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Khalid Dubas, Fayetteville State University

Dothang Truong, Fayetteville State University

Orlando, Florida

April 3-5, 2008

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MESSAGE FROM THE CONFERENCE CHAIR

March 31, 2008

Dear Conference Participants:

On behalf of the American Institute of Higher Education, I am delighted to welcome you to our first conference in Orlando. We are committed to providing you with friendly service and best facilities so that you would experience a high quality academic conference. In addition to the regularly scheduled sessions, we have planned two workshops on SAS/SPSS software and grant writing. I trust that you will benefit and enjoy participating in these workshops.

Organizing a conference of this magnitude requires a great deal of effort from many individuals. It has been an honor and a privilege for me to work with the talented and dedicated group of people at the American Institute of Higher Education. Dr. Alireza Lari, the Program Chair, deserves our special thanks for his hard work which resulted in this years' excellent program. Our Proceeding Co-Editors, Dr. Khalid M. Dubas and Dr. Dothang Truong worked tirelessly at the last hours to complete the proceedings of the conference. All the members of the program committee also worked diligently since the beginning of the conference. They all deserve our sincere thanks for their dedication in order to make this conference a great success.

I am sure that you will benefit from attending this conference, and would enjoy your stay in Orlando. We also look forward to seeing you in our next conference in Atlantic City in the fall of 2008.

Fazlul Miah
Conference Chair 2008
American Institute of Higher Education
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MESSAGE FROM THE PROCEEDINGS CO-EDITORS

March 31, 2008

Dear Conference Participants:

Welcome to Orlando and the 2008 International Conference of American Institute of Higher Education!

We are pleased to present the proceedings of our 2008 International Conference in Orlando. These proceedings include numerous papers on business, economics, and education and address a large number of issues of interest to academics and business professionals.

We worked diligently to make sure that the papers follow the correct format for the proceedings. This was a very time consuming process since many submitted papers did not conform to the specified format guidelines. We hope that we have succeeded in providing a consistent format in these proceedings. Some authors needed extra time to properly format their papers and we accommodated those needs even to the last minute before these proceedings were printed.

The articles and abstracts included in these proceedings represent the views of the authors and any errors in content, citations, or grammar are the sole responsible of the authors. Some papers were not included in these proceedings if they were not properly formatted according to the guidelines or did not reach us in time for publication.

Editing conference proceedings requires a lot of effort and we believe that we have succeeded in providing excellent published proceedings.

Sincerely,

Khalid M. Dubas, Co-Editor

Dothang Truong, Co-Editor

2008 Proceedings of the International Conference in Orlando

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American Institute of Higher Education
1st International Conference, Orlando April 3-5, 2008





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BEST PAPER AWARD WINNERS

Best Education Paper

A Qualitative Analysis of the Quality of Human Performance among University Students

Steve Duncan, East Carolina University

William Swart, East Carolina University

Cathy Hall, East Carolina University

Festus Eribo, East Carolina University

Best Business Paper

Testing an Integrated Model of e-Learning Adoption Decision

John H. Heinrichs, Wayne State University

Jeen-Su Lim, University of Toledo

Hermína Anghelescu, Wayne State University

Janice Utz, Wayne State University



TABLE OF CONTENT

	PAGE
Preface	
Message from the Conference Chair	ii
Message from the Proceedings Co-Editors	iii
2008 Conference Officers and Committee	v
Best Paper Award Winners	vi
 Full Papers/ Abstracts/ Summaries	
<i>A Model of University Reputation and Student Choice</i> Jamie M. Ressler , Nova Southeastern University	1
<i>Winning the Malcolm Baldrige Award in Business Education</i> Khalid Dubas , Fayetteville State University Waqar Ghani , Saint Joseph's University Tayyeb Shabbir , California State University at Dominguez Hills	6
<i>Testing an Integrated Model of e-Learning Adoption Decision</i> John H. Heinrichs , Wayne State University Jeen-Su Lim , University of Toledo Hermína Anghelescu , Wayne State University Janice Utz , Wayne State University	7
<i>The Interactive Lecture: An Introduction</i> Charles Dennis Hale and John Smith , Saint Leo University	12
<i>Is Web-Based Instruction as Effective As Classroom Based: An Empirical Study</i> Donna F. Davis, and Patrick Browning , University of Southern Mississippi	13
<i>The Effects of Peer Mentoring on On-Task Social, Interactions of Students Diagnosed with Autism</i> Cara Walls , Orange County Public Schools Oliver W. Edwards , University of Central Florida	17
<i>Counselors for the Real World: A Comparison of Problem-Based Learning and Case Study Instruction Strategies</i> Kimberly R. Hall , Mississippi State University	23
<i>“Other People’s Pedagogy”: Re-“righting” Curricula to Incorporate Spirituality as a Tool for Teaching African American Students</i> Elecia B. Lathon , Louisiana State University	28
<i>Elementary School Teacher Preference for Consultation or Referral Services</i> Allan Okech , East Carolina University	29



American Institute of Higher Education

1st International Conference, Orlando April 3-5, 2008

William A. Rouse Jr., East Carolina University
Crystal Muhammad, East Carolina University

Teacher Preparation: A Pedagogical Model for Redesigning Field Experiences to Incorporate Video Conferencing 36

Jillian Ardley, East Carolina University
Guili Zhang, East Carolina University
Elizabeth Hodge, East Carolina University

Building a Cohort through Experiential Learning 43
Allen H. Seed, University of Memphis
Florida Garmon, University of Memphis

Integrating Electronic Portfolios into an Educational Leadership Curriculum Using Task-Stream Software 49
Matthew Boggan, Mississippi State University-Meridian

Community College Partnerships: The Influence of Culture, Role Conflict, and Role Ambiguity 53
Amy Townsend, University of Southern Mississippi
Kyna Shelley, University of Southern Mississippi

The Economic Impact of Community College Career and Technical Education Expenditures in Tennessee 62
Haskel Harrison, University of Memphis
Lee Grehan, University of Memphis
Jeffrey Wallace, University of Memphis

A Community College STEM-Based Project: Findings from a Teaching Certificate Program 71
Pooneh Lari, NC State University
Aaron C. Clark, NC State University

The University as Learning Community-The Purpose of Diversity in Higher Education 76
Charles P. Ervin, Florida A&M University
Elizabeth K. Davenport, Florida A&M University

The Impact of Human-machine Interaction in the Performance of a Decision Support System: A Simulation Experiment 82
Arben Asllani, University of Tennessee
Alireza Lari, Fayetteville State University

Marketing of Collegiate Athletics to Student Consumers: Best Practices and Survey Results 87
Don Sciglimpaglia, San Diego State University

Dealing With Criticisms of the MBA Ecosystem: Some Suggested Directions 91
Shyam Kamath, **Guido Krickx** and **Jagdish Agrawal**, Mary's College of California

Engaging Students with Menus in Management Classes 109
Thomas J. Norman, California State University- Dominguez Hills

When Teaching and Learning Conflict: What We Can Do From There? 114
Ying Wang, Mississippi Valley State University



American Institute of Higher Education
1st International Conference, Orlando April 3-5, 2008

<i>An Empirical Investigation of Characteristics of an Effective Professor</i> Janet Prichard, Suhong Li, and Laurie MacDonald , Bryant University	115
<i>The Efficacy of Test Practice as a Reading Intervention for 'At-risk' Readers</i> Bryenne Romano , Charlotte-Mecklenburg School District Oliver W. Edwards , University of Central Florida	121
<i>Intersection of Higher Ed and Professional Organizations: Collision or Cooperation?</i> John Rushing , Barry University Jean Gordon , Capella University Michael Williams , Capella University	127
<i>A Qualitative Analysis of the Quality of Human Performance among University Students</i> Steve Duncan , East Carolina University William Swart , East Carolina University Cathy Hall , East Carolina University Festus Eribo , East Carolina University	131
<i>Assessing Teaching Effectiveness</i> Charles D. Hale , Saint Leo University John Smith , Saint Leo University	136
<i>Comparison of Logistic Regression and Latent Variable Modeling Techniques for College Student Perseverance Using Longitudinal Data</i> Richard S. Mohn , University of Southern Mississippi	137
<i>Are All Types of Electronic Marketplaces the Same From Buyers' Perception?</i> Dothang Truong , Fayetteville State University Thuong T. Le , University of Toledo Sylvain Senecal , HEC Montreal S. Subba Rao , University of Toledo	139
<i>RFID Technologies: The Emerging Legal and Social Context</i> Brenda E. Knowles and Ganesh Vaidyanathan , Indiana University South Bend	145
<i>Evaluation of the Annual Growth of Medicaid Services Used by Hispanics in South Carolina over a Four-Year Period (2000-2003)</i> Christopher C. Mathis and Shobha R. Choudhari , South Carolina State University	152
<i>Identification, Evaluation and Comparison of Critical Success Factors for Profitability in Two Alaskan Skilled Nursing Facilities</i> Dawn Wilson , Fayetteville State University	157
<i>An Economic Evaluation of the Patient's Decision-Making Process</i> Nasim Lari , North Carolina State University	163
<i>Decision Processes of Winning Entrepreneurs</i> Swithina Mboko , St. Cloud State University	167
<i>Commercial Mortgage Market of the United States: Financial Institutions Participation. Does Bank Size Matter? An Analysis of Comparative Lending</i> Abdus Samad , Utah Valley University	175



American Institute of Higher Education

1st International Conference, Orlando April 3-5, 2008

Ananth Rao, University of Dubai

Some New Results on the Exchange Rate Expectations Using Recent Data 187
Fazlul Miah, Fayetteville State University

Trade Patterns for the North American Region: Before and After the Implementation of NAFTA 192
Michael M. Campbell, Florida A&M University

An Organization Performance Measurement System Based on Quality Costs 203
Alireza Lari, Fayetteville State University

Exemplary Models of Firm Innovation: Strategy and Leadership for the Twenty-First Century Competitive Environment 208
Ashford C. Chea, Stillman College

