51 | A2/.46 | A1/.45 |
| | C1/.57 | D4/.51 | D3/.44 | D4/.42 |
| | C2/.56 | C1/.45 | A5/.39 | A4/.35 |
| | A6/.53 | C2/.44 | B2/.36 | B3/.33 |
| | B2/.51 | B4/.43 | A1/.35 | B2/.29 |
| | B5/.50 | A6/.39 | D2/.39 | A2/.28 |
| | C5/.50 | A5/.35 | A3/.29 | A6/.27 |
| | A5/.47 | C4/.25 | D1/.27 | A3/.27 |
| | A2/.47 | ------* | C5/.24 | D1/.27 |
| | B3/.46 | ------* | --------* | --------* |
| | D4/.45 | ------* | -------* | -------* |
| | A1/.43 | ------* | -------* | --------* |
| | --------* | -------* | -------* | --------* |

* correlation was not significant

**Factor Naming**

The first factor was named "lesson planning." In referencing the correlations to the items on the observation form, two of the top five correlations were with items that dealt very obviously with planning (A2, A5). B3 (challenging learning expectations) usually occur as a result of careful lesson planning. D2 and D4 could be considered extensions of planning in that planning promotes efficacy and a sense of capability in reaching out to parents.

Using the rotated varimax factor pattern, the other three factors were also named. The number of items correlating significantly with the remaining three factors were considerably less. The second factor correlated significantly with items C3, D1, D2, C5, and D4. The second factor was named "Teacher and student reflection" in consideration of the language of the items about teacher reflection on goals met, initiation of modifications for students' needs, and student higher order thinking. The third factor was named "Fairness/safe environment" in view of the language of most of the items of most of the items contributing to its variance. The third factor correlated significantly with items B1, B4, B5, A2, and D3. Three of these are addressed in Domain B, Creating Environment for Student Learning. Domain B was measured during the dynamics of actual instructional events. The fourth factor correlated with items D5, D3, D2, A1, and D4. The fourth factor was named "Professionalism and efficacy" in deference to the predominant language of the items most associated with it—"on time, professional appearance, follows policies . . . builds professional relationships, collaborates . . . accepts responsibility, efficacy . . . reflects on goals met."

In an effort to better visualize which items actually loaded with which factors, we constructed a simple incidence table (Table 4).

Table 4.

*Factors loaded on by each item*

| Item | Factor 1 Planning | Factor 2 Reflection | Factor 3 Fair/safe | Factor 4 Professlsm |
|---|---|---|---|---|
| A1. Awareness of student diversity | X | | X | X |
| A2. Prepare clear learning objectives | X | | X | X |
| A3. Connect past, present, future content | X | | X | X |
| A4. Vary methods/ materials for learning | X | X | | X |
| A5. Align learning goals with assessments | X | X | | X |
| A6. Total preparedness for teaching | X | X | | X |
| B1. Models and promotes fairness | | | X | |
| B2. Rapport with all students | X | | X | X |
| B3. Challenging learning expectations | X | X | | X |
| B4. Consistent behavior management | X | X | | |
| B5. Physical environment, safety | X | | X | |
| C1. Clear goals & instructional procedures | X | X | | |
| C2. Makes content comprehensible | X | X | | |
| C3. Critical thinking, creative thinking | | X | | |
| C4. Teachable moments, monitor & adjust | X | X | | |
| C5. Effective pacing, time on task | X | X | X | |
| D1. Reflect on extent of goals met | | X | X | X |
| D2. Accepts responsibility, efficacy | X | X | X | X |
| D3. Professional relationships collaborates | X | | X | X |
| D4. Parent/guardian communication | X | X | | X |
| D5. On time, prof. appearance, policies | | | | X |

It seemed apparent that items correlated with factors were spread *across* rather than *within* what had been considered *a priori* to be in different domains. We were able to see some inter-relationships that make up the complex task called "teaching." Planning, for instance, touches not only items A1 through A6, but also the rapport that teachers are able to build with students (B2), the framing of challenging learning expectations (B3), planning for physical safety (B5), the making of content comprehensible (C2), and five other items.

**Discussion**

Given the nature of the assessment instrument—one designed to assess effective teaching, with its reliability and validity, this study was not only a study on technical issues, but also on the nature of effective teaching itself, as experienced by these interns. As mentioned earlier, there were three *a*

*priori* assumptions about the factor structure of the instrument that was tested in this factor analysis. They were:

1.Four factors would be found, corresponding to the four domains of Pathwise;

2.The items that measured those factors would be located within the domain structure suggested by Pathwise.

3.The two items that had been added locally would not load significantly upon the rest of the factor structure.

4. Decisions about the factor structure would not be based heavily upon the two locally-developed items alone.

With regard to *assumption one*, four factors were found, but they did not even nearly correspond to the subscales suggested by our Praxis III-like instrument, the *Formative Observation and Intervention* form. Regarding *assumption two*, the items that loaded most heavily on each of the four factors were not all from the respective domains of the *form*—rather they were scattered across several domains. The first and largest factor, that of planning, had item loadings from all four domains. Lesson planning, correlated significantly with 15 of 21 items of our research-based instrument that was designed to assess effective teaching Only in the fourth factor were most of the five most-correlated items from the domains that had been suggested *a priori*.

Regarding the *third assumption* about the two locally developed items—ones that had not been expected to" load" or correlate with the rest of the instrument—item A6 as a reflection of total preparedness to teach a specific lesson was at least significantly correlated to three of the four factors. The locally-added item on Domain D, item D5 about being on time and meeting professional responsibilities, "loaded" on and was significantly correlated on factor four, being the most correlated of the items within the factor. Thus, speaking to the *fourth assumption*, while decisions about the factor structure ended up being related to the two locally-developed items, the data did not suggest that those two items were "out of place" compared to the 19 ETS-based items.

*The value of lesson planning.* Forty-one percent of the variance in effective teaching in our interns was accounted for by lesson planning. That is, before they walk into a classroom and utter the first word of the day, 41 percent of student learning has already been decided by the preparedness or lack thereof of the teacher for that specific moment. Intuitively we in teacher education have emphasized the importance of careful and thorough lesson planning to novice teachers. With the findings of this study, that importance need no longer be one advanced only by intuition. Lesson planning as a significant endeavor goes beyond just deciding which method or which activity to utilize in a lesson; there was little evidence in our findings to promote any particular methodology as a panacea for teaching any or all subjects. Rather, lesson planning touches the eventual method of assessment that students will face, planning for safety in the physical environment, planning for fairness, planning for challenging learning expectations and for higher-order thinking, planning for effective pacing and time on task, and more. Teachers who are constantly prepared for the next day, week, and month of teaching find it easy to approach and interact with parents. It is easier to cultivate rapport with students when "What will I be doing next period?" is not a real concern. For these and other reasons, the value of lesson planning can hardly be overstated.

*The value of reflection and higher-order thinking.* Teacher reflection and student higher order thinking, the second largest factor, accounted for 6.47 percent of the total variance in teacher effectiveness. Reflection enables teachers at all experience levels to gain much more from their experiences than just the initial exposure. Our interns are required to write reflections about the events of each day. The value of higher order thinking for both the teachers and their students is well established in the literature.

*The value of fairness and of a safe-school environment.* Fairness and safe-school environment accounted for 6 percent of the variance in teacher effectiveness. Students need to be treated fairly by teachers and by other students. Students need to be assured that their work will be evaluated fairly by teachers. They also need to be assured that they will not be bullied by classmates. Most states have passed laws during the past decade to deal with bullying. Teachers and administrators should do their part in enforcing those long-overdue laws.

*Professionalism, responsibility, and efficacy.* Professionalism accounted for about 5 percent of the variance in teacher effectiveness. At least two Domain D items loaded on each of the four factors. Professionalism must be part of everything that a teacher does. Professionalism is expressed in the effort level that teachers show in always being prepared for classes. Professionalism is shown in the preparedness that teachers show in adopting and implementing classroom management strategies. Professionalism is shown in the ways that teachers treat other teachers and administrators. Professionalism is shown in the ways that teachers seek interactions with parents.

*Other variance.* About 41 percent of the variance was not accounted for by the model. That variance in teaching effectiveness was scattered among many small categories. With the high reliability and small error of measurement, it was not believed that measurement error was a large factor. Many small but essential behaviors comprise effective teaching. They add in small but incremental ways to the total amount of student learning that takes place.

**Conclusions**

After years of utilizing the *Formative Observation and Intervention Form*, this study helps the observer to be able to have a discussion with interns about the importance of planning. As professionals, we often try to stress this to pre-service teachers without much success. Now we have a number that we can place on what is really important and to what degree planning is important. That number is 41% of their success. This information can help to give concrete evidence to students as well as teachers how important their planning can be.

Knowing what areas make a real difference can also help with planning on the part of the university. It seems crucial to spend time training our pre-service teachers in the skill of planning. Therefore, it is important to spend the time in our courses with specific training on the importance and the methodology in specifically how to plan for teaching.

The values of *teacher reflection* and of *student higher-order thinking* are well established in the literature. When teachers reflect, they are able to “re-experience” a lesson many times over and to learn from both their successes and failures. Students absorb, re-arrange content, and store it in long-term memory in ways that are personal and idiosyncratic to each of them. Reflection and

higher-order thinking should continue to be emphasized, regardless of the grade level of the teachers and students involved.

*Fairness* and *safe-school environment* have arisen as significant factors especially in the past twenty years. Incidents such as those in Jonesboro, Arkansas, Columbine, Colorado, and Virginia Tech have given a heightened awareness of the need to feel secure. Without those feelings of security, higher-order thinking and reflection are not likely to occur (Maslow, in Ormrod, 2004, pp. 432-433). In the past generation, our society has become more aware of bullying and the long-term, negative effects of bullying. Students need to feel safe not only from the forces outside of the classroom, but also from those that are within.

*Professionalism, responsibility, and efficacy* are not only in the interactions with other teachers and parents, it goes much deeper. It involves the teacher caring about their profession. It involves the teacher taking on the responsibility for their students learning. Interestingly enough, without good daily planning, it is nearly impossible for any of this to happen. In conclusion, it all comes back to planning. Without a substantial effort and skill in this area, the intern or teacher cannot effectively establish a classroom of learning that is fair, safe, has higher order thinking, or enables students to grow in a productive manner. We as teacher educators must be prepared to model and teach these skills to our pre-service teachers and to our interns for them to have success and become effective teachers.

**Recommendations**

A recommendation for future research would be to further explore which kinds of planning seem to enhance teacher effectiveness most. It is likely that all forms of planning are not equally productive.

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# EFFECTIVE TEACHING IN ONLINE ENVIRONMENTS

**Irene P Aiken**
**School of Education**
**University of North Carolina at Pembroke**
**Pembroke, NC 28372**

**Abstract**

A different "reality" than face to face instruction, teaching online requires substantially altered means of imparting information, motivating students and engaging students in course content. Online course instructors are typically provided with the technical aspects of posting information for online courses, but are seldom given the proper preparation to otherwise teach in an online environment. The vast majority of instructors must learn effective online teaching methodology through time-consuming trial and error and not without a cost to students. This presentation offers participants specific, research-based (presenter and literature) strategies to engage students through course structure, format, activities, and through open and effective communication.

Vital for all teaching/learning situations, effective communication, a sense of community and student engagement are imperative in online, hybrid and web-enhanced courses. Research clearly indicates that these factors have a marked impact on student involvement in course activities and on course effectiveness. This presentation examines the role of possible teaching online components (such as Wimba, webcams, Elluminate, for example) on the teaching and learning process. The goal is to off-set the more difficult challenges of online learning: feelings of isolation, disconnectedness, and inadequate support through the advantages of online teaching opportunities: constant availability of materials, virtually endless resources, and multiple support mechanisms.

Careful examination of research findings will be reviewed, revealing that all is not as it appears. A growing body of research clearly indicates that course design has a tremendous impact on student involvement in online course activities and, thus, on student learning outcomes. Ideas for designing courses for maximal efficiency will be discussed with a focus on initial "community building," nurturing interdependence, activity selection and structure, and developing safe zones. Some research indicates that implementing webcams or similar "live" devices can aid in student to student connectedness. But users should take caution. These same devices can hinder some responses as it removes some of the feelings of anonymity which can allow for freer speech. One advantage of online course discussions was found to be that a participant's appearance was not a factor in the judgment of his/her ideas. Further, synchronization of class meetings removes the element of flexibility, one of the main reasons students indicate they enroll in online courses. Additionally, synchronized discussions do not allow students to reflect on comments or research ideas prior to responding. Such tools can be used to enhance courses; but careful consideration must be made as to when and how they are utilized. Significant presenter and literature findings related to the online teaching and learning environment will be explored and implications examined.

Participants will: become familiar with current research findings related to online teaching and learning; examine and discuss effective strategies supported by research that promote student engagement in online, hybrid and/or web-enhanced courses; learn about supplemental engagement materials, and their role in the teaching/learning process; have an opportunity to share their own experiences and ideas; and be encouraged to reflect on their own practice. Constructivist methods will be utilized to help audience members to develop and deepen their understandings about teaching and learning in online environments and to reflect on their own practice.

# PREPARING EFFECTIVE TRANSFORMATIONAL SCHOOL LEADERS

**Maribeth Andereck and Daniel Eadens**
**College of Education & Psychology**
**The University of Southern Mississippi**
**Hattiesburg, MS 39406**
**maribeth.andereck@usm.edu, daniel.eadens@usm.edu**

**Abstract**

This presentation uses the redesigning of the M.Ed. program in Administration and Supervision at the University of Southern Mississippi as a vehicle to provide specifics of how to prepare effective transformational school leaders. The redesign committee relied on input from a targeted superintendent advisory board, input from the state department of education, and input from an educational consultant to determine the need to focus on preparing graduates who were skilled in transforming schools rather than simply maintaining them. In addition to input from the field, the most recent ELCC and ISLLC standards were used to create a central focus for the newly redesigned program and its major goals.

This redesigned program provides opportunities for students to explore social and political issues related to school leadership as they learn how to influence the socio-political landscape to promote lasting school improvement and meaningful student success. Additionally, the presentation will describe the connection of the program redesign to Tucker's work, *Standing on the Shoulders of Giants* (2011), Common Core Curriculum, and the need for principal preparation programs to go beyond traditional administrative coursework in developing effective transformational leaders.