Netcentricity and Technology to Stimulate Adaptation in Public Organizations 217
Lawrence R. Jones, Naval Post Graduate School (NPS) Monterey

The Machinist's Sequencing Dilemma 221
Charles White and **Arben Asllani**, University of Tennessee at Chattanooga

The Theoretical Foundations of Sales Management 226
Khalid Dubas, Fayetteville State University
Rajiv Mehta, New Jersey Institute of Technology
Fazlul Miah, Fayetteville State University

The Framework of an IT-enhanced System Designed to Improve Quality of Patients Care 227
Alireza Lari, Fayetteville State University
Nasim Lari, North Carolina State University
Dothang Truong, Fayetteville State University

Algorithm Design for Corporate Diagnosis on the Basis of Soft System Methodology, Using Lean Management 234
Navid Shariat Zadeh, Azad University of Tehran
Mehrtash Ghorbanian, Sharif University of Technology

Developing NGOs in Post-Soviet Azerbaijan: Expanding Kurt Lewin's Ideals 240
Roger A. Ritvo, Auburn University Montgomery

Faculty Transitions from Face-to-Face to Online Classrooms 247
Pooneh Lari, North Carolina State University

Women Entrepreneurs in Engineering, Mining and Construction 248
Andrea Smith-Hunter and **Tracey Mathews**, Siena College

Cross-Age Tutoring for Vocabulary Development in ESL Settings 259
Eileen Ariza, Florida Atlantic University
Sandra Hancock, University of Florida
Elena Webb, Palm Beach County Schools
Susanne Lapp, Florida Atlantic University

The Taylor Rule in Far-East Asian Countries 265
Shahdad Naghshpour, University of Southern Mississippi



American Institute of Higher Education
1st International Conference, Orlando April 3-5, 2008

<i>Using Games to Improve Learning in an Introductory Statistics Course and Enhance Student Critical Thinking Skills</i>	270
Alan F. Chow, Kelly C. Woodford, and Jeanne Maes , University of South Alabama	
<i>Evaluation and Assessment of Training Effectiveness</i>	274
Alan F. Chow , University of South Alabama Jill Showers-Chow , Software Technology, Incorporated Gholamreza Tashbin , University of South Alabama	
<i>Using Six Sigma Continuous Improvement Methods for Business School Accreditation Compliance</i>	279
Alan F. Chow, Jeanne D. Maes, and Kelly C. Woodford , University of South Alabama	
<i>Latino High School Students' Perceptions of Bilingual Education</i>	284
Errol Dupoux , St. Petersburg College/Gibbs Campus Elisa Estrada , Barry University	
<i>Goods and Violence: Does Trade Influence Civil War?</i>	285
Shahdad Naghshpour , University of Southern Mississippi	
<i>Inflation Targeting and New EU Entrants: Is there Monetary Policy Uniformity?</i>	290
Joseph J. St. Marie , University of Southern Mississippi	
<i>Globalization: Is It More Than Trade?</i>	295
Joseph J. St. Marie , University of Southern Mississippi	
<i>Open-source Software for Small Business Organizations</i>	300
Jason Caudill , Carson-Newman College	
<i>Demonstrative Decisions: Making Attitudes Happen</i>	305
Susan McMillin Gebhard , The University of North Carolina at Pembroke	
<i>Choosing the Right Textbook - An Agency Problem</i>	310
Craig Freedman , and Alexander Blair , Macquarie University Demi Chung , University of Sydney	
<i>Using AuthorPOINT™ Lecturing Software to Improve Faculty Peer Evaluations</i>	321
Lewis Hershey , Fayetteville State University	
<i>Teachers' Perception of Higher Education Reform in Taiwan, the Republic Of China</i>	326
Frances Feng-Mei Choi , Hung Kuang University	
<i>The Role of Financial Leverage in Service Organizations</i>	334
Amitava Chatterjee , Texas Southern University Khalid Dubas , Fayetteville State University Lewis Hershey , Fayetteville State University	
<i>The Role of Operating Leverage in Service Organizations</i>	335
Khalid Dubas , Fayetteville State University Amitava Chatterjee , Texas Southern University Lewis Hershey , Fayetteville State University	



American Institute of Higher Education
1st International Conference, Orlando April 3-5, 2008

A MODEL OF UNIVERSITY REPUTATION AND STUDENT CHOICE

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Nova Southeastern University

ABSTRACT

University reputation is an important consideration for university administrators. Universities are facing increased competition, decreased funding, and competition for discretionary dollars (Parameswaran & Glowacka 1995). Globalization has resulted in increased competition for research and grant funding (Ivy 2001). The pressure to expand often results in fragmentation within the university that can result in mixed messages.

The proposed study will evaluate a model of university reputation and student choice. The five factors of the customer-based reputation scale (Walsh & Beatty 2007) will be utilized as well as an additional university-specific factor that will be developed from the extant literature, expert interviews and application of the Kelly (1955) rep grid.

INTRODUCTION

Universities are facing increased competition, decreased funding, and competition for discretionary dollars (Parameswaran & Glowacka 1995). Globalization has resulted in increased competition for research and grant funding (Ivy 2001). The pressure to expand often results in fragmentation within the university that can result in mixed messages. Fragmentation is addressed by the Dean of RSM Erasmus University Rotterdam, as quoted by Balmer and Liao (2007):

“...we realized we were operating in a market that would move from product branding to institutional branding... We have to brand our institution, which is far more effective than branding the MBA” (p. 358).

Within this growing, fragmented and competitive environment universities must actively engage in reputation management. Reputation management requires an understanding of the construct of reputation and how target audiences perceive and respond to reputation factors.

Corporate reputation as a construct has received more focused attention from researchers in the past several years. Fombrun, Gardberg and Sever (2000) developed the reputation quotient (RQ) and more recently Walsh and Beatty (2007) developed a customer-based reputation scale. The five factors of the customer-based reputation scale (Walsh & Beatty 2007) will be utilized as well as an additional university-specific factor that will be developed from the extant literature, expert interviews, and application of the Kelly (1955) rep grid with students.

The proposed research is a study to evaluate a proposed model of university reputation and student choice.

Corporate Reputation

The reputation quotient (RQ) is a recognized scale in the literature used to measure corporate reputation (Fombrun et al. 2000). RQ consists of six dimensions: emotional appeal; products and services; vision and leadership; workplace environment; social and environmental responsibility; and financial performance.

Walsh and Beatty (2007) identified the need for a corporate reputation scale to include the perceptions of stakeholders and its relationship to “customer-outcome variables.” The resulting customer-based corporate reputation scale identified five dimensions: customer orientation; good employer; reliable and financially strong company; product and service quality; and social and environmental responsibility.

The extant literature on university reputation in the marketing and management literature is sparse and highly fragmented in terms of the constituencies, reputation factors and respondents.

Landrum, Turrisi and Harless (1998) asked the general public about their opinion of a regional university. They found a relationship between reputation of the university and likelihood of sending a child to that university. The factors of university reputation were: academics; familiarity; athletics; value; employment; and outreach. The authors note the need for future research that evaluates reputation perception of more varied university constituencies.

Parameswaran and Glowacka (1995) studied the image of the university vis-a-vi employability of students upon graduation. The attributes of the students were evaluated (ie, communication skills, team player, etc.). This study highlights the unique competitive environment of universities. The success and skills of the graduates contribute greatly to the reputation of the university for the lifetime of that student.

Arpan, Raney and Zivnуска (2003) identified two scales for measuring university image: a single-factor scale for adult, non-students in a university community; and a two-factor scale for current university students. The student scale presents nine academic items and six athletic items.

Standifird (2005) explored the factors that affected peer assessment of universities as reported in US News and World Report. Although, academics, university administrators and university constituencies likely have differing opinions of the value of the rankings, they are widely reported. Standifird (2005) notes the importance of the peer evaluations aspect of the rankings in that the peer evaluations account for twenty-five percent of the ranking. He found that the level of student attention and selectivity are determinants of peer assessment for private universities and that a university's research emphasis and prior ranking influence peer assessment for both private and public universities.

Balmer and Liao (2007) explored student's identification with university brands based upon their relationship with the university. Their qualitative study identified three categories of relationships with the brand: brand member; brand supporter; and brand owner. They found that the students identified with the brand based upon their relationship with the university. They also found that student's were very conscious of university reputation and prestige of higher education brands. The study focused on three separate student constituencies at one United Kingdom university.

There are several models of student choice, however, none specifically incorporate reputation as a factor. Vrontis, Thrassou and Melanthiou (2007) propose a comprehensive model of student choice based upon the consumer decision making process. The comprehensive model has not yet been operationalized.

Rosen, Curran and Greenlee (1998) list "reputation" as one of the important factors involved in student's choice of enrolling in a university. However, "reputation" is a single item and not explored any further. Dawes and Brown (2002) also present a model of student choice, however, the factors are student based (ethnic group, age, gender, parents academic achievement and academic ability), and do not address any university factors.

Definition of Terms

Within the literature, the corporate reputation construct is somewhat fragmented. The following terms have been used when discussing reputation factors: identity, branding, communications, image (Balmer & Greyser 2006). Barnett, Jermier and Lafferty (2006) provide an extensive list of eighty-four terms that are linked in the literature to reputation. Walsh and Beatty (2007, p. 129) provide a summary of corporate reputation definitions which is presented in table 1.