The program is delivered in a hybrid format with coursework delivered online and face-to-face. It also includes clinical and field-based experiences in authentic settings. The format provides graduate students opportunities to learn from a variety of mediums by interacting closely with professors, guest lecturers, expert practitioners, and with each other. The design allows students opportunities for multiple activities throughout the program and requires them to demonstrate use of current technological skills and knowledge used daily by current building level administrators and school leaders.

The courses emphasize the need for an understanding and appreciation for diverse populations within school communities. Students gain the ideas, background, context, and specific skills required to assess a school's complex culture and changing climate and to gain deep understanding of specific methods of identifying and building relationships with a myriad of relevant stakeholders within a school's area and community.

The presentation will explain the application of best practices of successful education programs and their application too low-performing schools. The redesigned program specifically reinforces the need to apply knowledge, critical thinking, content, and skills through targeted intense internship

experiences and activities that include working with effective transformation leaders appointed to turn around schools classified as Tier I and Tier II schools in Mississippi.

Topics important in developing a transformational leader:

- Developing a School Profile
- The Importance of Census Data
- School Improvement Grants
- School Recovery Funds
- Flexibility of NCLB
- Transforming Schools by Changing School Cultures
- Social and political issues related to school leadership
- Empowering Stakeholders
- Personal paradigm and vision and its influence on applying effective communication with stakeholders.

The presentation will outline the redesigned program's blocks of courses that promote and transform graduate students from classroom teachers to an informed and effective transformation school leader. Coursework and targeted projects gradually progress in complexity, depth of knowledge, and skill level. Activities include student achievement plans, school improvement plans, strategic plans, and the evaluation of a current recovery plan of a low-performing, Tier I school. Although some aspects of these projects were present within the former Master's program, the newly redesigned program was invigorated with specific in-depth and intense targeted transformational activates that prepare school leaders to transform schools into successful learning systems.

The presentation will be of particular to individuals interested in principal preparation and strategies that promote transformational leadership.

# THE IMPORTANCE OF TEACHING GRADUATE STUDENTS BOTH QUANTITATIVE AND QUALITATIVE METHODOLOGIES

**Mette Baran and Janice E. Jones**
**College of Education**
**Cardinal Stritch University**
**Milwaukee, WI 53217**
**Mlbaran@stritch.edu , Je2jones@stritch.edu**

**Abstract**

A fundamental core of any graduate program is courses in advanced research methods focusing on quantitative and qualitative methods including data analysis and statistics. However, institutions have varied requirements in terms of delivery method and whether or not students are required to be trained in both methods.

The presenters will describe one institution's effort to train its doctoral students to become scholars of both research methods. The intended purpose is to assist new research faculty in developing and teaching similar coursework. While there are both practical and pedagogical challenges involved in effectively designing research methods courses focusing on both quantitative and qualitative methods and training students to become strong researchers in both disciplines, the presenters strongly believes that such an approach generates well-rounded researchers trained to approach a research problem from different viewpoints.

The Doctorate in Leadership program is designed for professionals with present or emerging leadership responsibilities. The program aspires to prepare future practitioners and researchers to develop knowledge, skills, and attitudes for effective leadership. Each doctoral student may choose between two degree tracks: Doctor of Education degree (Ed.D.) or Doctor of Philosophy degree (Ph.D.). Both programs require the same rigid adherence to standards of research methodology. The general distinction between the two degrees is that the Ed.D. is more application-oriented and the Ph.D. is more research-oriented.

Quantitative research allows for large-scale data collection and analysis providing statistical explanations of the data. Horna (1994) notes that "quantitative research designs are characterized by the assumption that human behavior can be explained by what may have termed "social facts", which can be investigated by methodologies that utilize "the deductive logic of the natural sciences" (p. 121). Quantitative investigations look for "distinguishing characteristics, elemental properties and empirical boundaries" (p. 121) and tend to measure "how much", or "how often" (Nau, 1995). The design allows flexibility in the treatment of data, in terms of comparative analyses, statistical analyses, and repeatability of data collection in order to verify reliability; however, it fails to provide any explanation or analysis beyond the descriptive level. Miles and Huberman (1994) state that "quantitative data is more efficient and able to test hypotheses, but may miss contextual detail" (p. 40).

Qualitative research, on the other hand, allows the researchers to gain rich detailed data. It provides a deep, rather than broad, set of knowledge about a particular phenomenon seen through the eyes of the researcher who tends to become subjectively immersed in the subject matter (Miles & Huberman, 1994, p. 40). "Qualitative research, broadly defined, means "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss & Corbin, 1990, p. 17).

Although a distinction is commonly drawn between qualitative and quantitative aspects of scientific investigation, it has been argued that the two go hand in hand. Mixed methodology, blending both qualitative and quantitative research methods, can create an optimal design for many studies. Eisner (1991) points out that all knowledge, including that gained through quantitative research, is referenced in qualities, and that there are many ways to represent our understanding of the world. Qualitative research is often used to gain a general sense of phenomena and to form theories that can be tested using further quantitative research. Jayaratne (1993) argues that qualitative data can support and explicate the meaning of quantitative research.

Both single methodology approaches (qualitative only and quantitative only) have strengths and weaknesses. The combination of methodologies, on the other hand, can focus on their relevant strengths. Nau, (1995), notes that the researcher should aim to achieve the situation where "blending qualitative and quantitative methods of research can produce a final product which can highlight the significant contributions of both" (p. 1). Mixed research strategies are now considered a common and acceptable feature of all good research.

Please contact authors for references.

# EMPIRICAL STUDY OF SYMMETRY CHARACTERISTICS OF U.S. AND EUROPEAN TELECOMMUNICATION COMPANIES' RETURNS

**Alexander Deshkovski**
**School of Business**
**North Carolina Central University**
**Durham, NC 27707**
**adeshkovski@nccu.edu**

**Kofi Amoateng**
**School of Business**
**North Carolina Central University**
**Durham, NC 27707**
**amoateng@nccu.edu**

## Abstract

In this study, we use a model-free test to find asymmetries in positive and negative returns correlations, betas, and covariances between daily returns on Market and Fixed Line Telecommunications or Mobile Telecommunications stocks of American and European companies traded on New York Stock Exchange (NYSE) between Jan.1, 2000 and Dec.31, 2010. We computed conditional betas, correlations, and covariances between daily returns on telecommunication stocks and on market, represented by S&P500 index. We have checked for symmetry of such characteristics using approach developed by Hong, Tu, and Zhou (2006). Our major finding is that there is no large asymmetry in correlation, betas, or covariances. Only few companies, both in America and in Europe, exhibit statistically significant asymmetry in returns' correlation, betas, or covariances. In addition, application of the mutual normality test to the returns reveals that almost all companies have statistically significant deviation from mutually-normal distribution. The results of our study show that investors should not worry about the asymmetry of returns (at least in telecommunication sector), but should take into account the mutually not-normal behavior between stocks and proxies to the market.

## Introduction

The classical theory of portfolio allocation assumes that there is a symmetry in return distribution. It asserts that returns have the same chance to be positive or negative (relative to average return). More than that, the returns are often assumed to be mutually normally distributed. The question of normal or symmetric mutual distribution is important in finance as portfolio allocations are made on investors' beliefs about symmetry of returns. If the returns are not symmetric but investors believe they are, the investors may experience decreases in their utility which are equivalent to several risk-free percentage points (Hong, Tu, and Zhou, 2006). If investors are interested only in the expected return and standard deviation of returns (e.g. utility function is function of just two variables: E(r) and STD(r) ) and they believe in time-independent process, then they will not notice the difference between symmetric and asymmetric multivariable distributions as long as expected returns, standard deviations of individual assets and correlation are the same for different distribution. Thus, whether mutual distribution is symmetric or not may not be important. However, if investors are

interested in higher moments (e.g. have Constant Relative-Risk Aversion (CRRA) utility of end-of-period wealth, disappointment aversion, take into account kurtosis, etc.), then symmetry of the multivariable distribution becomes important. The intuitive rationale behind that result is that when choosing portfolios, investors usually assess expected returns and standard deviations of individual assets as well as correlation between assets. Thus, it is reasonable to compare the importance of symmetry on asset allocation assuming that measured values are the same. If investors' utility is a function of E(r) and STD(r) only, then in order to allocate the resources they need to calculate only expected return of the possible portfolios (which depends upon the expected returns of individual assets -- irrespective whether their mutual distributions are symmetric or not) and standard deviation of the portfolio (which depends upon standard deviations of assets and correlations between them). Assuming all these values are the same, their utility functions will also be the same irrespective of symmetry of mutual distribution. If the utility functions do depend upon higher moments then the utility may differ for symmetric and asymmetric multivariable distributions because they depend on other variables in addition to E(r), STD(r) and CORR(r1,r2).

In the 21st century, savvy investors tend to search not only for best domestic stocks but for the high-performing international stocks in order to diversify their portfolios and reduce risk. Therefore the knowledge of a distribution of their assets will be crucial. The empirical literature on this subject is mixed. Several authors have found the asymmetry in correlation or betas of stock returns, including Conrad, Gultekin and Kaul (1991), Cho and Engle (2000), Bekaert and Wu (2000), Longin and Solnik (2001), Ang and Chen (2002), Bae, Karolyi, and Stulz (2003). Longin and Solnik (2001) using monthly equity index returns for five countries (the United States (U.S.), the United Kingdom, France, Germany, and Japan) find that the distribution of returns is asymmetric and negative tail is not multivariate normally distributed. Ang and Chen (2002) using daily and monthly returns on NYSE, AMEX, or NASDAQ stocks find that the null hypothesis of multivariate normal distribution should be rejected. Also, they find that small stocks, value stocks and past loser stocks have more asymmetric distribution. Ang and Chen (2002) model allows us to measure the asymmetry in conditional correlations based on a specified model. Unfortunately, this test cannot capture the model-free asymmetry in correlations. Furthermore, Hong, Tu, and Zhou (2006) develop a model-free test which allows us to measure asymmetries in correlation, betas, and covariances. They find that out of ten size portfolios grouped out of NYSE/AMEX/NASDAQ stocks the four smallest-size portfolios exhibit statistically significant asymmetry for correlation, betas, and covariances.

The main focus of this study is to find out whether U.S. and European stocks traded for dollars on NYSE have symmetric multivariable distribution characteristics, such as conditional beta, conditional correlation coefficient, and conditional covariance with U.S. market. In the current presentation, we limit ourselves to one industry out of ten defined on NYSE web-site (www.nyse.com). We decided to find the industry with significant portion of stocks from international companies. There are 77 stocks listed in Telecommunication industry on NYSE web-site. Some companies have double listings (e.g. ATT and T), and some stocks are from companies with country of origin on continents not under consideration (e.g. Brazilian, Chinese, etc.). Out of the rest approximately 40% are European stocks and 60% are U.S. stocks. Thus, we have selected the U.S. and European stocks traded on NYSE from Telecommunication industry (Fixed Line Telecommunications or Mobile Telecommunications sectors). Our findings indicate that Telecommunication stocks have symmetric mutual distributions

with few exceptions. We have similar findings for other stocks (much smaller percentage of European stocks) and just few stocks exhibit non-symmetric mutual distribution characteristics.

**Data and Research Methodology**

We employ Hong, Tu and Zhou (2006) statistic to measure the multivariable distribution asymmetry between daily market weighted return and S&P500 return and stock returns for American and European Telecommunication companies traded on NYSE. Daily returns were collected from the Center for Research in Security Prices (CRSP) and from finance.yahoo.com for twenty seven stocks from American and European countries from Jan.1, 2000 to Dec.31, 2010. During the observed period the market experienced a decline from 2001 to 2003 and from 2009 to 2010 and a growth from 2003 to 2007 . We have not controlled for different time-periods in this study, but included all periods into single calculation as it would allow as to check for symmetry in strong bear periods. Prices were adjusted for splits and dividends using the cumulative adjustment factors. Returns were calculated for each stock and markets and used for computing tail correlations and statistics. We have computed mutual distribution with both S&P500 index return and weighted U.S. return as supplied by CRSP and finance.yahoo.com.

**Research Findings**

In order to check the mutual normality of the distribution the H-statistic was used (for details see Ang and Chen (2002), Hong, Tu and Zhou (2006)). The typical result of calculations is given on Figure 1 and 2.

The marked dotted lines represent CORR+ (on the positive side) and the marked dashed line represents CORR- (on the negative side of the picture). The thin solid line represents the correlation in the assumption of mutual normality. The thick solid line shows the unconditional correlation. One can clearly see that the normality is violated. Indeed, the values H are very large. H describes the average deviation of the empirical correlations from the theoretical correlations based on specified model (in our case mutually normal distribution). E.g. the H of weighted_U.S._market -- Hellenik_stock are H+ = 0.30 and H- = 0.32. For all observed stocks values of H were larger than 0.17 which suggests that during the time of observations the stocks were not normally distributed with either S&P 500 or weighted U.S. market.

The other important property of many stocks is the strong correlation with the U.S. market in either positive or negative returns. The correlations at exceedance levels above 1 reach CORR>0.5, which is larger than unconditional correlations. We observe the effect documented in many papers: the stocks are strongly correlated with the U.S. market in either large positive returns and large negative returns. We have similar results for both domestic (U.S.) stocks and international stocks. Even for highly correlated stocks the correlation at exceedance level of 2 or 3 STD should diminish to very low numbers. In this study we observe that the correlation not only large compared to unconditional correlation but also in some cases increases in absolute values. This result suggests that all stocks, including both U.S. and international, are correlated stronger with U.S. market at time of high deviation. Also, it implies that much of the correlation is derived when market and stock make strong moves. There are several possible explanations why international stocks are strongly

correlated with U.S. market. First, most of the investors who trade on NYSE, are mostly from the United States and they perceive fluctuations of the U.S. market and behave accordingly. Second possible explanation is that all markets are interconnected and increasingly becoming integrated globally. The third plausible explanation is that the telecommunication companies have no particular ties with one particular market so they are traded on global market, which is greatly influenced by U.S. market.