Table 1 Summary of corporate reputation definitions

Author(s)	Definition/Conceptualization
Fombrun and Shanley 1990, 234	(Corporate reputations are) the outcome of a competitive process in which firms signal their key characteristics to constituents to maximize their social status
Herbig and Milewicz 1993, 18	Reputation is an aggregate composite of all previous transactions over the life of the entity, a historical notion, and requires consistency of an entity's actions over a prolonged time
Doney and Cannon 1997, 37	We define supplier reputation as the extent to which firms and people in the industry believe a supplier is honest and concerned about its customers
Weiss, Anderson and MacInnis 1999, 75	Thus, whereas image reflects what a firm stands for, reputation reflects how well it has done in the eyes of the marketplace
Fombrun and Rindova 2000, 243	A reputation is therefore a collective assessment of a company's ability to provide valued outcomes to a representative group of stakeholders
Bromley 2001, 317	Reputation can be defined as a distribution of opinions (the overt expression of a collective image) about a person or other entity, in a stakeholder or interest group
Wang, Lo and Hui 2003, 76	In essence, reputation is a result of the past actions of a firm
Rose and Thomsen 2004, 202	Is identical to all stakeholders' perception of a given firm, i.e. based on what they think they know about the firm, so a corporation's reputation may simply reflect people's perceptions

Brown, Dacin, Pratt and Whetten (2006) provide an interdisciplinary framework and suggested terminology for identity, image and reputation. Their framework identifies four viewpoints:

- (1) Who are we as an organization?
- (2) What does the organization want others to think about the organization?
- (3) What does the organization believe others think of the organization?
- (4) What do stakeholders actually think of the organization? (p. 102)

The fourth viewpoint encompasses the corporate (organizational) associations and reputation. Brown et al. (2006) “suggest using the label reputation to capture the set of corporate associations that individuals outside an organization believe are CED (central, enduring and distinctive) to the organization” (p. 104). The clarification provided by Brown et al. (2006) provides guidance and direction for reputation researchers and allows for ease of inter-disciplinary research.

Proposed Methodology

The scale for this study will include the factors from Walsh and Beatty’s (2007) customer-based reputation scale. Walsh and Beatty (2007) present the customer-based reputation scale as one that can be adapted to specific circumstances or firms. An additional university-specific factor will be developed based upon the literature review, expert interviews and application of the Kelly (1955) rep grid with students. Potential academic variables may include athletics, accreditation or faculty excellence. University action will also be explored. Student visits, financial aid and university communication are possible factors that will impact student choice.

The scale will be administered to university freshmen. They will be asked to respond based upon the top three universities they considered for matriculation.

A proposed model of university reputation and student choice is presented in figure 1.

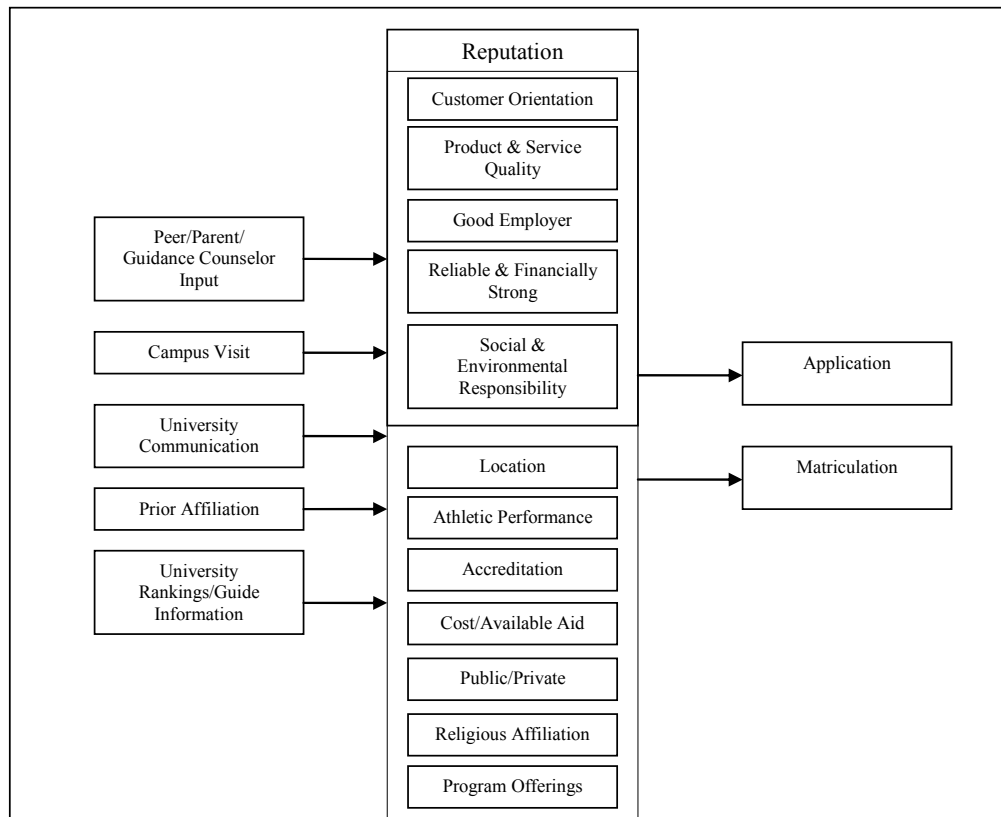


Figure 1: A proposed model of university reputation and student choice

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WINNING THE MALCOLM BALDRIGE AWARD IN BUSINESS EDUCATION**Khalid M. Dubas***Fayetteville State University***Waqar Ghani***Saint Joseph's University***Tayyeb Shabbir***California State University at Dominguez Hills***ABSTRACT**

The Malcolm Baldrige Award was established by the US Congress in 1987 to enhance and recognize the quality of US businesses. The Baldrige Award is administered by the U.S. Department of Commerce's National Institute for Standards and Technology and is presented once a year to five types of organizations: manufacturers, service companies, small businesses, education organizations, and health care organizations. It is the highest quality award for an organization in America. This paper evaluates the criteria for the Malcolm Baldrige Award for performance excellence in education, specifically in business education. The University of Northern Colorado's Kenneth W. Monfort College of Business earned the 2004 Malcolm Baldrige National Quality Award in education. Other schools of business can certainly benefit from the quality improvement processes implemented at the Monfort College of Business. This paper assesses the framework of quality measurement as utilized by the Baldrige award.

TESTING AN INTEGRATED MODEL OF E-LEARNING ADOPTION DECISION

John H. Heinrichs

Wayne State University

Jeen-Su Lim

The University of Toledo

Hermína Anghelescu

Wayne State University

Janice Utz

Wayne State University

ABSTRACT

This study investigates the impact of content richness and access ubiquity on e-learning course satisfaction and intention to take additional e-learning courses. Content richness and access ubiquity were incorporated into TAM along with perceived usefulness and perceived ease-of-use. Path analysis was employed to evaluate the hypothesized relationships regarding the influence of content richness and access ubiquity. The results from this study suggest that content richness was a primary factor in predicting student satisfaction with e-learning courses and the intention to take another e-learning course. Additionally, access ubiquity was shown to influence student satisfaction with e-learning courses.

INTRODUCTION

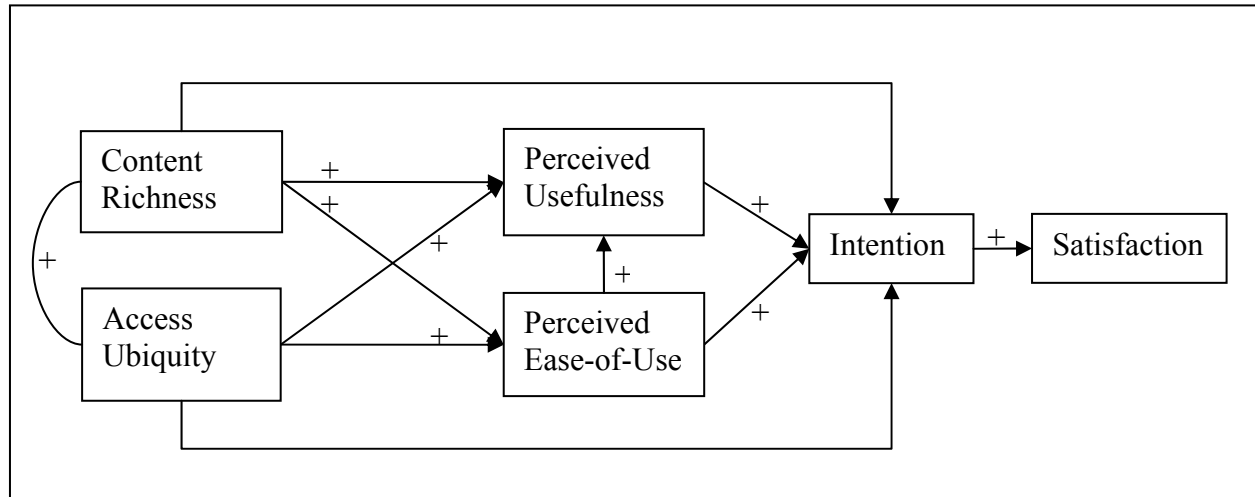
In this knowledge-based economy, knowledge acquisition and its strategic use is a source of sustained competitive advantage. Thus, it is critical for the organization to develop processes to easily educate and exchange information (Heinrichs et al., 2005). To accomplish this in a timely manner, the utilization of tools and techniques for transferring learning opportunities and instructional content is required (Ong, et al., 2004). This process of providing learning opportunities delivered via technologies incorporating the internet is referred to as e-learning (Selim, 2007) and is viewed as using various tools and techniques including the use of question and answer techniques, discussion boards, blogs, wikis, and email (Trombley & Lee, 2002).

E-learning tools have become one of the most significant educational developments (Selim, 2007). Yet, as institutions move to an e-learning format, there exists a need to understand the critical success factors (Saadé, 2007). Successfully integrating e-learning does not result from focusing solely on technology but rather from infusing e-learning concepts into the overall culture. While past studies have applied the technology acceptance model (TAM) in various contexts (Lim, et al., 2005), the applicability of TAM to facilitate understanding of the e-learning adoption decision has recently begun to receive attention. The determining factors related to e-learning course content and the delivery mode need to be well integrated into the research model. This study extends TAM to the online course adoption decision by incorporating e-learning determinant factors.

LITERATURE REVIEW

Many educational offerings are being delivered using Internet technologies (Saadé, 2007). To investigate the usage of and the various factors associated with e-learning technology, research studies have adopted TAM. This study expands TAM by incorporating content richness and access ubiquity. The proposed e-learning adoption decision model (see Figure 1) posits content richness and access ubiquity as the antecedents of perceived ease-of-use and perceived usefulness.

Figure 1: Hypothesized Integrated e-Learning Adoption Decision Model



Original TAM Factors

TAM posits that beliefs and attitudes are determinants as to whether technology will be adopted. Davis (1989) demonstrated that the initial attitudes regarding perceived ease-of-use and perceived usefulness will influence attitudes towards the use of the technology. In the context of e-learning, perceived usefulness is described as the degree to which students believe that using an online course will enhance their learning performance; whereas perceived ease-of-use is described as the degree to which students believe that the use of the online course application is relatively effortless. Therefore, these two factors influence the student's intention to adopt the e-learning courses.

It is believed that learning using online tools involves a multitude of additional factors including a knowledge worker's knowledge of and experience with information technology. Saadé (2007) expanded perceived usefulness and reported that the effects of content quality on perceived usefulness were significant. Since online learning systems can be viewed as technology applications, TAM argues that students will use the system if they perceive its use will enhance their learning.

Content Richness

Acceptance of e-learning courses requires quality course content (Drago, et al., 2002). Effective e-learning courses should integrate multimedia into the content so as to engage the learner. The multimedia can be in the form of video lectures, podcasts, and/or simulations (Schweizer, 2004). Media richness is a key characteristic that learners consider when working with course websites (Palmer, 2002). It refers to the course's capacity to facilitate shared meaning and understanding.

Effective e-learning course design and structure facilitates the flow of information in a timely fashion reducing uncertainty. So, the role of multimedia content in uncertainty reduction is to convey a sufficient amount of correct information. However, since multimedia does not have consistent effects on promoting learning performance, it does not necessarily produce significant effects on the understanding of the course content (Sun & Cheng, 2007). Studies have indicated that content quality is important in determining level of satisfaction. Thus, a major dimension of e-learning course content quality is associated with content richness leading to these hypotheses.

Hypothesis 1: Content richness is positively related to (a) perceived usefulness and (b) perceived ease-of-use.

Hypothesis 2: Content richness is positively related to satisfaction.

Access Ubiquity

Ubiquitous access to online course content is anticipated to expand as technology advances and as learners demand anytime/anywhere learning opportunities. The potential benefits include shortened response time as well as increased real-time interaction opportunities. For ubiquitous access to be a key factor, the efficient and effective use of technology in delivering the e-learning-based components is important. For acceptance of the e-learning systems, the learner must have confidence in the system and confidence that the data captured during the e-learning course will not be compromised. As such, it is defined to include perceived credibility (Ong, et al., 2007).

Learners must take initiative and must have the necessary technical skills to participate in an e-learning course. Furthermore, given the functionality of the technology infrastructure, learners can interact with teachers and classmates both individually and simultaneously. This leads to the following hypothesis.

Hypothesis 3: Access ubiquity is positively related to (a) perceived usefulness and (b) perceived ease-of-use.

Hypothesis 4: Access ubiquity is positively related to satisfaction.

METHODOLOGY

This study adopted the path analysis approach to describing the e-learning data and the relationships among the various factors. There were four identified dependent factors and the study focused on the predictive ordering of the variables in TAM. This research study used a self-administered questionnaire method to obtain responses. A total of 173 students from two midwest universities participated in the study. In this study 15% of the respondents were males and 85% of the respondents were females. The instrument used in this study contained question items measuring six different conceptual areas. Those six constructs were perceived usefulness, perceived ease-of-use, content richness, access ubiquity, satisfaction, and intention to take another online course. Also included in this survey were classification questions such as age, gender, and distance from campus.

ANALYSIS AND RESULTS

Path analytic model analysis via LISREL was used. The hypothesized enhanced learning adoption model was developed and presented in Figure 1. In evaluating the hypothesized model, overall fit indices of the model as well as the individual factor coefficients were determined and evaluated. Responses to the multi-item measures were factor analyzed. The independent variables were composed of four factors labeled as perceived usefulness, perceived ease-of-use, content richness, and access ubiquity. The dependent variables were composed of two factors labeled satisfaction and intention. For the various variables under investigation, the scale means were calculated and for the independent variables ranged from 3.80 to 4.32 based upon a 5 point scale; whereas, the dependent variables ranged from 4.08 to 4.12. The Cronbach alphas for the scales were greater than the guideline of 0.70. Thus the scales show adequate reliability.

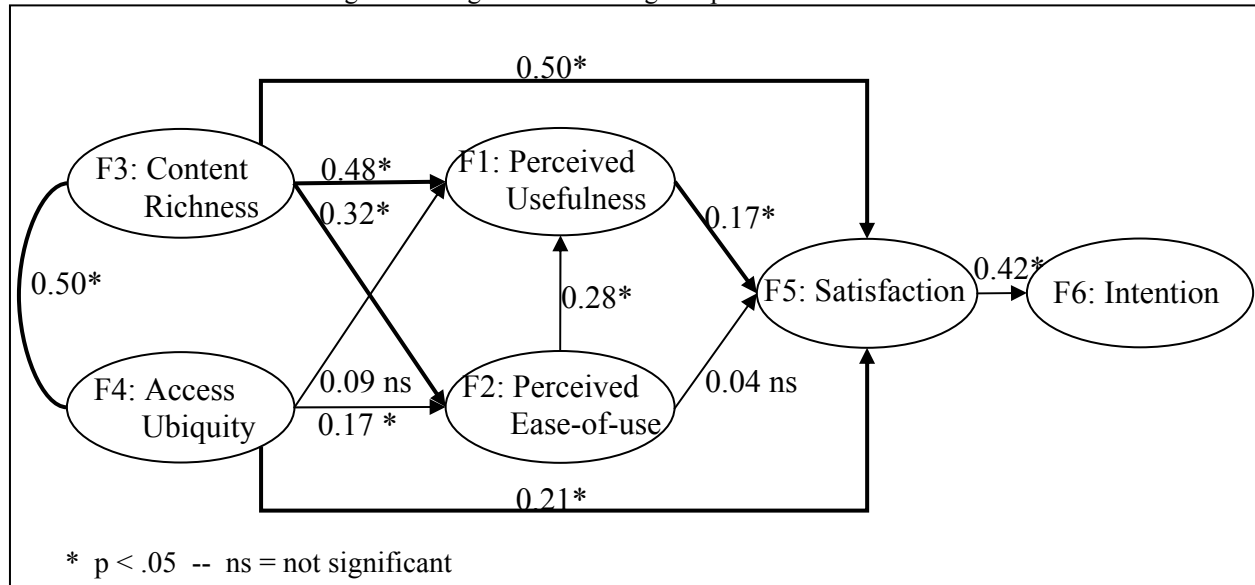
Path Analysis

The factors of content richness and access ubiquity were added as antecedents to the TAM structure. Kline (1998) recommends at least four tests be performed to evaluate the goodness of fit of the proposed model to rule out measuring biases. The overall fit was judged to be satisfactory based on the overall goodness-of-fit criteria. The ratio of chi-square to degrees of freedom was 1.68; Goodness of Fit Index was 0.99; Normed Fit Index was 0.99; and Bentler's Comparative Fit Index was 0.99. Figure 2 presents the path analysis results.

The significance of individual path coefficient was evaluated. The paths from content richness to perceived usefulness (0.48), to perceived ease-of-use (0.32), and to satisfaction (0.50) are positive and significant providing support for hypotheses 1 and 2. The path coefficients from access ubiquity to perceived ease-of-use and satisfaction were 0.17 and 0.21 respectively. These coefficients are significant and in the expected direction supporting hypotheses 3b and 4. However, the path coefficient from access ubiquity to perceived usefulness was not significant. Therefore, hypothesis 3a is not supported. Path coefficients can be used to highlight direct and indirect effects in the model. The total effect of the independent factor content richness on the dependent factor satisfaction is the sum of the direct effect and indirect effect ($0.50 + 0.10$) or 0.60. The total effect of the independent factors

access ubiquity, perceived usefulness and perceived ease-of-use on the dependent factor satisfaction are 0.24, 0.17, and 0.09. Similarly, the total effect of the factors content richness, access ubiquity, perceived usefulness, perceived ease-of-use, and satisfaction on intention to take another course can be calculated. The total effect of these factors is 0.25, 0.10, 0.07, 0.04, and 0.42 respectively.

Figure 2: Integrated e-Learning Adoption Decision Model



DISCUSSION

Reviewing the total effects shows that content richness is the most significant factor in determining satisfaction. Satisfaction is a significant in determining intention to take another online course. Content richness involves the various methods used to deliver the content, explain the material, and the quality and quantity of information presented. The instructor should be focused on providing high quality delivery of the content and should ensure that the online tool facilitates the technical and descriptive content delivery. This study expands TAM for use in understanding online course delivery. This study provides support for the importance of content richness and access ubiquity to the delivery of online courses.

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THE INTERACTIVE LECTURE: AN INTRODUCTION

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ABSTRACT

The lecture is the most commonly used information sharing strategy in educational institutions and training organizations. Used appropriately, lecture is highly effective in promoting student learning, especially with respect to the lower two intellectual skills, i.e., knowledge and comprehension. Used inappropriately, lecture will not only limit learning but destroy student motivation to learn. An alternative to traditional lecturing is the interactive lecture. When active learning (AL) activities are integrated into lectures, higher order intellectual skill (i.e., analysis, synthesis, and evaluation) acquisition is materially enabled.

An interactive lecture (IL) model is outlined which includes specific tools, including cognitive scaffolds, "Quick Thinks," embedded classroom assessment, graphic organizers, and active learning strategies for individual students. Additionally, selected time and class management strategies are presented.

IS WEB-BASED INSTRUCTION AS EFFECTIVE AS CLASSROOM BASED: AN EMPIRICAL STUDY

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ABSTRACT

An experimental study was conducted to determine if Web-based instruction was as effective as classroom-based instruction in an introductory management information systems course. The only outcome measure was performance on exams. All variables except the learning environment were held constant. Findings indicated that there was a significant difference ($p < .10$) between the two environments, and that the Web-based students did not perform as well.