The results of our study show that investors should not worry about the asymmetry of returns (at least in telecommunication sector), but should take into account the mutually not-normal behavior between stocks and proxies to the market.

Figure 1.

The marked dotted lines represent CORR+ (on the positive side) and the marked dashed line represents CORR- (on the negative side of the picture). The thin solid line represents the correlation in the assumption of mutual normality. The thick solid line shows the unconditional correlation.

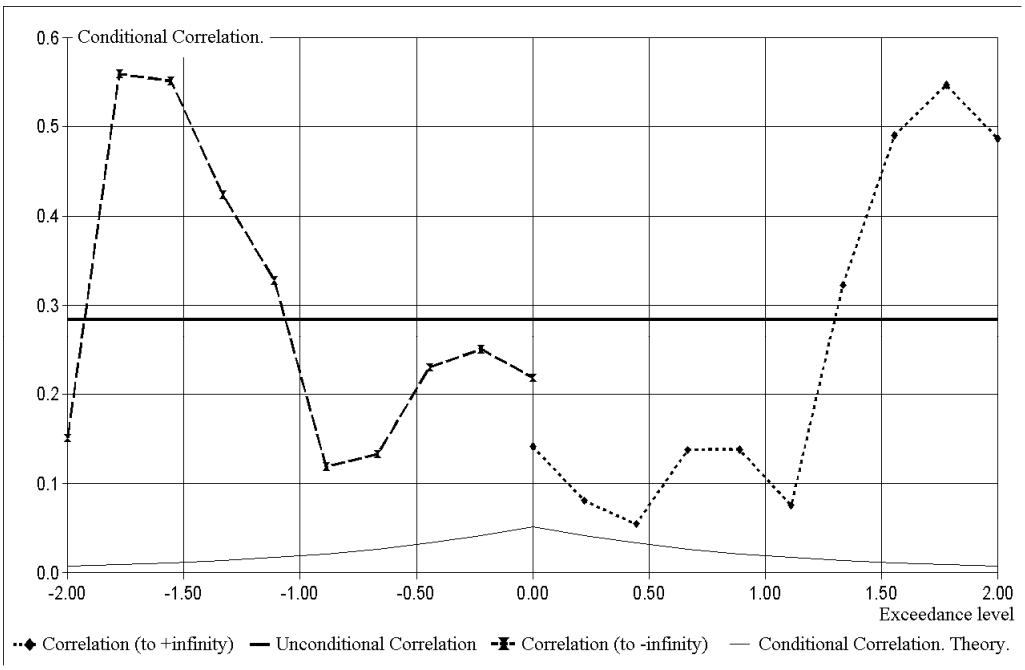
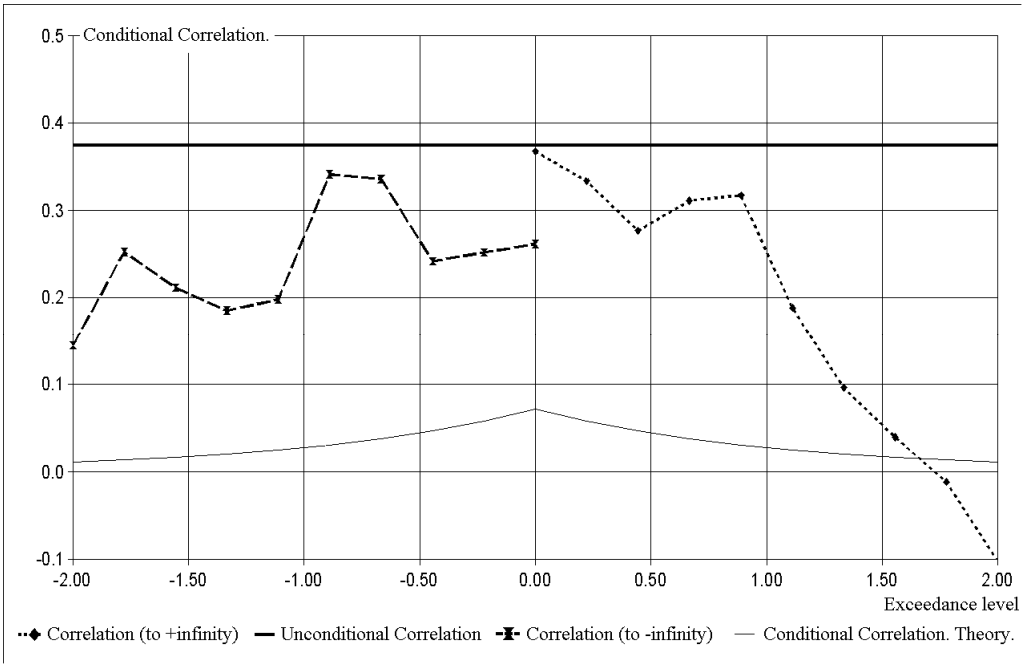


Figure2.
The marked dotted lines represent CORR+ (on the positive side) and the marked dashed line represents CORR- (on the negative side of the picture). The thin solid line represents the correlation in the assumption of mutual normality. The thick solid line shows the unconditional correlation.




**Conclusions and Implications**

In general, investors use their utility function to maximize their return and minimize their risk. If risk is measured not by standard deviation of returns the risk may be strongly susceptible to the symmetry of returns. The question that remains to be resolved is whether the nature of their returns is symmetrical or asymmetrical. The main implication of this study is that the U.S. and European telecommunication stocks have symmetric returns during the observed period. We can generalize the same conclusions for other stocks (although the results are not presented in this presentation).

This study has provided an empirical assessment of the extent and consequences of return asymmetries in global telecommunication companies traded on NYSE. The empirical work focuses on asymmetries with respect to correlation, beta and covariance. We use Hong, Tu, Zhou (2006) model to measure the multivariable distribution asymmetry between daily weighted-market returns or S&P500 return, and stock returns for the United States and European telecommunication companies traded on NYSE. We observe that stock returns are significantly correlated with the U.S. market in either large positive returns or large negative returns. We have similar results for domestic (U.S.) and international stocks. The main implication is that the telecommunication stocks have symmetric returns and that, therefore, savvy investors who are sensitive to the symmetry of returns (who are measuring risk not by a standard deviation of return on the portfolio) may assume that the distribution, beta, and correlations are symmetric. The result allows for welfare gains and risk

reduction for global investors who incorporate the asymmetric characteristics into portfolio decision making.

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# AN EMPIRICAL METHOD FOR TEACHING AND EVALUATING GRADUATE STUDENTS SUPERVISION

**Oliver W. Edwards**
**Department of Educational and Human Sciences**
**University of Central Florida**
**Orlando, Florida 32816**
**owedwards@ucf.edu**

## Abstract

Practicum and internship supervisors participate in the training of school psychology students as the latter learn to administer, score, and interpret individually administered tests. In many cases, the testing skills school psychology students apply have life-altering implications for PK-12 students. The purpose of this paper is to (a) briefly review the implications of individual, standardized testing, (b) describe cognitive load theory as theoretical and conceptual teaching and learning framework that will help supervisors, university faculty, and student examiners better ensure training of examiners and accurate assessment of examinees, and (c) address the importance of using administration and scoring procedure checklists to develop proficiency in testing.

## Objective

In light of the periodic revision of intelligence tests, coupled withexaminers' requirement to learn multiple tests, examiners aresometimes presented with a steep learning curve that may result in systematic errorsadversely affecting examinees' scoresas well as their educational and life outcomes (Loe, Kadulbek, & Marks, 2007). This learning curve may overload inexperienced examiners' cognitive capacity to fluently and efficiently administer and score intelligence tests. The objective of this paper is to highlight cognitive load theory as an empirically sound theoretical framework to guide teaching and learning of assessment skills in school psychology.

## An Empirical Method for Teaching and Evaluating Graduate Students Supervision

According tocognitive load theory (CLT), the human cognitive structure is comprised of general-purpose working memory that is limited to the short-term storage of approximately seven, plus or minus two chunks of information, the capacity to simultaneously process about two or three chunks of information, and practically unlimited long-term memory that holds information stored in schemas or knowledge structures (van Gog, Ericsson, Rikers, & Paas, 2005).These important variables influence inexperienced examiners as their limited working memory capacity could easily be overloaded as they attempt to processmultiple chunks of information simultaneously during test administration and scoring (see Baddeley, 1986).

It is likely that inexperienced examiners will be more adversely affected by the limitations of working memory than experienced examiners because they have yet to develop automaticity in applyingthe necessary test administration competencies. Automaticity refers to the ability to perform tasks with

minimal mental awareness or conscious effort and automaticity helps circumvent the limitations of working memory (Kalyuga & Sweller, 2005).

**Literature Regarding Examiner Errors**

Several studies have been conducted that investigate the administration and scoring errors made by student or inexperienced examiners (Loe et al., 2007; Ramos, Alfonso, & Schermerhorn, 2009). The findings consistently indicate graduate students commit errors in three main categories – administration, computation, and recording errors.Among the three error categories, administration errors were the most common (Loe et al., 2007; Ramos et al., 2009.Unfortunately, none of the studies reviewed offers a theoretical framework to better understand and prevent the errors made by examiners during test administration and scoring.

**Practical Implications of the Framework**

In light of CLT,it is anticipated that inexperienced examiners will make more errors when asked to process multiple pieces of information simultaneously in situations where they have not developed automaticity. Thus, faculty and supervisors of examiners can expect inexperienced examiners to make the majority of errors during test administration where they must understand and apply multiple elements of the testing process. This is supported by historical research that suggests administration errors arethe most common errors are made during testing (see Loe et al., 2007).

Errors committed during scoring and use of tables in the manual for scoring are more likely to be errors associated with lack of attention to details or lack of knowledge due to problems understanding the scoring process. In these circumstances, it may also be the case that ineffective instructional strategies are used to teach the scoring.

**Teaching and Learning Outcomes**

Field-based supervisors and university faculty can use the framework described in this paper to ensure that interns and new practitioners have sufficient experience and specific, deliberate test practice with the instruments they administer. CLT suggests expert performance does not begin without automaticity. Inexperienced examiners tend to be at the point of beginning automaticity when they can review a DVD recording of their testing and use an administration and scoring procedure checklist to identify and indicate how to correct all of their administration and scoring errors.

This paper provides what is perhaps the first theoretical framework for deliberate test practice models in the teachingof testing skills in school psychology. In addition, it introduces CLT as a way of conceptualizing the difficulties inexperienced examiners face when testing. Thus, this framework connects two seemingly independent areas of psychology – individual test administration and scoring as well as cognitive processing in the scholarship of teaching and learning.

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# USING DIGITAL STORYTELLING APPS IN MIDDLE SCHOOL AFTER SCHOOL PROGRAMS

**George Font**
**College of Education**
**James Madison University**
**800 S. Main Street, MSC 5734**
**Harrisonburg, Virginia 22807**
**fontgx@jmu.edu**

**Abstract**

The Information Age requires a unique mix of expertise that involves novel levels of knowledge and applied skills. In a world of global markets, net-linked world citizens, and blended cultural traditions, 21st Century pedagogy demands a fresh set of responses, and alternative learning environments, which by escaping the rule–bound nature of the traditional classroom, works to stimulate student engagement and involvement. As a university reading instructor, my research addresses innovative practices integrating digital literacy resources. This session will address innovative practices using iPads and digital storytelling apps (e.g., Story Kit, iBooks Author, Sonicpics, StoryRobe, etc.) into the literacy curriculum to provide students with opportunities to learn within ever-changing environments. To be fully literate, today's students need the 'know how' to apply new information and communication technologies that affect the new literacies that have emerged: information literacy, technological literacy, scientific literacy, media literacy, cultural literacy, critical literacy, cognitive literacy, and visual literacy. Our best hope for a brighter and more prosperous future is to continue to invest in providing 21st Century literacy education for 'all' children. The capability of digital classrooms to deliver literacy instruction and assessment in a 24/7 format means that learning is no longer confined to exact locations or time frames. Students can interact with classmates and instructors whenever and whenever they choose. Adjusting and adapting to accommodate new circumstances is an essential flexibility, which both faculty and students need to sharpen their skills at using the power of new digital technologies.

# THE FOUNDING FATHERS ON LEADERSHIP

**Darin Gerdes**
**MBA Program**
**Charleston Southern University**
**Charleston, SC 29406**
**dgerdes@csuniv.edu**

**Abstract**

This paper is a review of the American founding fathers' view of leadership as contrasted with the thinking of modern business thinkers. It specifically focuses on the arguments of the founding fathers who designed the U.S. Constitution and those who opposed it. It then compares their understanding of leadership with our current understanding.

Historically, we know that the constitutional convention and ratification debates were consumed in bitter controversy between Federalists like Alexander Hamilton and Anti-federalists such as Patrick Henry. Yet, upon examination, two unexpected themes emerge. First. we find that the founders' basic assumptions were more similar than distinct. That is, in spite of their opposition toward one another, a close reading of the debates shows that their arguments about leadership were grounded in the same base of assumptions. Second, and more interestingly, the founders' view and our modern view of leadership are more dissimilar than similar.

Federalist and Anti-federalist argued from a common worldview even as they predicted vastly different consequences for adopting the U.S. Constitution. Rather than focusing on the constitution or even on the differences between the two groups, this study focuses on the similarities between them. Then, it highlights on the differences between the founders' understanding (Federalist and Anti-federalist) as opposed to our contemporary understanding of leadership.

Politicians attempt to wrap themselves in the flag, quoting which ever founding father will help them further their agenda. They generally fail to grasp the founders' intent as a result of poor hermeneutics. They pick and choose what they quote in order to fit the founders into their particular schema.

Businessmen attempt to cull lessons of leadership from pithy quotes and historical examples. They read books about the founders in order to glean leadership lessons, styling themselves to be another Washington or Jefferson. Each group would likely be surprised by an accurate understanding of the founding fathers' worldview.

This study examined the public documents available during the constitutional convention and ratification debates from 1787-1789 to determine how the framers of the U.S. Constitution understood the leadership. The system that they developed has had staying power for more than 200 years because they argued from a powerfully accurate and advanced psychology rooted in a deep understanding of history.

The study examines the concepts that emerged from the arguments as the framers developed and debated the constitution. The framers dealt with five significant themes: the nature of government, the nature of man, the nature of people, the nature of power, and the nature of society. Each of these themes will be examined through the lens of Anti-federalist and Federalist alike before being contrasted with modern thinking on the matter.

This study is not an exhaustive account of the framers thoughts on these matters. That was the subject of my doctoral dissertation. Rather, it highlights their assumptions, examining the similarities between rivals and the differences between the founders and modern thinking on the subject of leadership. As it turns out, the founders' understanding of leadership is radically different from modern day thinking about leadership.

# EMPOWERING SUSTAINABLE GLOBAL LEADERS THROUGH INTENTIONAL SELF-REFLECTION

**Linda Grooms**
**Regent University**
**Virginia Beach, VA 23464**
**lindgro@regent.edu**

**Abstract**

Hanson (2003) aptly stated that "without linking practice to some theoretical framework, we become random in our behavior, which leads to nowhere fast" (p. xiii). Furthering this concept, Grooms and Reid-Martinez (2011) proposed that "while meeting leaders where they are, developing today's leadership in a global society demands an educational model that enhances leader sustainability" (p. 415). So the question remains: how do we create and empower emerging global leaders in such a fast-paced 21st century society? The purpose of this presentation is to examine one graduate program's intentional effort to prepare students to avoid random behavior and to empower them to be sustainable global leaders by instilling habits of intentional personal reflection that should ideally mirror their professional posture. Through each activity, students are challenged to think critically, question appropriately, apply wisely, and evaluate discerningly with the primary purpose of encouraging intentionality in systematic self-reflection in an effort to sustain leadership empowerment within this global culture. The exercises they encounter challenge them to increase self-awareness, while gaining strength to overcome obstacles to achieve their leadership vision and goals through personal transformation.

# PLANNING FOR VALUE-ADDED: STEPS TOWARD SATISFYING ACCREDITING AGENCIES AND THE GENERAL PUBLIC THAT AN EDUCATIONAL LEADERSHIP PROGRAM IS ACTUALLY WORKING

**John Hanes and Glenn Koonce**
**Regent University**
**Virginia Beach, VA 23464**
**jhanes@regent.edu and glenkoo@regent.edu**

**Abstract**

Stakeholders, including accrediting agencies, students, and their parents, want to have a better understanding that a particular educational program actually works to add value to a student's intellectual and vocational trajectories. Our educational leadership program obtained initial accreditation by supporting status claims concerning our graduates. We now perceive a shift to claims that provide direct evidence for the students' progress attributable to the program itself, a value-added requirement. Our initial steps in this evidence gathering process involve some extensions of our program logic and systems evaluation partnership models. We focus on a licensing examination that our graduates must pass in order to qualify for top-level school positions. Using a slightly modified Solomon Four-Group design, we address internal and external validity issues. This design allows us to deal with the effect of prior exposure to the licensing examination as well as expected differences between randomly selected students in our program and randomly selected from other graduate education programs within the school of education. We also explore different approaches to boost motivation for the licensing examination when a broad range of students are tested. This is necessarily critical to the establishment of value added claims.

# UNDERSTANDING WHEN WRITING MOTIVATES WRITING: AFIRST-PERSON EDUCATION APPROACH

**Asghar Iran-Nejad and Fareed Bordbar**
**College of Edcuation**
**University of Alabama**
**Tuscaloosa, AL 35487**
**airannej@bamaed.ua.edu, fbordbar@crimson.ua.edu**

**Abstract**

In this article, we propose that the prime source of many of the elusive problems of today's education is its 2nd-3rd-person infrastructure. For example, a ubiquitous practice in education is for teachers to assign their student at more or less all levels of education to engage in reflective writing. The implicit goal of this academic exercise is that the learners gather other people's knowledge, reflect on that knowledge with the subgoal of putting that knowledge into their own words, make sure in the process to guard against plagiary, and turn the product to the person who originally made the assignment.

This method seems to work reasonably well for requiring students to construct, internalize, and store knowledge. For educational purposes other than knowledge acquisition, the method does not work so well (Iran-Nejad & Stewart, 2010b). For example, when the method is used for teaching understanding, critical thinking, and motivation, there are just about as many who favor journaling as those who complain that the method is ineffective (Bloom, 1984; Iran-Nejad & Stewart, 2010b; Staib, 2003). For example, there is no evidence that the practice of writing should impact the motivation for writing. We might also consider the possibility that, in principle, the practice of writing itself may be an inherent source of motivation. Therefore, a more likely source of the problem, among others, may be the educational context in which journaling is assigned by educators and practiced by learners. We argue that today's 2nd/3rd-person education infrastructure cannot possibly explain how the practice of writing should increase the intrinsic motivation for writing. On the other hand, the business of feeding learner adult-accumulated knowledge often delivered in the form of boring teacher trivia increases the likelihood of creating boredom.

What makes the existing educational infrastructure unfit for explaining how the practice of writing might increase the intrinsic motivation for writing? Today's 2nd-3rd-person education is learner-handicapping in multiple ways. It is opportunity-consuming rather than opportunity-releasing. It relies too much on learner effort and too little on learner interest. Its focus is invariably on static, and often disembodied, information. And, it coerces learners into internalizing someone else's old knowledge with the possibility of failure.

One possible way out of this problem is to shift to an educational infrastructure in which learners write about their own 1st-person knowledge. The advantage of 1st-person education is that it shifts the focus to multiple-source understanding by encouraging learners to seek their own self-sought and self-sponsored revelations (or insights) and reflect on and savor them by actively interacting

with the right kind of performance learning activities made available by multimedia technology. It is noteworthy that the acquisition of the 2nd-3rd-person knowledge is a vital component of the 1st-person education infrastructure. What is dramatically different is the new light that the 1st-person education infrastructure sheds on how the 2nd/3rd-person knowledge is taught and learned. In other words, the proposed infrastructure provides a different context in which the learning of someone else's knowledge, including scientific knowledge, passes afresh through the same process that learners use to gain their 1st-person knowledge, namely via their 1st-person revelations.

We discuss how 1st-person education is in line with the biofunctional foundations of learning, how it mimics the natural manner in which time-tested evolution has endowed newborn infants and preschool children to enthuse with the richly adaptive world in which they are released upon birth, and how well they are already ready to flex the evolution-tested muscles of their biofunctional endowments to enjoy if they choose to adapt to the miraculous process of writing.

Please contact authors for references.

# AN STSM PERSPECTIVE: INTEGRATING TECHNOLOGY INTO ORGANIZATIONS

**Eric Kisling**
**College of Education**
**East Carolina University**
**Greenville, NC 27858**
**kislinge@ecu.edu**

## An STSM Perspective: Integrating Technology into Organizations

This research presents data on the integration of information technologies into global classrooms and educational settings through successful change interventions using socio-technical systems methodologies. Educators need to understand socio-technical systems methodology (STSM) and how they can apply it to solving institutional needs. This roundtable will discuss how the integration process is achieved successfully and what learners have experienced as a result of these integrations.

The use of technology in educational organizations is constantly increasing. There are many examples of improvements that technology has given to businesses, governments, educational institutions and society. Through the use of socio-technical systems methodology (Kisling, 2006), learning institutions are able to focus on the areas that can enable quick integration and adoption of information technologies. Eason (2001) explains that computers "have enormous potential to transform organizational life" (p. 324). Computers have a huge impact on the way work is done in organizations.

What educators need is an IT change methodology that takes into account the needs of the educational institution and its relationships. This methodology should account for the institution's internal and external environments, its work force, and its work practices. As educational institutions adopt new technology, their environments, their people, and their work practices are affected (Appelbaum, 1997; Eason, 1988). Thus these authors argue that the diffusion of IT innovations should be based on socio-technical systems (STS) methodology.

According to Everett Rogers (2003), "Diffusion is the process in which an innovation is communicated through certain channels over time among the members of a social system" (p. 5). "Effective organizations are those which produce excellent results by any measure of costs, quality, or efficiency while simultaneously enhancing the energy and commitment of organizational members to the success of the enterprise" (Pasmore, 1988, p. 1). What can educators do to integrate information technology into the classroom successfully and make their institutions effective? They can use socio-technical systems methodologies and change agents!

Without considering how the technological change will affect both the educators and students of the institution and their jobs, the technological change ignores any consequences the innovation will have on the culture of the institution and its classrooms. Using socio-technical systems methodology, an educational institution could design a diffusion initiative that considers both the

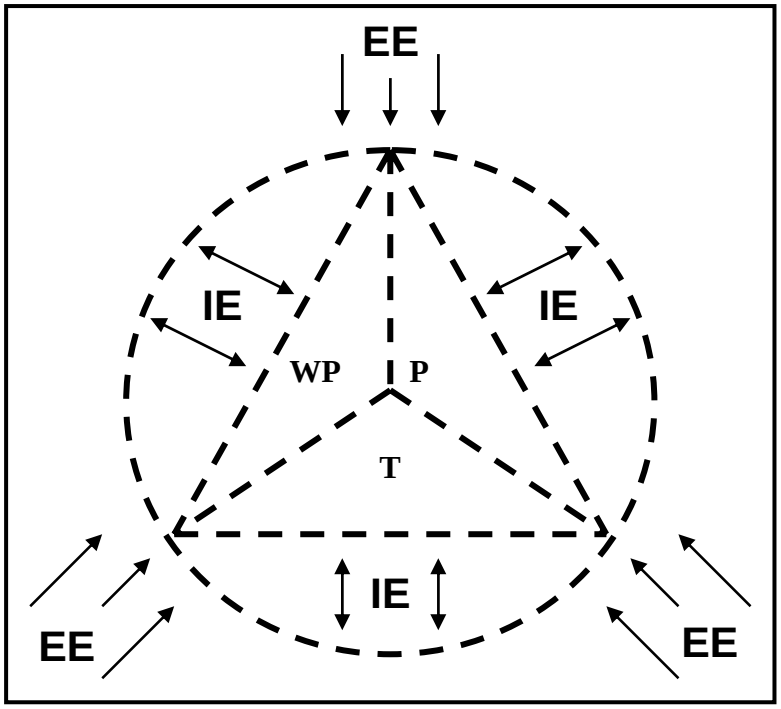


Figure 2. *Socio-Technical Systems Diagram (Kisling, 2006)*

social aspects and the technical aspects of the institution (Appelbaum, 1997). It could also consider the environmental aspects that the diffusion initiative will affect. Bijker (1995) explains that the technology in the institution is socially constructed and the social aspects of the institution are technologically constructed (p. 273). This relationship between technology and the social aspects of the educational institution is important to consider when diffusing IT innovations.

**Socio-technical Systems Methodology**

An educational institution is an open system that can be defined as having at least five distinct sub-systems. They are the social system, the product system (work processes), the technical system, the internal environment, and the external environment. Based upon this view of an educational institution, figure 2 shows the institution with its four internal components and its one external component. Notice that the institution is displayed as a dashed circle comprised of the internal environment, work processes, people, and technology components. All lines in the figure are dashed; this indicates that all five components affect one another. It also illustrates that the institution is an open system. A change in any of the five components will cause (or lead to) changes in the remaining four components.

The internal environment is the physical and cultural aspects of the institution including virtual environments, institutional values, and traditions. The external environment consists of the external forces that affect how the institution operates including its relationship to the community including environmental relations, social relations, goodwill, government regulations, the availability of a knowledgeable student body, and global market forces.

The people include the work and learning roles of each individual, the skills and knowledge that an individual possesses, the patterns of formal and informal communication, and the social relationships with one another. Work practices are the knowledge, skills, and routines for accomplishing specific tasks associated with the work and learning roles for each person in the institution. The technology consists of the technical computation, communication, and multimedia systems which support the other components. Examples of technology tools are:

- Office Applications;
- Virtual Worlds;
- Blogs/wikis;
- Podcasting;
- Internet/intranet; and
- Search Engines.

STS methodology is an informed approach to improving organizations and educational institutions. This improvement can be made in any area, whether the social, technical, or product systems or the internal environment. Based upon this view, STS methodology can be applied to improve the overall competitive advantage of the organization and institution (Kisling, 2006; Pasmore, 1988). This session will focus on the strategies involved in using STSM to implement IT innovations in organizations. Understanding this process will give attendees the strategies necessary to help their organizations become more effective in the area of information technology. This in turn will assist in solving the needs of their respective organizations.

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# WEB X.0: THE FUTURE OF PROBLEM SOLVING IN ONLINE EDUCATION

**Eric Kisling**
**College of Education**
**East Carolina University**
**Greenville, NC 27858**
**kislinge@ecu.edu**

## Web X.0: The Future of Problem Solving in Online Education

The World Wide Web (WWW) is transforming how learning occurs on a global level. The WWW is considered a disruptive technology because it is creating new ways of offering education that is disrupting and overturning the traditional educational methods and practices. According to Harvard professor Clayton Christensen (2003), disruptive technologies change the existing model of how work is done. He explains that these disruptive technologies are typically "simpler, cheaper, and more reliable and convenient than established technologies" (p. 219). Most educational institutions avoid implementing new technologies because of the higher potential risk for failure, the potential of lower performance, or the technologies are cost prohibitive. Because the WWW has become an integral resource for both teachers and learners, one needs to understand how it is changing and how it can be used to enhance the education process. This is why it is important for those in Online education to understand as changes to the way one uses the WWW evolves. As one learns and understands more about how the WWW will affect the way of life, Online educators need to also understand Web X.0's effect on education.

## Personalization, Access, and the Digital Divide!

Web X.0 offers learners the opportunity for personalization on the WWW, access to the WWW, and the avoidance of the technological digital divide. These three opportunities will disrupt the way educators will teach and students will learn. As the WWW evolves, the tools of Web 2.0 will not disappear, but become more focused. Learners and educators will have the opportunity to personalize their online personas and how others view their presence on the WWW. This can be done with various Web 2.0 technologies which may include social media, virtual worlds, and cloud computing. This personalization allows for interaction on the sharing of information with anyone via the WWW (Bodnar, 2011; Gaines, 2011; Karakas, 2009).