INTRODUCTION

In recent years e-learning, in its many guises, has been utilized by a large number of educational institutions to increase access to the learning process (Day, Lou & Van Slyke, 2004). As an example of the magnitude of this trend, the U.S. Department of Education projected that 6 million people would be involved in online classes in 2006 (Conhaim, 2003). Most recently, many variations of e-learning have been identified, and this paper addresses only the relative effectiveness of Web-based instruction. The focus of this study is to compare Web-based instruction (WBI) and classroom instruction (CI) with regard to student performance.

It would be prudent for institutions to explore the efficacy of the on-line learning environment as a guide to the allocation of resources in this area. There is a very modest body of research addressing this issue (Sitzmann, et al 2006), but no definitive trend in the findings. For example, Sitzmann et al (2006), note that there is a great deal of criticism of studies that indicate that technology based instruction is superior to previously used methods (Clark, 1994). Alternatively, Cobb (1997) has posited that some of the technologies alter the amount of cognitive demands placed on learners and thus may enhance the effectiveness of the learning process.

Two comprehensive meta analyses have become available in recent years. These studies provide a comprehensive analysis of the existing literature, yet their findings call for further research in the areas of effectiveness. Zhao (2005) found that in some content areas, including business, the CBI was better, but that there was no difference among delivery methods when the student had a undergraduate degree. This analysis also found that when instructor involvement is low, the CI is significantly better.

Sitzmann et al (2007) also conducted a meta analysis, and came to the conclusion that "WBI and CI were equally effective for teaching procedural knowledge... WBI was 19% more effective than CI ...when Web-based trainees were provided with control, in long courses and when trainees practice the training material and received feedback during training." (p. 2).

While it might be argued that declarative learning, that in which the students' "memory of the facts and principles...and the relationship among knowledge elements" (Sitzmann et al 2007 p 6) predominates in college level courses, there is some support in the literature for the notion that the effectiveness of WBI differs across disciplines, regardless of the type of learning involved. Arbaugh and Rau (2007) examined perceived learning and satisfaction among MBA students, and found that there were significant differences among those variables in each of the selected disciplines studied. Perceived student learning in on-line MIS courses was significantly lower than for that in on-line Finance courses, and Finance was lower than all other disciplines. This study did not compare on-line and face-to-face classes, nor did it include performance measures.

Taken as a whole, a review of the available relevant literature suggests that WBI is at least as effective as CI. However, there are many anecdotes from faculty and students indicating dissatisfaction with CBI. This disconnect between the results of studies and perceptions among university stakeholders leads to the following research question: **Is Web based online learning as effective as classroom based learning?**

To pursue the research question, a study was undertaken at a midsize Southeastern university. The focus of this study was the efficacy of learning, expressed as performance on exams.

Two sections of one course, Introduction to Management Information Systems, were selected for the study. One factor leading to the selection of this course was that the content was consistent across learning environments (WBI and CI). Students self selected into the classroom or online sections. Enrollment in the online section was 35, in the classroom section 60. The online section was conducted via the course management system WebCt (now Blackboard). All course materials were held constant across sections, including the class presentations delivered via Microsoft's Powerpoint. Students in both environments could download the class presentations and support materials for use in preparation for exams. Three proctored exams were administered during similar time frames for both sections, covering the same material. The same instructor taught both sections, and was available during office hours for classroom students and via email for the online section. The instructor created and maintained the WebCt materials, including materials provided by the textbook publisher. The course was conducted over the course of an entire 16 week semester.

OUTCOME MEASURES

The objectives for the course included an understanding of the technology likely to be utilized in modern organizations, the manner by which these technologies could be used to enhance organization performance, and knowledge of the various types of information systems used in modern organizations. Learning outcomes used to measure success in achieving these objectives were as follows:

Students should demonstrate the ability to:

1. Describe the characteristics of components of information systems, including hardware and software .
2. Demonstrate the ability to identify the characteristics of network components.
3. Describe the advantages and concerns associated with introducing the various information systems components to an organization (ACIS).
4. Determine from a case description the challenges faced by an organization and how various types of information systems might improve the organization's performance in light of these challenges (ISFIT).
5. Detect and address ethical issues associated with the use of modern information systems technology (ISE).
6. Describe and address security issues associated with the use of modern information systems (ISS)

METHOD

Exam questions were individually scored to arrive at an overall exam grade. Then the questions were grouped into categories corresponding to the 6 learning outcomes described above. Two experienced instructors individually grouped the questions, and then discussed any differences which arose. The final categorization of questions were agreed upon by both instructors.

The experimental design employed in this study is a nonequivalent control group (Campbell and Stanley, 1963). The students were not randomly assigned to either the control group (CI) or the treatment group (WBI), and thus no preexperimental sampling equivalence is supposed. Given the sample size and study characteristics, it was appropriate to use a paired samples test and the resulting t statistic.

RESULTS

Table 1 contains the results of the data analysis. The difference in means of achievement scores, taken as a whole, were significant at $p < .05$, signifying that the scores were, in fact, not equal across instruction methods. The mean scores for IC – the classroom sections – exceeded those for the Web based instruction (WBI).

Table 1

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAR00001	.7626	6	.08822	.03602
	VAR00002	.6567	6	.07795	.03182

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	VAR00001 & VAR00002	6	.353	.492

Paired Samples Test										
		Paired Differences						t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pair 1	VAR00001 - VAR00002	.10585	.09487	.03873	.00628	.20541	2.733	5	.041	

VAR00001 = IC
VAR00002 = WBI

DISCUSSION

The results of this study indicate that, when all course related factors are held constant except the method of delivery, the performance of those in the classroom section was superior to that of the Web-based section. There could be many reasons for this, including student personality characteristics (Schniederjans and Kim, 2004), information processing style (Davis and Davis, 1990) and instructor experience (Arbaugh and Rau, 2004). In addition, the class size was relatively large, which has been shown to negatively affect student perceived learning (Arbaugh and Rau, 2007).

It should also be noted that the course consisted primarily of declarative learning experiences, in which the students acquired knowledge of information systems concepts, rather than learning how to accomplish a task. In an earlier study of classroom vs self- directed study Davis and Davis (1990) found that there was no difference in learning declarative concepts based on learning environment, but that procedural learning was significantly more effective in the classroom ($p < .10$).

This study contributes to the body of knowledge in several ways. First, these findings contradict the “no significant difference” school of thought, as they indicate that the learning was significantly more effective in the CI environment. Secondly, the outcome measures in this study were related to learning achievement and not satisfaction or perceived level of learning.

It should be noted that these learning measures were captured early in the course, while others (Kock, et al, 2007) have found that if significant differences exist early in the course these disappear by the end of the semester. Researchers may wish to conduct further studies to investigate this possibility. Additionally, the WBI section of the course utilized exactly the same materials as did the CI section, and thus did not take advantage of the various ways by which WBI can incorporate learning aids not available in the classroom.

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THE EFFECTS OF PEER MENTORING ON ON-TASK SOCIAL INTERACTIONS OF STUDENTS DIAGNOSED WITH AUTISM

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ABSTRACT

This study examined the effectiveness of a peer-mediated intervention program on the on-task social interaction behaviors of students diagnosed with autism. Six students diagnosed with autism and 22 peer students in the general education program participated in a 12-week intervention program involving collaborative activities. The students diagnosed with autism were divided into two groups based on their present level of social functioning, as determined by their formal Individual Education Plans. The number of teacher prompts provided to each student to return to task or demonstrate appropriate social skills were recorded at baseline and during the peer-mediated intervention program. Analysis of the results reveals the two groups of students required less teacher involvement and prompting following the implementation of peer-mediated intervention. Additionally, the group with lower social functioning demonstrated a greater rate of progress at the completion of the intervention.

INTRODUCTION

Autism is a multifaceted developmental disability whose complex nature presents several distinct challenges for classroom teachers who work with students diagnosed with autism. Due to their varying levels of functioning, the demands associated with teaching students diagnosed with autism may differ from those inherent to teaching students with global developmental delays (Koegel, Koegel, Frea & Fredeen, 2001; Garfinkle & Schwartz, 2002). In many cases, intensive intervention is required to facilitate independent functioning (Koegel et al., 2001; Lovaas, 1993; Rogers, 2005). Researchers and educators have designed multiple interventions in recent years to attenuate the challenging social and communication impairments common to students diagnosed with autism (Boutot, Guenther, & Crozier, 2005; Panerai, Ferrante & Zingale, 2002; Rogers, 2005). Since these students' levels of functioning vary significantly, the amount of participation and improvement during the differing interventions will likely also vary. Given the demands on educators' time and the challenges of ameliorating the students' social and communication problems, ascertaining the most effective and efficient interventions for use with these students is an important goal. Involving peers in the intervention can improve its efficiency. Decreasing the time educators must personally spend in remediation of social and communication skill impairments of these students will allow them more time to improve the students' functioning in other academic areas. The purpose of this action research project is to replicate peer-mediated intervention approaches and determine whether present level of social functioning is an important variable when attempting to efficiently ameliorate the social skill impairments of students diagnosed with autism.

Defining Autism

Children who display marked impairments in social interaction or communication may suffer from one of several related disabilities that are under the broad category of Pervasive Developmental Disorder. This category includes classic Autism, Asperger's Disorder, Childhood Disintegrative Disorder, Rett's Disorder and Pervasive Developmental Disorder not otherwise specified (American Psychiatric Association [APA], 2000; Rapin, 2002). According to the *Diagnostic and Statistical Manual Fourth Edition Text Revision* (DSM-IV-TR; APA, 2000), autism is a serious Pervasive Developmental Disorder with onset generally prior to age three. "It is characterized by qualitative impairment in reciprocal social interaction, verbal and nonverbal communication, and in capacity for symbolic play, and by restricted and unusual repertoire of activities and interests. Other characteristics sometimes include cognitive impairment, hyper- or hypo-reactivity to certain stimuli, stereotypic behaviors, neurological abnormalities such as seizures or altered muscle tone, sleeping or eating pattern abnormalities, and severe behavioral problems" (APA, 2000).