Because of this personalization, individuals now have access to more information about more things. The data that flows across the WWW is growing each day. This data is collected and becomes useful as new methods for access are developed. For those able to access this phase of Web X.0, they have the ability to make quick, accurate decisions as the WWW evolves to understand natural languages (Karakas, 2009). This access is important because "more than half of today's teenagers are mobile data users" (p. 23). With this many individuals using data via mobility, the data needs to be accessible. Through online searches via WWW search engines, individuals will be able to obtain more accurate results due to the increase in data that is available (Sanborn, 2008).

The technological digital divide referred to by Web X.0, is the divide between learners and teachers in terms of their ability to use Web X.0 technologies (Morgan, 2011). Learners are being labeled "digital natives" and teachers are being labeled "digital immigrants" who are adapting to the new technologies, but are still behind their technologically astute students (Prensky, 2001). Web X.0 can bridge the digital divide by allowing knowledgeable teachers to use the "digital natives'" tools successfully to drive the learning in the classroom. By diffusing Web X.0 into the curriculum, Online educators will be able to impact the learning environment in a positive manner and close the technological digital divide. In order to understand Web X.0 more fully, one needs to define the various stages of Web X.0.

**The Web X.0s**

**Web 1.0**

Tim Berners-Lee (1999) had a vision that the WWW was a "read/write" environment where a simple programming language called Hypertext Markup Language (HTML) was to be used to both publish and access web pages stored on a web server. While this environment was the playground of technology enthusiast and hobbyist, the WWW did not have collaboration or a social aspect. Web 1.0 was characterized as a medium that allowed the publishing of hypertext documents, multimedia objects, and read-only static websites (Almeida & Lourenco, 2011; Kambil, 2008; Verizon Business, 2010) in an era of low bandwidth, searching for files, and surfing the Internet (Bodnar, 2011). The most succinct definition of Web 1.0 comes from Les Pang (2009) who states, "The Web 1.0 era was characterized by the initial building of the web infrastructure, the posting of mostly static web sites such as personal web pages, and initial efforts by companies to commercialize the Internet such as Yahoo and Amazon" (p. 743). Each of these descriptions point to the fact that during the era of Web 1.0 the WWW was a static environment of individual places that only had words and few multimedia items to be viewed on a web page or in a web site.

**Web 2.0**

In 2004, Tim O'Reilly labeled the wave of innovation that allowed web designers to publish, collaborate and share information content as the new world of Web 2.0 (Pang, 2009). Michael Simkins and Randy Schultz (2010) explain that "Web 2.0 refers to the wide range of easy-to-use tools that now make doing everyday work and communication on the Web practical for anyone" (p. 12). Web 2.0 is made up of many individual tools that have been specifically created for collaborating, creating, and sharing new data on the WWW (Oliver, 2007). These tools are free or nearly free which helped move the WWW from a proprietary web to a freely open web (Diaz, 2010). There was a fundamental shift from Web 1.0 in how the content and its value were socially and collaboratively co-created by users of the WWW (Kambil, 2008). This shift caused the WWW to become a collaborative platform for data access and data distribution at exponential levels. This allowed individuals to contribute content to the WWW, rather than being passive viewers of web materials (Liu & Maddux, 2008, p. 315). Individuals have begun blogging, creating wikis, sharing multimedia, making content available through syndication, creating podcasts and vodcats, and using tagging services to share data across the WWW (Albion, 2008; Anderson, 2007; Olaniran, 2009; Solomon & Schrum, 2007). According to Olaniran, "Web 2.0 allows and provides greater interactivity among users to change and transform static websites into fully interlink technologies, which offer interactive computing platforms where users can create, and use content created by other participants" (p.261). Web 2.0 made the WWW easier for the consumer to use, understand, and

participate in the creation and publishing of data (Verizon Business, 2010). All of the descriptions above involve user manipulation of content and data on the WWW.

**Web 3.0**

According to LinkedIn founder Reid Hoffman, Web 3.0 is all about data (Bodnar, 2011). This data comes from all the activities of users of the WWW who are buying online and participating in virtual meetings, online learning, online gaming, and anything else online that produces data. Web 3.0 is defined as the Semantic Web (Morris, 2011; Ohler, 2008; Sanborn, 2008) which means the WWW is now a place of meaningful data versus the old display-only data. Web 3.0 will produce more precise search results which will drill down to results that are locale to the searcher. This means if one is searching for "the best Chinese restaurant", the search engine will only return the results that are within a 15 mile radius of the searcher unless the search quote is more specific. This is using the data on the WWW in a more useful way which opens up opportunities for users and learners to be more efficient in completing assigned tasks. This also illustrates how one currently interacts with the WWW is changing in a dramatic way.

Jason Ohler (2008) explains that Web 3.0 "makes information more meaningful to people by making it more understandable to machines" (p. 7). Web 3.0 moves data from a static state to a state of meaningful information by tagging the data with descriptors. This will allow users to find relationships between tagged information using inference rules and data organizational tools called "ontologies" that provide logic and structure to the information embedded in web pages (Ohler, 2008). The ultimate goal of Web 3.0 is data integration making Web 3.0 have the opportunity to disrupt the institution-centeredness that exists in educational organizations.

**Web 4.0**

There are several Web 4.0 definitions that are currently circulating the WWW. These definitions point to the virtual world blending into the real world. Web 4.0 is all about connecting people and their objects at any given point in time. It is having the ability to control one's house from anywhere in the world. It is having technology becoming one with the individual (Kambil, 2008). This oneness provides the "ability to connect people and objects anytime, anywhere in the physical and virtual worlds" (p. 57). Web 4.0 is pointing toward a dependency on wireless and cloud based technologies. Web 4.0 will personalize the WWW toward the user. Because of the investment in Web 3.0 and the creation of a more precise profile of the individual user, Web 4.0 will provide an individualized marketing environment leading the individual to the precise stores that one likes based upon their personal WWW profile. If the individual does not like the styles and merchandise, the profile can be updated immediately and that store removed from their profile. The line between the individual and the device will blur and even disappear.

Web 4.0 is in the planning and definition phase as it evolves. Users of the WWW see the potential for more efficiency in their working, educational, and personal lives as technology begins to assist in the decision making process. Online educators can have an impact upon what Web 4.0 will eventually become by being involved in the use and adoption of Web 4.0 abilities in their classrooms and curriculum. They can assist in the planning of the more precise profile for individual users that the WWW is going to require. Web 4.0 is still evolving and the future holds what it will eventually become.

**Conclusion**

The WWW has been going through changes that have had both positive and negative consequences on education. These changes have been labeled Web 1.0, Web 2.0, Web 3.0, and Web 4.0 respectively. The negative consequence is that the day of static web pages and data are over. If one does not change their web sites to interactive and user centered then their presence on the WWW will be limited. Web 2.0 tools have enabled Online educators to use the WWW in their curriculums and make assignments that are related to the real world that students will be entering. Web 3.0 will allow users of the WWW to gain information that is relevant specifically to themselves while using mobile devices to accomplish their tasks. The power of mobility and semantic design for the WWW will allow educators to assign real world problems that students will be asked to solve. Web 3.0 will give them the ability to look at problems differently than those who tried to find solutions in a Web 1.0 or Web 2.0 world. This experience in problem solving will lead to better critical thinking skills. These students will be demanded by employers needing employees with the ability to look at problems in a different way and know how to go about solving the problem. This in turn will allow Online educators to determine futuristic learning skills that future students will need to have in order to be competitive in a global workforce. It is no longer an age of us versus them, but an age of us and them in solving the global problems that are faced today. Online educators can lead the way by showing institutions the power that Web X.0 will have on learners and teachers.

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# GLOBALIZATION AND A CRISIS IN AMERICAN EDUCATION

**Anna Kochan-Wolford**
**College of Education**
**School of Teaching, Learning and Leadership**
**University of Central Florida**
**Orlando, Florida 32816**
**bkochan@mail.ucf.edu**

**Abstract**

This paper critically examines an impact of globalization on the education sector in the United States. It focuses on the intertwined economic and educational policies that can help to revitalize national education. Today, American society is in a deep crisis. US stagnation has been apparent since the 1970s. After a long economic recession of 2008-2010, it has become obvious that the United States lost its position as a world economic superpower. There are many reasons for the fall of an American empire. In my view, the number one reason is the US inability to notice and to react to the new directions of the global economy with a competition shifted from military to knowledge-based. In the new millennium, Americans have failed to adjust national education to new demands of the global economy. After WWII, United States kept investing in the military sector, securing many strategic victories all over the world. For several decades, the military expansion has stimulated an internal economic growth and brought prosperity. However, American policy makers have responded too slowly to our new global realities in which human capital has become more important than physical capital for long term economic development.

Globalization has profoundly changed our political and educational theories and practices. It has caused the inexorable integration of markets and communication technologies. Worldwide, a technological revolution has an effect on teaching and learning. Globalization of education has triggered a heated debate about the new directions of education in a highly competitive global society. The major challenge for American educators is to produce knowledgeable and flexible workers who are able to compete against Asians, European, Australians, and Latin Americans. Today, an expansion and refinement of an education sector (not a military sector) is a key to economic success.

# BUILDING TEAMS AND REDESIGNING HIGHER EDUCATION CURRICULUM

**Jean Krieger, Myron B. Labat, Jr., and Ursula Whitehead**
**College of Education and Psychology**
**The University of Southern Mississippi**
**Hattiesburg, MS 39406**
**Jean.Krieger@usm.edu, Myron.B.Labat@usm.edu, Ursula.Whitehead@usm.edu**

**Abstract**

This session will illuminate how faculty In the Department of Educational Leadership and School Counseling at The University of Southern Mississippi was most recently instrumental in building teams in their redesign efforts of their entire MEd in Educational Administration and Supervision program. The session highlights how distinctly their efforts lead to a unique program to prepare future school leaders for meeting early 21st century educational challenges. Faculty began with the understanding that the former program was to be set aside and the team was challenged to think outside the box to develop a vision for a unique premiere program that would prepare school leaders to become effective transformational leaders. This task was not without challenges. Most of the faculty members implementing USM's redesign were junior faculty. A group of these four visiting assistant professors were hired for one year and were effectively supervised by an interim faculty chair to immediately perform a state mandated redesign for the Master's Degree program.
This presentation will reveal how motivation and teambuilding strategies played a major part in the creation and development of the exceptional new curriculum designed by the team. The theories of motivation and performance were actively employed during the development of the new curriculum. The newest members of the university faculty met systematically and strategically to conduct the redesign. They formed teams that would ultimately be invested in lateral mutual successes with tasks at hand. The interim department chair intentionally scheduled time for teamwork. After compiling base information about work expectations, meetings were scheduled for all participants during which timeline and work expectations were to be accomplished and presented to the larger faculty. Using participative management, preferred outcomes, timelines, and group brainstorming sessions, they deliberated about the most effective ways to accomplish the redesign work. These focused meetings were the design retreats. All participants knew in advance that teamwork would be the focus.

The first task was to brainstorm first steps in a new and innovative curriculum that would satisfy quality standards instituted by accrediting agencies while simultaneously producing graduates who would be prepared to make meaningful and sustainable changes in schools for next generations of children. With looming submission deadlines, participants divided the work into manageable sections so tasks could be shared. They agreed which incremental steps were needed to achieve the goal of innovative curriculum redesign within the given timeline. Team members were able to bring fresh ideas as well as recent P-12 experience to develop a spiraling curriculum heavily grounded in the ELCC and ISLLC Standards. The process was intense as the team developed course goals aligned with state and national standards. Emerging courses were infused with appropriate activities and

readings within the curriculum with emphasis on theory and practice. The session will be of particular interest to higher education faculty who seek to build teams to redesign their graduate programs.

# EMERGENCE OF RETALIATION AS THE MOST FREQUENTLY FILED EEO CHARGE: AN EXPLORATION AND RESEARCH AGENDA

**Mark Kunze**
**Department of Management and Marketing**
**Reginald F. Lewis School of Business**
**Virginia State University**
**Petersburg, VA 23806**
**mkunze@vsu.edu**

**Venkatapparao Mummalaneni**
**Department of Management and Marketing**
**Reginald F. Lewis School of Business**
**Virginia State University**
**Petersburg, VA 23806**
**vmummala@vsu.edu**

**James D. Phillips**
**Department of Management and Marketing**
**Reginald F. Lewis School of Business**
**Virginia State University**
**Petersburg, VA 23806**
**jphillips@vsu.edu**

**Abstract**

In recent literature, researchers claim that complaints of employer retaliation filed with the EEOC have risen dramatically in the last several years, especially since the U.S. Supreme Court expanded the concept of retaliation in their 2006 decision regarding Burlington Northern & Santa Fe Railway Co. v. Sheila White 548 U.S. 53. Moreover, recent data reveal that the numbers of retaliation complaints have replaced racial complaints as the most numerous EEOC complaints filed. The dramatic rise in this type of discrimination complaint has been documented by a number of sources and we believe that it is valuable to examine and diagnose the growth of retaliation claims over the last two decades.

We note that previous research has failed to actually compare of the numbers of retaliation complaints with all other charges. Since retaliation charges now occupy the number one position in terms of percentages, we believe that it is important to begin an examination of these charges in relation to the overall landscape of EEOC complaints. Our research is exploratory in nature and we hope to shed some light on whether or not addressing the potential for retaliation complaints should be the number one concern of employers at this time, or if the worry over the increase in such charges has blurred the total picture.

In our analysis, we demonstrate that while these claims of rapidly rising retaliation charges are true, the data paint an even grimmer picture with respect to the rise in total complaints. Using data obtained from the EEOC we show that in a span of only 4 years, total complaints per thousand

workers have risen from an 18 year low, to an 18 year high as recent as the end of 2010. Causes for this steep increase are suggested based on past research findings, a future research agenda is proposed, and recommendations for reducing employer risk are explored in this paper.
Based on the findings regarding other EEOC complaints, we proposed the following research questions:

R1: Are retaliation charges growing faster than other complaints?
R2: When considered in relation to the number of workers in the workforce, how do retaliation complaints and total complaints compare?
R3: What are the demographic characteristics of the individuals filing retaliation complaints?
R4: What are the organizational characteristics of those organizations that experience the greatest number of retaliation claims.