For many young children diagnosed with autism, social impairment is evident in their inability to engage in pretend play or social interaction. As a result, the development of peer relationships is often delayed or nonexistent (Travis & Sigman, 1998). In the area of communication, some children diagnosed with autism demonstrate a marked limitation in language ability and others lack the use of spoken language altogether (Rapin, 2002). Repetitive behaviors manifested by children with the disorder include finger-flapping, hand-flapping, or echolalia. Additionally, children diagnosed with autism demonstrate restricted interests or specific interests with unusual focus or increased intensity (Bowen Dahle, 2003).

Intervention Research with Children Diagnosed with Autism

Research studies demonstrate interventions for children diagnosed with autism have effectively improved their delayed areas of development (Jenkins, Odom & Spelz, 1989; Bauminger, 2002). These studies indicate a variety of interventions exist to improve the academic and independent functioning of children diagnosed with autism (Sigman & McGovern, 2005; Leblanc, Richardson & McIntosh, 2005). Additional intervention studies demonstrated improvement in the children's communication or play skills (Hwang & Hughes, 2000; Boutot et al., 2005). Finally, others enhanced the children's social skills and interpersonal relationships (Koegel et al., 2001; Rogers, 2000).

Since social and interpersonal communicative impairments are cardinal characteristics associated with the disorder, the literature regarding children diagnosed with autism emphasizes interventions to improve the children's social skills and interpersonal relationships. Many of these intervention programs are mediated by adults, but they are often criticized because they are time intensive and do not adequately promote independence and generalization (Weiss & Harris, 2001). Some social skills interventions are comprised of peer-imitation techniques that serve to increase the frequency of a certain behavior by providing a model to demonstrate appropriate skills that can be generalized to new situations (Kamps et al., 2002). Introducing strategies that allow students to control their own behavior and emotional responses is a very effective method of teaching appropriate social skills, as it may lead to more child independence (Panerai et al., 2002). However, it is generally the case that only high-functioning children benefit from such a self-directed intervention (Desbiens & Royer, 2003). In addition to adult-mediated and peer-imitation techniques for social skills interventions, children diagnosed with autism have been shown to benefit from peer-mediation intervention approaches (Garfinkle & Schwartz, 2002; Odom & Watts, 1991), approaches which are less time intensive and are closely aligned with the perspective of inclusion.

This action research study examines the influence of individual social skill differences on the efficiency and effectiveness of peer-mediated interventions for students diagnosed with autism. It is hypothesized that students diagnosed with autism will require teacher prompting in order to complete an assigned task during the initial peer mentoring session (i.e., at baseline). It is also hypothesized that the number of teacher prompts required to complete the assigned task will decrease from baseline to the final peer mentoring session. Finally, students with higher pre-intervention social functioning will acquire the on-task social interaction skills faster and require fewer prompts (and therefore need less teacher time and assistance) than students with lower pre-intervention social functioning. The overall goal of the peer-mediated intervention is for all students diagnosed with autism to demonstrate additional and more appropriate social interaction at the same time requiring limited intrusion from their classroom teachers.

METHOD

Participants

Seven male students diagnosed with autism, 9 through 11 years old were initially selected to participate in this study. They were enrolled in a self-contained classroom for students who manifest moderate autistic characteristics. These characteristics include a lack of verbal communication, limited social interaction with others, and repetitive or self-stimulatory behaviors. All students in the classroom met the educational criteria for placement in the Autistic and Speech/Language Impaired programs U.S. Two of the seven students were also diagnosed with Down syndrome. Four of the students were taking prescribed medications. One student was diagnosed with Seizure Disorder and suffered a seizure prior to the initial intervention session. He was unable to complete the program due to fatigue, but the six remaining students diagnosed with autism completed the intervention program and were included in the data collection. In addition, 22 fourth-grade students in a general education class participated in this intervention program as peer mentors. The fourth grade class was selected to participate in the intervention program

because the teacher was willing to assist with implementation and amend assignments and the daily schedule as necessary.

The participating students diagnosed with autism were divided into two groups based on their present level of social functioning as specified in their Individual Education Plans (IEP). The two-group experimental design permits examination of the influence level of social functioning has on the rate and effectiveness of the peer-mediated intervention. To determine which students were capable of more complex social interactions, the first author and the students' special education teacher individually reviewed each student's IEP. Each student's IEP included specific and identifiable goals in the area of social skills, such as responding to greetings, identifying familiar people, or engaging in interactive play activities with other students with a certain amount of accuracy. For each student, social goals were identified and this provided a means of comparing levels of social functioning among the students. The classroom teacher and first author organized the goals into a hierarchy of social skills, as listed in table 1. Students were then assigned to groups based on their individual IEP goals. The three students with the most complex social goals were determined to have higher social functioning and were included in group one. The three remaining students had less complex goals and were determined to be lower in social functioning and were included in group two.

Procedure

Prior to beginning the peer mentoring intervention, the general education students attended a presentation about individuals with disabilities and Autism Spectrum Disorders hosted by an expert from the Center for Autism and Related Disabilities. The purpose of the presentation was to increase the general education students' knowledge of autism and sensitivity toward students diagnosed with autism. The presentation provided students with an opportunity to participate in activities related to sensory impairments, share prior experiences with students in special education programs, and to ask questions of autism experts. Additionally, parents of the students with autism introduced their children and their unique traits to the general education students.

The intervention program consisted of peer mentoring sessions, in which one class of general education students participated in small group or paired activities with students diagnosed with autism. Each session lasted for 20 minutes, and was held twice a week for 12 weeks (23 sessions in total). Five randomly selected students from the fourth-grade class visited the special education classroom during each session on a rotating basis, so that each group participated for a minimum of four sessions.

Once arriving in the special education classroom, each fourth-grader was paired with one or two students diagnosed with autism to complete a planned activity. During the initial thirteen sessions, students all completed the same task in small groups, such as filling bags of candy for a school fundraiser. The classroom teacher and two paraprofessionals supervised the groups and gave additional directions as necessary.

Subsequent to session thirteen, groups were given assignments based on the specific learning objectives for students diagnosed with autism, such as participating in interactive play with a peer. The final nine sessions were comprised of cooperative activities involving students in the general education program and the students diagnosed with autism. These activities involved using assistive technology to request and identify items for some of the higher-functioning students and unstructured playtime with puzzles and toys for the lower-functioning students. Therefore, the cooperative group activities varied based on the students' identified level of functioning, as determined by their Individual Education Plan (IEP).

During the initial and final sessions, the first author observed and recorded data continuously. Each verbal prompt given to the students diagnosed with autism from an adult was counted throughout the entire 20 minutes. For the purposes of this study, a prompt was defined as a verbal statement from a teacher to a student, with the purposes of encouraging cooperation, explaining directions further, or decreasing off-task behavior. For example, "Show him your puzzle", "Use your pictures to ask for what you want" or "Quiet hands". These teacher prompts were counted for each individual student, and were added together for group totals. Additionally, the peer mentoring session held at midpoint (i.e., during week seven) was recorded via video camera. The researcher and a second trained observer viewed this session separately to obtain a midpoint count of teacher prompts and to ensure adequate inter-observer reliability. An inter-observer reliability coefficient of .92 was obtained. The total number of teacher prompts required for on-task social interaction behavior during the initial, midpoint, and final peer mentoring sessions for both groups were compared.

Treatment Fidelity

To ensure appropriate and consistent intervention delivery, the peer mentoring sessions were held at the same time each day and were supervised by the same instructional staff. The observer was trained to criterion at the 90% or greater level to ensure the validity of the observations. Additionally, cooperative learning activities were designed and implemented following specific lesson plans, in reference to individual student goals. The paraprofessionals were trained to use these curriculum-based activities in order to ensure that instructional prompts were delivered in a specific and standardized manner.

RESULTS

Data collected throughout the peer-mediated program allow for analysis of student growth, both individually and as groups. As the intervention continued over the twelve-week period, both groups of students showed marked improvements and required less prompting from their instructors. During the initial peer mentoring session, the lower-functioning students (group one) required an average of 4.67 prompts, while the higher-functioning students (group two) required 3.67 teacher prompts on average. These findings confirmed the two initial hypotheses regarding the predicted prompts based on level of functioning and the predicted difference between the two groups of students.

The final hypothesis indicating students with higher social functioning would acquire the on-task skills faster and require fewer prompts than students with more severe autistic behaviors was not fully supported. Higher-functioning students required 3.33 prompts on average, and lower-functioning students required an average of 1.33 prompts at midpoint. During the final peer mentoring session, both groups required the same minimum number of prompts in order to remain on task (1.33 on average). The lower functioning students as a group required the same amount of prompting at both midpoint and completion of the intervention program. The higher functioning students also displayed a decrease in the number of required prompts over the twelve weeks, although the more significant decrease in prompts occurred between midpoint and completion of the program. Thus, the findings indicate that over duration of the peer mediation program, the lower-functioning students experienced a more significant rate of decrease in teacher prompts at midpoint of the intervention program, but the higher-functioning students showed a significant decrease after midpoint of the implementation. It is interesting to note that of the two students who demonstrated the most improvement, one was characterized as having high social functioning, while the other was part of the group of students with lower social functioning.

DISCUSSION

The results of this study replicate and support research indicating educational interventions can have a positive effect on children diagnosed with autism. In addition, the peer mediation design can improve their social skills by promoting more on-task social interactions between these students and their typically developing peers. Throughout the 12-week intervention, the aforementioned was evident by the progressively fewer number of teacher prompts required in order for both groups of students to demonstrate on-task social interaction behaviors in the classroom. Thus, involving peers in the interventions with students diagnosed with autism improves the ecological and social validity of social interventions. That is, peer-mediated interventions help promote student independence while reducing the amount of time teachers must spend personally intervening with students diagnosed with autism. Additionally, peer-mediated interventions are rather straightforward to design and implement.

An unexpected finding of this action research was that the lower functioning students required fewer prompts than the higher functioning students at midpoint. Additionally, both groups required the same minimal number of teacher prompts at the end of the intervention. Thus, the lower-functioning group actually demonstrated greater progress. This finding contradicts other research, which suggests students who are initially determined to be higher functioning often show more improvement after intervention (Szatmari et. al., 2003). Any number of reasons could have led to the aforementioned findings including higher teacher expectations for the higher functioning group leading to more interaction between teachers and students.

Limitations

Interpretation of these results of this action research project is moderated by the fact level of social functioning was determined by means of reviewing the IEP for each student. Alternatively, a more objective manner of determining level of social functioning may be implemented in future studies. Rating scales which measure autistic characteristics often include social components which could serve as a quantitative social measure. By using student ratings obtained through reliable measures, level of social functioning can be more clearly understood and designated. In previous research, it is often the case that level of functioning is ascertained by measurable cognitive ability or symptom severity rather than determination of the social adjustment based on the goals of the IEP (Bauminger, 2002). Therefore, students determined to be higher functioning for the purposes of this study may not be considered in this category when cognitive ability or symptom severity is considered.

Additional limitations exist within the experimental design. Replications of this study should involve more frequent data collection allowing for more in-depth analysis of student progress. By involving a second trained observer throughout the entire implementation, greater reliability can also be obtained. In addition, future studies could implement an alternative design, by designating both an experimental and control group of students diagnosed with autism. The aforementioned would allow researchers to isolate the effects of the peer mediation intervention from possible learning and socialization improvements attained via the classroom curriculum in general, or student maturation.

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COUNSELORS FOR THE REAL WORLD: A COMPARISON OF PROBLEM-BASED LEARNING AND CASE STUDY INSTRUCTIONAL STRATEGIES

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ABSTRACT

Problem-based learning (PBL) is a teaching philosophy that has been well examined in the field of medicine; however, researchers have yet to examine the effectiveness of PBL in the field of counselor education. According to medical research, the benefits of PBL as an instructional strategy include increased skills in critical thinking, retention, knowledge transference, teamwork, and communication. PBL fits well within the counseling training program by teaching decision-making steps and encouraging active research. Students learn specific content as well as advanced skills needed for their profession. This study aims to compare PBL and case study instructional strategies in a required counseling course for future school counselors. This research could lay the foundation for a new approach for training future counselors to not only help students with mastering content and counseling skills but also to teach them skills for lifelong learning, which is imperative for counselors in today's world.

INTRODUCTION

While research on the outcomes of problem-based learning (PBL) as an instructional strategy in the field of medicine may exceed the assessment of any other instructional method and underlying philosophy (Albanese & Mitchell, 1993; Vernon & Blake, 1993), PBL as a strategy for instructing future counselors has yet to be examined. This research could lay the foundation for a new approach for training future counselors to not only help students with mastering content and counseling skills, but also to teach them skills for lifelong learning, which is imperative for counselors in today's world.

The benefits of PBL as an instructional strategy include increased skills in critical thinking, retention, knowledge transference, teamwork, and communication. These are skills that all students need to be successful not only in the classroom but in life. PBL fits well within the counseling training program by teaching decision-making steps and encouraging active research. Students learn specific content as well as advanced skills needed for their profession.

PROBLEM-BASED LEARNING

Problem-based learning (PBL) began at McMaster University Medical School over 30 years ago. It has since been implemented in various undergraduate and graduate programs, community colleges, and elementary and secondary schools around the world. PBL is a learner-centered instructional method that enhances students' abilities to analyze, synthesize, and evaluate problems. It is an instructional method that uses real problems as the primary pathway of learning. As a teaching and training methodology, PBL directly addresses a primary goal of education – to develop learners who are effective problem solvers.

PBL is both a curriculum and a process (Maricopa Centre for Learning and Instruction, 2001). The curriculum consists of carefully selected and designed problems that require the student to attain skills in critical thinking, problem solving, self-directed learning strategies, and team participation. This method of problem-solving replicates the process for resolving problems or meeting challenges that are encountered in life and work. When engaged in the PBL process, groups of learners are presented with a real-life problem scenario they attempt to solve with information they already possess. Then, they determine what else needs to be learned. Students engage in self-directed study, researching information needed to effectively address the problem and offer alternative solutions. Through this process, PBL integrates and develops all three domains of learning as described by Bloom (1956), including the cognitive (mental and intellectual skills), affective (feelings and attitudes), and the psychomotor (motor or physical skills). This process produces students who can define problems, devise alternative hypotheses, and develop reasonable solutions to the issues at hand. Ultimately, PBL attempts to produce students who can 1) address complex problems with initiative and enthusiasm, 2) solve problems effectively, employing self-directed

learning skills when needed, 3) continuously assess and acquire knowledge, and 4) collaborate effectively as a group member (Barrows, 1999).

In PBL the traditional teacher and student roles change. The students assume increasing responsibility for their learning, giving them more motivation and more feelings of accomplishment, setting the pattern for them to become successful life-long learners. The teachers in turn become resources, tutors, and evaluators, guiding the students in their problem solving efforts.

Research on the effectiveness of PBL as an instructional strategy may exceed the assessment of any other instructional method and underlying philosophy (Albanese & Mitchell, 1993; Vernon & Blake, 1993); however a review of the literature reveals that most of the research has been conducted in the medical education field. Most studies have concluded that PBL is superior to traditional methods with respect to the class environment, student academic achievement, knowledge transference, and student development of self-directed learning skills.

Students have reported that the PBL classroom was more nurturing and enjoyable and that the course material was more interesting (Achilles & Hoover, 1996; Albanese & Mitchell, 1993; Gordon, Rogers, Comfort, Gavula, & McGee, 2001; McBroom & McBroom, 2001; Tandogan & Orhan, 2007). According to Albanese and Mitchell (1993), PBL graduates performed as well and sometimes better on clinical exams and faculty evaluations. Additionally, Tandogan and Orhan (2007) found that students in PBL demonstrated increased academic achievement, and that PBL positively impacted students' conceptual development and kept their misconceptions at the lowest level. In a study completed in a secondary school environment, Hoffman and Ritchie (1997) found that students in PBL were able to transfer knowledge and skills gained in school to daily life.

Other studies indicate that students in PBL increase critical thinking and self-directed learning skills. Tiwari, Lai, So, and Yuen (2006) specifically found that PBL increased students' critical thinking skills, while other studies found that students also participated actively in the learning process, took responsibility for their own learning, and became better learners in terms of time-management skills and ability to define topics, access different resources, and evaluate the validity of those resources (Gallagher, Stepien, Sher, & Workman, 1995; Krynock & Robb, 1996). Studies also indicated that students in PBL demonstrated greater critical thinking, communication, mutual respect, teamwork, and interpersonal skills (Achilles & Hoover, 1996; Gordon et al., 2001; McBroom & McBroom, 2001). Finally, Sungur and Tekkaya (2006) found that PBL students had higher levels of intrinsic goal orientation, task value, use of elaboration learning strategies, critical thinking, metacognitive self-regulation, effort regulation, and peer learning. Students involved in PBL acquire knowledge and become proficient in problem solving, self-directed learning, and team participation.

While research on the effectiveness of PBL as an instructional strategy for the medical field is prolific and promising, PBL in the counseling classroom has yet to be explored. This study aims to compare PBL and case study instructional strategies in a required counseling course for future school counselors.

PROJECT PLAN

Students enrolled in Seminar in School Counseling will complete the Approaches and Study Skills Inventory for Students (ASSIST) and the Motivated Strategies for Learning Questionnaire (MSLQ) at the beginning and end of the course. Students enrolled in the current spring semester course are being exposed to PBL, while students enrolled in the summer course will be exposed to case study instructional strategies.

Objectives

The primary objective for this research project is to compare the effectiveness of PBL and case study instructional strategies in a counseling course. Specifically, the project will examine the existence of a statistically significant difference between the PBL and the Case Study groups in their definition of learning and their preferences for different types of courses and teaching styles, as measured by the ASSIST. The project will also examine if there is a statistically significant difference between the PBL and the Case Study groups in motivation, and learning strategies, as measured by the MSLQ. Results from both the ASSIST and MSLQ will be used to determine if there is a statistically significant difference between the PBL and the Case Study groups in their approaches to studying.

Current Progress

PBL is currently being utilized as the primary teaching strategy for the course, Seminar in School Counseling. The class consists of 9 graduate level students seeking a master's degree in school counseling and is taught once a week in a 2 hour and 50 minute block. On the first night of class, students took the ASSIST and MSLQ. The professor then presented the first PBL case scenario:

Congratulations! You have just been hired as part of a school counseling team for a wonderful school in Mississippi. The previous counseling team tended to be reactive and had many administrative duties. The new team wants to move to a more proactive approach that is based on the ASCA National Model, ASCA National Standards, and the Mississippi Curriculum Frameworks.

The entire class of students engaged in dialogue about the problem scenario for approximately 30 minutes without input from the professor. The professor then asked them to list questions they had about the problem. Students devised a list of 38 questions. Of these questions, students chose six as being most pertinent to answer at this time. These questions related to the school environment, counseling environment, ASCA National Model, ASCA National Standards, and Mississippi Curriculum Frameworks. One question referred to the grade levels for the school. As a result of this question, students were asked to choose which level (elementary, middle, or high school) they would prefer to work. Students were then assigned to small groups based on their level of interest, with three students choosing each particular grade level. Using resources provided by the professor, students then began their research to answer these six questions. Students completed their research as homework.