In order to investigate these questions, we obtained from three sources: the EEOC website; a Freedom of Information Act (FOIA) request to the EEOC for the data that was not available on the website; and the website of the U.S. Bureau of Labor Statistics. We reviewed the growth of retaliation claims over time separately as well as in relation to total (all forms) charges. Data were analyzed with SPSS software. Given the exploratory nature of our research, trends in retaliation charges and complaints to EEOC were charted over a 19-year time period and descriptive statistics were computed to shed light on the research questions we have raised.

Our analysis of this data indicates that while retaliation complaints did indeed grow at a more rapid rate than total complaints (63 % vs. 32%), the highest growth rate is that of disability complaints at 69%, although in terms of total number of complaints per category, retaliation is now the most often filed. Both total complaints and retaliation complaints per thousand workers reached a 19-year low in 2005 with retaliation complaints beginning a rising rate increase in 2006 and all other complaints increasing at an even more steeply rising rate in 2007. The increase in rate began to slow for retaliation in 2008, which caused the total complaint rate to slow somewhat as well, but still remain much steeper than the rate for retaliation.

In terms of individual differences of those filing retaliation complaints, females consistently file the majority of the charges. The percentage of complainants 51 and older has doubled in the last 15 years and the percentage of complainants who are African American has increased while the percentage of complainants who are White has decreased so that the percentages are now quite close at 41.5% and 40.4 % respectively. Interestingly, the percentage of retaliation claims filed by Asians increased from 0 to 2.2% for the 4-year period from 2006 to 2010.

In addition to the above analysis, we also examined the data along the dimensions of institution type and organizational size in order to determine whether these two factors are associated with number of retaliation complaints. Based on our analysis, the greatest percentages of complaints are filed against organizations with either 15 to 100 employees, or those with 501 or more employees. Institutions were categorized as a) private employers, b) state/local govt. c) public college/university, and d) public elem./secondary school. With minor periodic fluctuations, the greatest percentage of retaliation complaints is filed against private employers (>80% since 1996).

In the remainder of our paper, we offer potential explanations for these findings, propose an agenda for future research, and offer some recommendations for employers to reduce their exposure to EEO charges. Based on this preliminary analysis, we believe that while the increase in retaliation charges is cause for concern, the fact that all charges have increased begs the question of whether or not employers should now focus their efforts on prevention of this type of charge.

# A SYSTEMATIC REVIEW OF ECONOMIC EVALUATIONS OF TREATMENTS FOR MENTAL HEALTH DISORDER USING PATIENT REPORTED OUTCOMES

**Matthew Kutch**
**Dicke College of Business Administration**
**Ohio Northern University**
**Ada, OH 45810**
**m-kutch@onu.edu**

**Abstract**

Patient reported outcomes are a burgeoning area of health policy research. In 2004, the National Institutes of Health began an effort to fundamentally change the use of patient reported outcome tools in the evaluation process. These collaborative efforts lead to development of the Patient Reported Outcomes Measurement Information System (PROMIS), a system of highly reliable, precise measures of patient reported health status for physical, mental, and social well-being. The PROMIS domain framework is composed of three components and seven sub-components. The physical health component includes both symptoms and function. The mental health component includes affect, behavior, and cognition. The social health component includes both relationships and functions. These measures have the advantage of comparability across health domains and diseases, reliability and validity, flexibility and inclusiveness of people across literacy, language, and physical function or life course. Currently there are 20 domains and 36 sub-domains included in the PROMIS domain framework. PROMIS has developed patient reported outcomes for both adult and pediatric settings.

A recent, large-scale nationally representative survey estimated the 12-month prevalence for any mental health disorder at over 25% of the adult population (Kessler et al., 2005). Depression is a common mental disorder that can include a depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration. Depression is among the leading causes of disability worldwide. In 2007, a study from the National Institute of Mental Health found each worker in the United States with major depression averaged 27.2 lost workdays per year, producing a combined $44 billion dollar loss of productivity to the United States economy. A 2000 Australian study found that affective and comorbid anxiety-affective disorders were associated with the greatest amount of work impairment. A 2005 study found that diagnosed depression was associated with a 0.49 point decrease in student grade point average while treatment was associated with a protective effect of 0.44 points (Hysenbegasi et al.). Purpose: This presentation will trace the recent developments regarding the use of patient reported outcomes in economic evaluations of common mental health disorders (major depression, anxiety, substance abuse) with a particular focus on those evaluations that account for productivity losses.

Methodology: A systematic literature search was performed to generate a baseline of published economic evaluations that explicitly use patient reported outcomes to compare treatments and programs for common mental health disorders. The focus of this search was on major depression, anxiety, and substance abuse. For those studies identified in this search study design, inclusion and

exclusion criteria, setting, outcomes and costs were recorded where available. Studies that included a primary or secondary diagnosis of mental disorders were considered. This presentation will discuss the strengths and weaknesses of using patient reported outcomes in an economic evaluation of treatments for mental health disorders using past applications. Additionally, this presentation will consider the use of patient reported outcome for the future implementation of a small scale program evaluating the impact of common mental health disorders (depression and anxiety) on university student classroom performance and retention.

# WORKSHOP ON VISUALIZING INFORMATION FOR HIGHER EDUCATION ACCREDITING ORGANIZATIONS

**Hanora O'Sullivan**
**School of Business Administration**
**Marymount University**
**Arlington, Virginia 22207**
**hanora.osullivan@marymount.edu**

**Abstract**

Mandated assurance of learning reports and periodic "self studies" of accredited programs are here to stay. Educational institutions, state and federal laws, as well as regional, international and specialized accrediting agencies all require these reports. Some require a system-wide assessment of program or institutional effectiveness. They all require depth of analysis and some even limit the number of pages you are allowed to submit. Work smarter by crystallizing your data and analysis in visuals rather than endless paragraphs. Using the best advice from accrediting agencies, and quality award programs such as the U.S. national Baldrige program, the author has compiled a set of generic templates that are usable in a variety of report formats. More importantly, there are a series of questions for report writers that will guide them in deciding what can most clearly and persuasively be presented visually. Tips on "lessons learned" and links to examples of best practices will be provided. This presentation is intended for the non-technical person. Graphic design skills are not required. The focus will be on the information the templates contain rather than a how-to-create a visual with technology.

# TEAM FORMATION AS AN EXPERIENTIAL EXERCISE FOR BETTER PROJECT TEAM STRUCTURE

**John Pearlstein**
**School of Business**
**Richard Stockton College**
**Galloway, NJ 08205**
**john.pearlstein@stockton.edu**

**Abstract**

Recent research shows that 50-70% of new firms are started by more than one individual. These successful new ventures are run by passionate teams of entrepreneurs with heterogeneous, yet complementary skills and resources. The process to find, interview, and evaluate, co-founders is a highly interactive activity. Yet in business courses, especially entrepreneurship courses, project team formation is many times left up to students who usually choose friends or individuals who sit near them. An experiential exercise would create better working teams for class projects, and also model for students the formation process in the real world. This presentation provides alternative approaches and offers illustrative classroom exercises.

# CYBER SECURITY BEST POLICY PRACTICES FOR EDUCATIONAL LEADERS

**Richard Phillips**
**Department of Education**
**Delaware State University**
**Dover, DE 19901**
**rphillips@desu.edu**

**Rayton Sinajina**
**Department of Education**
**Delaware State University**
**Dover, DE 19901**
**rsianjina@desu.edu**

**Abstract**

The authors have researched many Educational Organizations across Maryland and Delaware and have developed and tested an instrument to measure cyber practices. The instrument allows district and building administrators to manage policies for cyber tangibles and intangibles. This instrument titled, The Cyber Risk Assessment Profile and Questionnaire is a methodical walk through of an organization's physical and data security policies, allowing a stewardship between the administration and users. This process provides an opportunity for open dialogue to discuss accomplishments, on-going projects and new cyber concerns. According to many administrators, "this process enables educational leaders to better address their exposures and to effectively utilize the cyber securities from best practices provided to educational leaders utilizing the instrument."

In a 2006 CNET News article by Joris Evers titled, Computer crime costs $67 billion, FBI says, "The FBI calculated the price tag by extrapolating results from a survey of 2,066 organizations." When examined closely "the survey found that 1,324 respondents, or 64 percent, suffered a financial loss from computer security incidents over a 12-month period." Furthermore, "viruses, spyware, PC thefts and other computer-related crimes cost U. S. business a staggering $67 billion a year, according to the FBI." While internal and external cyber threats exist in all organizations today, there is a growing need to develop strong cyber security policies that find and identify cyber exposures. This can greatly reduce the risks associated with cyber liability and theft. Cyber exposure can be reduced by understanding an organization's practices and how much weight is placed on data protection. With this in mind a research question was developed. The research question which the study answered was how does an organization examine cyber risks in relationship to cyber exposure? To answer that daunting question the researchers developed and instrument that would measure cyber security risks by examining their existing cyber policies. The cyber risk assessment profile is a tool that asks a series of questions in specific areas of network security and physical security while conducting risk assessments. The questionnaire identifies the organizational practices and identifies the network as being either, *highly restrictive* protecting sensitive financial and personal data, *moderately restrictive* protecting customer data, or an *open environment.* This research allowed the instrument, the cyber risk assessment profile and questionnaire to cover an in-depth examination into 40 educational organizations examining their cyber policies practices. These areas included:

- Acceptable use policies
- Access policies
- Auditing policies
- Authentication policies (SSL, ciphers and encryption)
- Data protection policies.
- Internet policies utilizing filters
- Physical policies
- Privacy policies

The cyber risk assessment profile and questionnaire instrument can assist in hardening the organization's infrastructure while providing administrators with an awareness of security-related issues and the essential skills they need to implement security policies in their organization's network. Additionally, schools and organizations will harden their defenses against network attacks, strengthen firewalls, secure wireless access points, strengthen network configurations, shore up intrusion detection configurations, monitor encryption, certificates, signatures, and other network security policies. These best policy practices were collected from e-business, e-commerce, business and educational institutions. These policies are designed to reduce the risk of current cyber threats to their organization's data. "It is not a matter of whether an attack or loss will occur. It is a matter of when and how much it will cost an organization." The cyber risk assessment profile and questionnaire instrument has four ranges of measurement scores, 40-31 Low Risk, 30-21 Medium Risk, 20-11 High Risk, and 10-0 Very High Risk. A reliability analysis was conducted and reliability coefficients N of Cases = 40.0 N of Items = 30 Alpha = .9355.

The authors have spend many years researching and developing best practices cyber instruments to protect educational and organizational cyber resources from the impending threats.

# RE-IMAGINING HIGHER EDUCATION IN HAITI: WHAT INTERUNIVERSITY COLLABORATION MEANS IN EFFORTS TOWARDS DECENTRALIZING HAITIAN HIGHER EDUCATION INSTITUTIONS AFTER THE 2010 EARTHQUAKE

**Jean Plaisir**
**Borough of Manhattan Community College**
**The City University of New York**
**New York, NY, 10007**
**jplaisir@bmcc.cuny.edu**

There are compelling reasons for re-imagining higher education in Haiti, particularly as one takes a close look at the state of the country's university system after the 2010 earthquake. This paper examines data sets from face-to-face meetings, emails, telephone conferences, site visits and staff development seminars in order to shed light on the processes involved in forging an international cooperation between the City University of New York (CUNY) and three local universities in Haiti within the larger context of bilateral efforts towards improving Haitian higher education institutions, their governance structures, and program offerings. Findings from this inquiry suggest that challenges and opportunities emerge concomitantly in this kind of interuniversity collaboration, while also proffering implications for international cooperation aimed at decentralizing, democratizing, and improving Haiti's university system.

# ACCOMPLISHING VERTICAL AND HORIZONTAL CURRICULUM ALIGNMENT IN HIGHER EDUCATION THROUGH PROGRAM REDESIGN AND ZERO-BASED CURRICULUM DEVELOPMENT

**Thelma J. Roberson and Daniel Eadens**
**College of Education and Psychology**
**The University of Southern Mississippi**
**Hattiesburg, MS 39406**
**Thelma.Roberson@usm.edu, Daniel.Eadens@usm.edu**

**Abstract**

This presentation will explore recent efforts in redesigning a Master's of Education in Administration and Supervision at The University of Southern Mississippi. What makes this avant-garde endeavor unique is that the program Redesign Team set aside the existing curriculum and utilized a zero-based curriculum development approach. This presentation will unpack the redesign process and share insights into the methods and specific techniques of how vertical and horizontal curriculum alignment was successfully attained.

Unlike many curricular endeavors, the Redesign Team chose to approach the work of redesigning a principal preparation program by completely setting aside the existing curriculum rather than modifying the existing program. The team began its work by engaging in frank conversations about the purpose of the program and what principals and school leaders should know and be able to do. These conversations evolved as feedback was solicited from local principals and superintendents who were vital sources of information and who provided validation that program decisions were consistent with the needs of area schools. These informed discussions allowed the group to identify several key elements central to the work of principals. The elements were subsequently aligned with state and national standards and were conceptualized as "pillars" of the redesigned program. The pillars are evident throughout the redesigned program and aid in creating the desired curricular alignment of the program. Topical clusters also emerged and evolved into the actual distinct courses of the program through the curriculum development process.

On unique of feature of the redesigned program is the incorporation of a spiraling curriculum where skills introduced at one level, or course, are directly reinforced and built upon at the next; thus, creating an upward spiraling effect that leads to higher levels of thinking and skill development in subsequent courses. The design reflects a developmental curriculum that moves students from introductory levels into profound depths of knowledge and multifaceted higher-order thinking as they move through the comprehensive program. To that end, courses were carefully sequenced to assist students in their transition from the mindset of a teacher to that of school administrator or educational leader. The program also serves as a bridge between undergraduate and graduate education and dovetails bachelor's level experiences with advanced graduate-level work within the department.

Special attention was given to the rigor and relevance of activities, readings, and assessments to ensure appropriate skill development needed to effectively lead schools and school improvement. A

unique approach was also taken in the selection and use of required textbooks and other readings in that they are not course specific; rather, select readings from each book are aligned with particular standards, program pillars and course goals. This means that instead of having one or more texts required in each class, students have multiple texts that are used throughout the program, i.e., the same text will be used in more than one course with appropriate sections assigned for each. True to the spiraling nature of the curriculum, texts assigned at the beginning of the program are revisited and read throughout the redesigned program.

Additionally, clinical exercises and experiences were extensively modified, threaded, and interwoven throughout the entire program. Topics introduced through the coursework have corresponding activities completed in the field. The internship was redesigned to be extended across an entire academic full year (three semesters) and mirrors the curriculum's design. This unique practicum experience reflects a commitment to authentic assessment which is closely aligned with leadership responsibilities along the entire scope and sequence of the redesigned program.

This presentation will identify the clear and specific steps and processes that can be replicated and generalized into other content areas to more easily achieve a commendable and relevant curricular program. The end product can lead to a laudable standards-based curriculum which is credibly aligned, vertically and horizontally. This valuable presentation will be interesting and appealing particularly to higher education faculty who are contemplating program redesign, but are not quite sure exactly how to achieve it.

# TRANSITIONING FROM OLD TO NEW ELCC STANDARD: A COMPARISON OF 2001 AND 2011 STANDARDS AND TIPS FOR COMPLIANCE

**Thelma J. Roberson and Ursula Whitehead**
**College of Education and Psychology**
**The University of Southern Mississippi**
**Hattiesburg, MS 39406**
**thelma.roberson@usm.edu, ursula.whitehead@usm.edu**

**Abstract**

The National Council for Accreditation of Teacher Education (NCATE) is the largest accrediting body for educator preparation programs in the United States. NCATE exists to provide a mechanism to ensure high quality teacher, education specialists and school administrator preparation programs. To accomplish this goal, NCATE works with Specialized Professional Associations (SPAs) that establish professional standards that guide the development and assessment of specialized programs in education. The Educational Leadership Constituent Council (ELCC) is the SPA for principal preparation programs. ELCC members include: American Association of School Administrators (AASA); Association for Supervision and Curriculum Development (ASCD); National Association of Elementary School Principals (NAESP); and National Association of Secondary School Principals (NASSP). ELCC is currently housed with NASSP.

In 2011 ELCC released revised Standards for Advanced Programs in Educational Leadership. Principal preparation programs seeking NCATE accreditation will be required to implement the new standards beginning spring 2013. There are standards for building-level educational leaders, e.g., principals, and standards for district-level educational leaders, e.g., superintendents. Although the number of standards did not change, they were modified and additional substandards were added. Some changes are subtle such as changing the term “candidates” to “building-level education leaders” or “district-level education leaders” in the seven overriding standards. Some changes are more significant and will have a greater impact on educational leadership programs. For instance, there is a much greater focus in the substandards on the educational leaders’ ability to collect and analyze data. True to the charge given to the *ELCC Standards Technical Advisory Committee* that drafted the new standards, the 2011 standards articulate measurable outcomes and are much more prescriptive in nature. For example:

Substandard 2.1 (2001)
Promote a positive school culture.

Substandard 2.1 (2011)
Candidates understand and can sustain a school culture and instructional program conducive to student learning through collaboration, trust, and a personalized learning environment with high expectations for students.

Substandard 7.2 (2011) Sustained Internship Experience: Candidates are provided a six-month, concentrated (9–12 hours per week) internship that includes field experiences within a school-based environment.

Previously, the standards (7.1-7.3) called for an internship that was substantial, sustained and standards based. There was flexibility in how each program conceptualized the internship. However, the new standards more narrowly define the parameters of the internship by duration and concentration of time.

Such changes will likely require programs to modify existing courses and assessments to ensure compliance. Most programs will also have to modify and expand the structure of the internship which may be challenging for some programs where students remain employed during the semesters they are also engaged in an internship experience.

The purpose of this presentation is to compare the old and new standards, explore specific changes in the standards and examine strategies to effectively address the new standards. Attendees will also be provided a copy of a matrix that includes side-by-side comparisons which will aid program planners in moving their programs and assessments towards full compliance.

# THE ROLE OF COMMUNICATION AND MENTORING IN VIRTUAL LEARNING ENVIRONMENTS FOR LEADERSHIP DEVELOPMENT

**Tera Simmons**
**Butler County Schools**
**tera.simmons@butlerco.k12.al.us**

**Abstract**

This presentation will address the role of communication and mentoring in virtual learning environments for leadership development at the doctoral level. To gain greater insight into the effect of faculty-student interaction on the learning process as it relates to leadership mentoring and student success, this research focused on mentoring functions in an online program. While basing the work on the assumption of the correlation between communication, interaction, and relationship development between mentor and mentee, this researcher's findings indicated an important mix of communication and interaction needed in online programs. Using Cohen's (1993) model of mentoring functions, analysis of the effect faculty-student interaction had on the relationship between mentoring and student success revealed that interaction and communication were most significant when delineating each of the specific functions, while not with the overall construct of mentoring. These findings demand deeper understanding of communication's role within Cohen's mentoring behavioral functions in contemporary technology-driven instructional environments.

# ONE SCHOOL CHOICE PROPOSAL

**George Henry Stainback**
**Neff Center for Teacher Education**
**Emory and Henry College**
**Emory, VA 24327**
**ghstain@ehc.edu**

**Abstract**

Voucher enabling parents school choice and being advocated mostly by people with no or very little public school experience as a way to improve K-12 education and /or public schools. Many in the public school community question the motivation, public schools experience and knowledge of these advocates for school vouchers. This article looks at the disadvantages and advantages of school vouchers and concludes that public school supporters school consider school vouchers.

Vouchers enabling parents' school choice are being advocated mostly by people with no or very little public school experience as a way to improve K-12 education and/or public schools. Many in the public school community question the motivation, public schools experience and knowledge of these advocates for school vouchers.

I am a strong advocate for public education, however as a person with many years of experience as a student and professional educator in both public and private education, I hope to convey to my public school friends why we should support experiments with vouchers. As in most hotly debated issues of public policy, there are two sides to the voucher question. I believe the proponents and opponents of vouchers have failed to consider both sides of the issue. In this article, I hope to spell out some advantages and disadvantages of school vouchers and then give an analysis of why public school supporters should support school voucher programs.

I believe there are several reasons for supporting school vouchers:

1.) We live in a society of more choices in most areas of life. The education of our children is quickly becoming one of the few areas of life where a choice for the poor is almost non-existent.
2.) Competition for the students may improve public education. It certainly is worth trying. I have noticed over the years that public school teachers that depend on enrollment in elective courses to keep their jobs tend to do the little extras that keep the students coming.
3.) Parents are already exercising choices in education. Many parents with means are moving to the public school district of their choice or private school. Schools are already becoming more segregated by socio-economic status. Could vouchers actually be used to reverse this trend? (See my proposal later)
4.) As parents and students have more choices in education, it may increase financial support for public education. Voucher handled in the right way might give just about everyone a reason to support public education. It would take many of the excuses for not supporting

public education away from the anti-public education group. If eventually all parents were receiving a benefit, would this increase public financial support for education?

5.) Choices may moderate the aspects of the testing and accountability movement that many consider harmful to students and teachers. Choice itself would provide substantial accountability.
6.) Voucher could be implemented in ways to encourage schools to accept and help the at risk poor student. If at risk poor students are failing in public schools, they deserve a chance to change schools. (See my proposal below)
7.) School choice through vouchers may moderate the constant criticism of public education. Public schools may not be able to survive the avalanche of criticism directed to them today from mostly well meaning, but usually ill informed critics of public education.
8.) Parents generally know what is best for their children and should be in a position to do what is best for them. Sometimes educators and social workers forget this basic principle.

I believe some reasons for opposing the school vouchers movement are:

1.) Public Schools have been the unifying element in our democratic society. It has been a common experience that has held us together as a people.
2.) Vouchers, as presently being advocated, could separate our society into economic have and have knots, political and religious beliefs even more than is already happening. This is social dynamite that is not in the long time interest of our country.
3.) School choice through vouchers is impractical for most working parents. Many working parents will need to choose a school close to home. This will limit choice for most parents. The idea that poor parents can chose a school other than the ones close to them is in practical. This is especially true in rural areas. Transportation and time restraints just make it impractical for the working poor to experience choice.
4.) There is no compelling evidence that competition will improve schools. Public schools by their nature need to be inclusive and democratic. These two elements are missing in most competitive environments in the business world and some private schools. Although being inclusive and democratic may sacrifice some effectiveness and efficiency—these are necessary elements I believe, in public education. Do parents really want to hear, from schools that attract a lot of students, leave if you don't like us as oppose to let us include you in our decision-making?
5.) Most private schools become selective in some manner. Schools will find subtle ways to exclude the most at risk in our society. Do we really want to assign weak students to the last choice in schools?
6.) I know of no credible evidence that private schools are better than public school as often stated by voucher advocates. Even Catholic schools that do well serving many poor students have the element of keen parent interest in the child's education and a subtle selection process that makes any meaningful comparison suspect at best.
7.) Public schools are generally doing a good job under adverse circumstances and constant criticism. Just one example is the fact the SAT scores have improved since 1990 even with a large increase in test takers. Only the top students took the SAT decades ago when critics say public schools were good. Today we are giving the SAT to many students that would have dropped out of school decades ago and yet SAT scores and other test scores have improved. This is a remarkable accomplishment for public schools.

8.) Public schools are regulated by the government. This is a good thing. Many parents like the idea of regulation on safety, published student test score, curriculum standards, discipline codes, financial audits and disclosures, mandatory parent advisory committees, and other regulations for public schools. These are benefits missing in some private schools.

Those who argue against vouchers may be wondering why "the taking of money from the public schools" argument is not included here. This simply is not a solid argument. Public schools are funded on a per pupil basis. Although public schools might be left with the same facilities cost, staffs and other associated cost for some time—public schools should over time adjust to a per pupil basis cost.

The aforementioned advantages of vouchers are strong enough for public school supporters who are against vouchers to re-consider their position. Public school advocates should move the argument to how vouchers could be implemented to benefit students rather than taking a position against vouchers.

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# PRESERVICE TEACHERS' KNOWLEDGE OF DELTAS AND DELTA DYNAMICS

**John Trowbridge**
**Department of Teaching & Learning**
**Southeastern Louisiana University**
**Hammond, LA 70402**
**jtrowbridge@selu.edu**

## Abstract

There are many and often interrelated reasons for the dramatic loss of wetlands and coastal erosion in this area including human activity natural and causes. It seems that a fundamental understanding of how these fragile lands are formed through a process of delta building, delta switching, and decay known as the delta cycle (Coleman, Roberts, & Stone, 1998) will help in understanding how the deterioration of the coast and wetlands is occurring. Understanding of the geology of delta building and deterioration is essential to ongoing plans dealing with coastal wetland loss in Louisiana. A survey instrument was developed and administered to 100 preservice teachers at a regional university in Louisiana. Students were a mix of elementary and secondary areas of certification. The students were enrolled in a methods course that is taken right before student teaching. The questionnaire focused on student knowledge of deltas in general and globally with specific questions focusing the delta formation, switch and decay model of the Mississippi River. Important results include that there is a lack of understanding why a river will over time shift course and form a new delta, and a lack of conceptual understanding of Mississippi River dynamics and root causes of coastal erosion. It is suggested that curriculum planners and instructors of teacher education programs make sure that their candidates are presented with opportunities to enhance their understanding of concepts related to coastal erosion and wetland loss.

## Introduction

Popular press, classroom teachers, civic organizations, and political discourse put coastal erosion and wetland loss forward as a hot button issue. This wide spread attention has been accelerated by major events such as Hurricane Katrina, the BP oil spill, and opening of flood protection spillways. There is general recognition that the geological landscape is changing at a visible and dramatic rate in coastal Louisiana. Land loss rates in the 1970's were calculated to be 40 square miles per year. Since then the rate of wetland loss has slowed, but continues at a rate of 24 square miles per year. That is equivalent to a land area the size of a football field being lost every 38 minutes. This accounts for 90% of the coastal marsh loss in the lower 48 states. These coastal wetlands sustain commercial and recreational fisheries, agricultural interests, waterfowl habitat, and storm surge protection. The value of these coastal wetlands to the US economy is measured in the billions of dollars. Further, storm events dramatically demonstrate the vulnerable position of urban and suburban populations centers as well as industrial interests to coastal and storm flooding attributable to wetland loss and coastal erosion. Such wetlands and marshes for the most part, act as buffers that stand between storm surges and cities like New Orleans thus absorbing the surge of a major hurricane. It is calculated that every 2.7 miles of wetland absorbs one foot of storm surge.

There are many and often interrelated reasons for the dramatic loss of wetlands and coastal erosion in this area including human activity natural and causes. It seems that a fundamental understanding of how these fragile lands are formed through a process of delta building, delta switching, and decay known as the delta cycle (Coleman, Roberts, & Stone, 1998) will help in understanding how the deterioration of the coast and wetlands is occurring. Understanding of the geology of delta building and deterioration is essential to ongoing plans dealing with coastal wetland loss in Louisiana. It is essential for school children to learn and for decision makers to understand their own backyard or regional geology as they consider billion dollar projects directed at the problem (Trowbridge, 2009). World-wide close to half a billion people live on or near deltas often in large cities (Syvitski, et al., 2009). Therefore, an understanding of delta dynamics is also a global issue.

Considering the importance of a conceptual understanding of delta dynamics it is worth considering what future teachers may know about this process and deltas in general; thus, asking what concepts do preservice teachers have about delta dynamics?

**Methods**

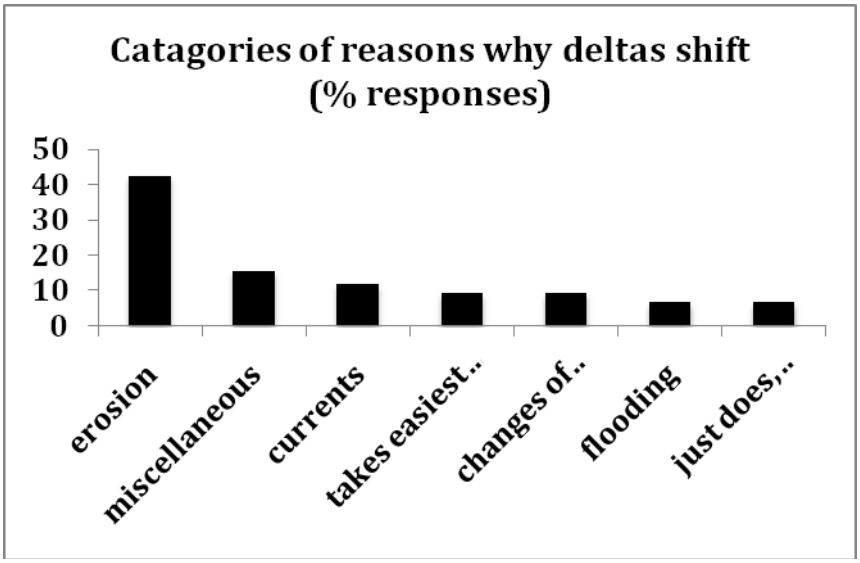
A survey instrument was developed and administered to 100 preservice teachers at a regional university in Louisiana. Students were a mix of elementary and secondary areas of certification. The students were enrolled in a methods course that is taken right before student teaching. The questionnaire focused on student knowledge of deltas in general and globally with specific questions focusing the delta formation, switch and decay model of the Mississippi River. It is a major assumption of this author that the Mississippi River Delta dynamics explanation many of the coastal erosion issues facing Louisiana.

**Results/Discussion**

When asked if deltas were formed only by rivers 72% (N=100) answered true and 28% answered false. This indicates that the respondents know little about flood or ebb tide deltas that form at coastal inlets or passes and link deltas to exclusively to rivers.

In a free response question subjects were asked; why does a river change course and form a new delta? Responses were grouped into seven categories that emerged from the answers. The largest category was erosion with 42% of the responses (see figure 1). The next was currents with 12% of the responses. The category labeled, takes the easiest path/builds up at mouth, which is the closest to a correct response, had 9% of the responses. Responses that indicated a changing of the land were found in 9% of the answers. A response of it just does was given in 6% of the answers. Responses that did not fit these categories were grouped together as miscellaneous with 15% of the answers.

Figure 1.




While choices of erosion, flooding, and currents shows intelligent guessing in some respect by using natural processes as part of the responses it still demonstrates a lack of understanding why a river will over time shift course and form a new delta.

With regard to why the Mississippi River is no longer building a delta 39% (n=62) thought levees or some other man made action was responsible. Erosion was given as a response by 16% of the respondents. A wide range of miscellaneous and no response answers (40%) were reported. Two students indicated that they didn't know the delta was no longer building. It is important to note that three students recognized that a natural process might be in play with the following responses:

- the current Mississippi River Delta is no longer building delta material because the river is already through the building delta stage
- because it's an old river
- it is already completely built up.

While sediment reduction due to river channelization partially accounts for the Mississippi River delta no longer building, the other important reason is that the delta has built out to the edge of the continental shelf and sediment falls off into the deeper waters of the Gulf of Mexico. This idea was not mentioned by any of the respondents indicating a lack of conceptual understanding of Mississippi River dynamics and root causes of coastal erosion.

When asked if marshes surrounding the Mississippi River Delta depend on sediment from the river a large majority 88% (n=96) indicated this was true, and 12% responded false to the question. This is encouraging that a connection between delta marshes and delta sediment supplied by the river is recognized.

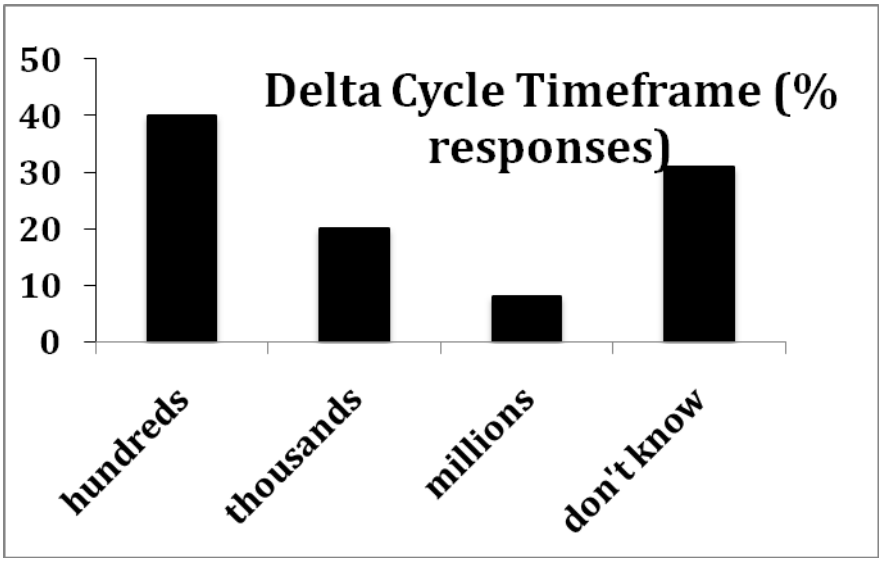
Considering the order of events in a delta's life cycle the pre service teachers were asked to sequence the following stages:

- Retreating delta
- Abandoned delta
- Delta switch
- Building delta.

Less than half 39% (n=99) were able to provide the correct sequence and 60% failed to correctly sequence the distinct phases of what is called the delta cycle. This demonstrates a critical gap in understanding the natural process of a delta cycle. The various stages and what point in time a delta is in a particular phase is directly connected to wetland loss and erosion or building.

The preservice teachers were asked if the timeframe for a delta cycle was a) hundreds of years, b) thousands of years, c) millions of years, or d) I don't know. The timeframe of hundreds of years was selected by 40% (n=99) of the respondents. The correct timeframe of thousands of years was selected by 20% of the respondents. A small group 8% selected millions of years. Perhaps with the vast amount of media attention to the disappearing rate of wetlands the preservice teachers may think in terms of a compressed timeframe for the completion of a delta cycle. Further, an understanding of geological time is problematic for many (Clary, Brzuszel, & Wandersee, 2008).

Figure 2.




The free response question why are barrier islands made of sand and not mud generated few correct answers 13% (n=85). A small percentage of answers 6% stated that sand was lighter than mud, and mud goes to the bottom. Otherwise, there was an array of off target responses that could not be grouped. The abandoned delta phase of the delta cycle characterized by an eroding headland and flanking barrier islands is conceptualized by a loss of sediment supply thus, providing no more silt and a reworking of headland sediments by marine processes thus, washing away silt and leaving behind sand that is constantly redistributed. Based upon the answers given such an understanding is not present in this group of preservice teachers.

One of the questions on the instrument asked for an explanation of subsidence. Interestingly 54% (n=99) did not respond and no response adequately described the process of land sinking, compaction, and dewatering. A few of the respondents 4% did define subsidence as sinking. It is evident that this concept was developed in this sample. A well developed conceptual understanding of subsidence is essential to understanding the dynamics of the delta cycle and the understanding of wetland loss in Louisiana.

Respondents were asked to list other deltas that are in the world and that generated a list of 14 different deltas (see Table 2).

Table 1.
*Worldwide Deltas Other Than the Mississippi Listed*

| Delta Listed | Frequency |
|---|---|
| Nile River | 40 |
| Amazon | 23 |
| Tigress River | 4 |
| Burdekin | 4 |
| Yangtze | 2 |
| Atchafalaya | 2 |
| Ganges | 2 |
| Euphrates River | 2 |
| Jordan River | 1 |
| Rhine River | 1 |
| Niger River | 1 |
| Apalachicola | 1 |
| Yellow River | 1 |
| Danube River | 1 |

The clear prototypical deltas in this group are the Nile and Amazon. A strong showing for other worldwide deltas was not present. Is this a question of limited concept base of geology or geography? Two deltas listed were located in the USA and Gulf of Mexico; Atchafalaya and Apalachicola. It is somewhat surprising that the Atchafalaya was not listed more frequently since the sample population was from Louisiana.

**Conclusion**

We like to think that teachers will teach what they know. Those with a rich conceptual understanding of science related topics such a delta dynamics, coastal erosion, and wetland loss will be less likely to impart misconceptions or limited knowledge of these topics to their students. This group of future teachers is limited in their understanding of one the most import issues facing Louisiana with national and global ties as well. Therefore, we suggest that curriculum planners and instructors of teacher education programs make sure that their candidates are presented with opportunities to enhance their understanding of concepts related to coastal erosion and wetland loss and the role delta dynamics play in that understanding. It is recognized that adding more course work in not possible, but a program of professional development be considered.

Further, it may be useful to expand and assess teacher candidates understanding of concepts related to climate change. Climate change is tied to coastal erosion because of the issue of sea level rise. Climate change is another large complex issue that requires an integrated knowledge of many science and social studies concepts to fully understand and hence teach.

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# COALESCING WEB 2.0 AND 21ST CENTURY SKILLS FOR TEACHING AND LEARNING

**Shelia Y. Tucker**
**College of Education**
**East Carolina University**
**Greenville, NC 27858**
**tuckers@ecu.edu**

**Abstract**

According to the Partnership for 21st Century Skills (n.d.), unless the gap is bridged between how students learn and how they live, today's education system will face irrelevance. The way people work and live has been transformed by demographic, economic, political, technological, and informational forces. Schools must adapt to these changing conditions in order to thrive. However, they are struggling to keep up with the rate of change of students' lives outside of school. Since we know more today about how students learn, we must equip them to live in a multifaceted, multitasking, technology-driven world. And, regardless of their economic background, we must also ensure that all students have equal access to this new technological world. Educators and researchers have made great strides in mapping the territory of the human mind. Thus, scientific insight is available to inform educators about the cognitive processes of learning, and to inform them about effective teaching and motivational strategies for student engagement in learning. Students need lifelong learning skills i.e., communication and information skills, problem-solving and thinking skills, and interpersonal and self-directional skills. The challenge now becomes to deliberately incorporate learning skills into classrooms strategically and broadly.

Partnership for 21st Century Skills (P21) is an organization that advocates 21st century readiness for all students. P21 works on closing the gap between knowledge and skills that most students learn in school and the skills and knowledge needed in 21st century workplaces. Tools and resources are provided to the educational system by P21 to assist in preparing students to compete in a global economy that demands innovation by fusing the 3Rs and 4Cs (communication, collaboration, critical thinking and problem solving, and creativity and innovation). In this digital age, students must learn to use tools essential to everyday life and workplace productivity. They live in a world of almost unlimited streams of profound information, difficult choices and enormous opportunity. So, helping them make vital practical, social, and emotional connections to content and skill is of the utmost importance. Teachers can create a 21st century context for learning by taking students out into the world, by bringing the world into the classroom, and by creating opportunities for students to collaboratively interact with each other (Learning for the, n.d.). One way of accomplishing this task is by employing the use of the Internet to connect Web 2.0 technology and 21st century skills. The Internet originally centered on only viewing information. However, with the advent of technology such as Web 2.0 which is defined as the "Read/Write Web," the Internet transformed so that those viewing information could also become active participants through collaboration and interaction. Viewers could now not only read information, but they could write and share information as well. Students in this era have grown up with access to the Internet and are capable

of interacting and collaborating in ways that were unfathomable at one point in time. Thus, we as educators must adapt so that our teaching infuses Web 2.0 technology with 21st century skills. These skills are essential due to increased global competition, rising workforce capabilities, and accelerated technological change (Learning for the, n.d.). In our global, knowledge-based economy it is crucial for students to master these skills if they want to be successful in the world beyond the classroom (Motivate and Engage, 2009).

Teachers have a wealth of Web 2.0 technology to use to assist with teaching 21st century skills such as blogs, wikis, Twitter, discussion boards, and chat rooms. There are free Web 2.0 technologies such as Engrade, Elgg, Cramberry, PodBeam, Eduslide, Writeboard, Webchops, Yugma, Knowitall.org, and Arcademic Skill Builders (Schweitzer, 2010). Other Web 2.0 technologies that can be beneficial to teachers are AjaxTrans, Museum Box, VoiceThread, Comic Creator, Google News feeds, and Jing Free (Summerford, 2011). Edublogs, Read-Write-Think, Intel-Tools, MakeBelieCommics, and TerraClues have been recommended by Western, M. (2008). These Web 2.0 technologies will be discussed indepth.

# ARE FEES ANOTHER WAY AROUND VISIBLE TUITION INCREASES

**Dianne Wright**
**College of Education**
**Florida Atlantic University**
**dwright@fau.edu**

**Wade Berkster**
**College of Edcuation**
**Florida Atlantic University**
**Davie, Florida, 33314**
**Wberkster@fau.edu**

**Abstract**

This study examined the extent to which mandatory fees serve as a revenue stream in public four year universities in the State of Florida. Mandatory fees are those required to be paid by all students attending a particular university/college. More specifically, these are fees that educational institutions or student governments assess students above and beyond the monies that pertain to tuition, room and board. These fees include application fees, contact hour fees and fees which are course specific (such as lab fees for science and computer classes, etc.), fees assessed based on the number of credit hours enrolled, among a number of others that one may or may not be detectable based on institutional billing statements or its website. The study questions seek to determine the extent to which the types of student "mandatory fees" changed over the last decade within the State of Florida at the undergraduate level, how have the number and type of mandatory undergraduate student "fees" increased over the last decade in comparison to "tuition" increases in the State of Florida and in comparison to other states within the United States, how are these fees monitored and what do they actually pay for? The related analysis is based on data compiled by the State of Florida's University System, formally known as the Board of Governors (BOG). The focus is on student fees versus tuition for resident undergraduate students. While the past ten year's fee and tuition data has been examined for trends, notable increases and an occasional additional fee; the most recent data is also the most relevant for the purposes of this research. The authors do not debate the merits of student fees and their constitutionality, however, but rather examine trends as they relate to increases in mandatory fees.

In sum, Different fees are charged for different purposes and not all students pay all fees. For example, undergraduate students are generally charged an activity fee while commuter students may not be charged a health fee, and some fees are charged based on the type of courses they are enrolled in (for example, lab fees, theatre fees, and travel fees). Thus, fees are a function of enrollments. And, in some instances, sizable increases in fees for instance in health services, have been known to be used to moderate tuition increases (Townsley, p. 89). Data can be fuzzy when tuition and fee revenue is not classified as revenue produced for undergraduate or for that matter graduate programs. Worse yet, fees are often classified as "unrestricted" funds. This is often done in

an effort to use them to generate unrestricted dollars that may be used to balance the operating budget. The paper ends with recommendations for future fee policy as well further research.