On the second night of class, students reported answers to the six questions and discussed their findings with each other. They solidified their answers through student-directed debate. The professor merely facilitated the discussions. After the discussions were completed, the professor presented a second problem scenario to each group of students:

The current counseling program does not have a foundation and has no focus. School counselors primarily struggled to make it through each day and were only able to provide counseling for emergency students. They seemed to be putting out fires all day long. Your school counseling team wants to create a developmental counseling program with a strong foundation and a clear direction based on students' needs. With a clear action plan, parents, teachers, and administrators will understand the purpose of the counseling program. A management agreement contract will also help to minimize the other duties and responsibilities that were assigned to the previous team.

Students engaged in dialogue about this information for approximately 30 minutes without input from the professor. Students then listed questions regarding the problem and narrowed their lists of questions to approximately seven for each group. Questions for all groups related to developing a foundation, assessing needs, creating an action plan, and writing a management agreement. Using resources provided by the professor, students began researching answers to their questions and then continued this process as homework.

The fourth and fifth classes were held in the computer lab so that students could begin developing their comprehensive counseling program. The professor served only as a professional advisor throughout the class sessions; the students took the lead in the classroom. Using information that they had discovered through their independent research, students devised a list of developmental concerns/issues for their grade levels in the areas of academics, career, and personal/social; wrote a school counseling mission statement; developed needs assessment instruments for students, teachers, and parents; wrote a goal for the school counseling program; developed an action plan with objectives; wrote a management agreement; and developed calendars.

The remaining classes for the semester will be spent on developing solutions for four more problem scenarios, all related to the development of comprehensive school counseling program. The four cases are described below:

PS # 3: Now that the foundation and action plan has been developed, the school counseling team needs lesson plans for small groups, classroom guidance units, teacher workshops, and parent workshops.

After devising a list of questions and researching, students will ultimately write plans for group counseling and classroom guidance lessons that will be used in their counseling program.

PS #4: After writing the group counseling plans and classroom guidance units, the school counseling team realized that they need to evaluate the counseling services of the action plan so that they can demonstrate that the counseling program does indeed impact knowledge and behavior. However, they are concerned about the amount of time that it will take to score and interpret the evaluation instruments – and how in the world will they keep up with all that data from year to year?

Students will design evaluation instruments for each of the strategies identified in the action plan, design excel spreadsheets to maintain data, and create results reports to document the effectiveness of their counseling program.

PS #5: Because the previous school counseling team was more reactive and administrative, your school counseling team wants to let everyone know what a school counseling program really should be. The team needs to develop a plan for promoting the school counseling program in general as well as revealing the results from the evaluation of the new program.

Student will develop a marketing plan that promotes their counseling program in general as well as identifies specific strengths of their action plan.

PS #7 The school board is meeting on April 28th at 5:00 to discuss funding for the upcoming year and other matters. This would be a great opportunity for the school counseling team to discuss their program in the hopes of gaining additional funding for the next school year.

Students will develop and present a mock school board presentation to the class that promotes their counseling program and discusses the effectiveness of counseling interventions in reaching their goal.

Upon completion of the course, students will have completed a comprehensive counseling program, from beginning to end. Students will complete the ASSIST and MSLQ on the last night of class to complete the spring portion of this research project. The summer portion will begin in July with the Seminar in Counseling course being taught using the case study methodology. In this section, students will be presented with all information prior to completing the problem scenarios, so students will not be conducting independent research. The professor will serve as the expert and will closely guide them through the development of the comprehensive counseling program.

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**“OTHER PEOPLE’S PEDAGOGY”: RE-“RIGHTING” CURRICULA TO INCLUDE SPIRITUALITY AS
A MEANS FOR EDUCATING AFRICAN AMERICAN STUDENTS**

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ABSTRACT

Comprehensive curriculums and curriculums that are designed to fit all have taken center stage across America. The lives and experiences of people from cultures other than the dominant culture have been excluded, ignored and labeled as insignificant in relation to school curriculums. Therefore, because of the described educational dilemma this article makes the following propositions. First, a valiant effort must be made to embrace other people’s pedagogy because changing schools demand new and changed practices. Second, In order to educate “other people’s children,” steps must be made to re-“right” the curriculum. Third, and finally including spirituality as a tool for educating African American students may provide new direction for educational reform, teacher education programs and an increase in the academic achievement of African American students.

ELEMENTARY SCHOOL TEACHER PREFERENCE FOR CONSULTATION OR REFERRAL SERVICES

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ABSTRACT

This study investigated elementary school teacher ratings of student school related problems and the teachers' preference for either consultation or referral interventions to address those student problems. Participants consisted of 77 elementary school teachers from four public schools in south Texas. Three hypotheses examined elementary school teacher preference for either consultation or referral interventions. A discriminant function analysis correctly classified 83% of the sample with a moderate kappa coefficient value of .48. Finally, we used the leave-one-out technique to determine how well the classification procedure would predict in a new sample and correctly classified 83% of the cases. However, no support was found for the value of teacher demographic variables in predicting teacher preference for consultation or referral services. The results are discussed within the scope of other research in teacher preference for consultation or referral interventions.

INTRODUCTION

Elementary school teachers have a uniquely pivotal niche in the academic achievement of all students. They inspire, nurture, and shape the academic trajectory for most students' before middle school and high school teachers get the chance to mold and polish it. Elementary school provides "the first point in the lifespan when the majority of children enter a service system that includes a broad cross-section of the population" (Eddy, Reid, & Fetrow, 2000). It is in elementary school (pre-K through sixth grade) that many students get their first dose of structured education. Further, it is in elementary school that many students are identified and labeled as being gifted or in need of special education services. Consequently, teacher decisions reached in elementary school often have lifelong consequences for students' academic achievement.

Elementary school teachers make decisions which affect not only their relations with students (Henricsson & Rydell, 2004), but may also define the academic trajectory of those students (Henderson & Milstein, 1996). As the case may be, many decisions concerning elementary school student misconduct come to peak with either of three alternatives: (1) the teacher seeks consultation with other personnel in or out of the school system to better serve the student, (2) the teacher initiates prereferral intervention where available or, (3) the teacher refers the student for services that the teacher feels he or she cannot personally provide as part of his or her regular classroom duties.

The first alternative for an elementary school teacher who has a student problem which is beyond regular classroom remediation is consultation. While there exists disagreement on the precise definition of consultation in the human service professions (Kurpius & Fuqua, 1993a), there is general agreement that consultation is a tripartite relationship (Mannino & Shore, 1986) in which a consultee works with a consultant to solve problems (Kurpius & Fuqua, 1993b) in a client system. Consultation has two main goals: to bring collaborative expertise to the remediation of the presenting problem and to achieve preventative objectives (Gutkin, 1996). The consultant works with a consultee on a work related issue. The consultee, in turn, is the one who implements the consultation product in the client system. However, even though the consultant provides indirect service to the client system, the consulting arrangement may allow the consultant access to the client system for specified tasks such as testing, observation, etc. ((Kurpius & Fuqua, 1993b). Either way, the working relationship between the consultant and consultee is generally nonhierarchical (Caplan, 1970) and the consultee is under no obligation to implement any product of the consultation.

In a school system, consultants may be employees of the school district or external to the school district. When consultants are employees of the school district, they work as direct service providers by “collaborating” on teacher assistant teams or as consultants to prereferral intervention committees (Dougherty, 2000, pp. 298-325; Garcia & Ortiz, 1988; Keys, Bemak, Carpenter, & King-Sear, 1998). However, there is growing consensus that the defining feature of consultation is its indirect service to the client system (Gutkin & Curtis, 1981; Gutkin & Curtis, 1990) whereby consultants to public schools work with teachers who ultimately implement the consultation plan with students. Either way, researchers have documented that consultation and/or collaboration helps in reducing the inappropriate referral of students for special education (McDougal, Clonan, & Martens, 2000) and especially minority students (Donovan & Cross, 2002; Garcia & Ortiz, 1988).

The second alternative for the elementary school teacher who has a student problem which is beyond regular classroom remediation is to initiate prereferral interventions when available (Buck et al., 2003). Prereferral gained prominence as an intervention method in public school education soon after its inception in the mid 1980's. By 1987, 67 % of the states in the U.S. had mandated or recommended the use of prereferral intervention as a means of accommodating students with school related problems before other alternatives could be considered (Carter & Sugai, 1989). Prereferral intervention is a collaborative effort involving the initiating teacher working with a Teacher Assistance Team (TAT) composed of other elected regular classroom teachers to address a specific student related problem (Chalfant, Pysh, & Moultrie, 1979). Since prereferral intervention operates within the regular education program (rather than special or alternative programs), special education teachers and other school paraprofessional staff are not part of the prereferral intervention team or the TAT “except when they are invited to serve as consultants to the committee (Garcia & Ortiz, 1988).”

While all participants on a prereferral intervention team equally share power in the decision making (MacMann et al., 1996), the regular classroom teacher retains primary authority and responsibility for implementing the intervention(s) developed with the assistance of the TAT. The TAT, in an auxiliary capacity, supports the implementation, evaluation, and further determination of the student related problem. Researchers have found prereferral intervention to be an effective and sufficient strategy for addressing many student problems (McDougal, Clonan, & Martens, 2000; Kovalesski, Gickling, Morrow, & Swank, 1999). However, as of 2000, only 37 states required or recommended the use of prereferral intervention procedures (Buck et. al., 2003). However, when prereferral interventions are part of the general educational system in a state or school district, they serve as “gatekeepers” to special education referrals (Garcia & Ortiz, 1988).

Referral is the third alternative for an elementary school teacher who has a student problem which is beyond regular classroom remediation. Referral differs from prereferral intervention in terms of who has the authority and responsibility for implementing interventions. In prereferral interventions, the classroom teacher, even while collaborating with the relevant committee such as a teacher assistance team, retains primary authority and responsibility for the implementation of any interventions, while in referral interventions, an educational specialist such as a school psychologist or special education teacher assumes the primary authority and responsibility for implementing interventions. Teacher decisions to refer students result in the testing of the students in 93% of the cases and the eventual placement of those students in special education at the rate of 73% (Algozzine, Ysseldyke, & Christenson, 1983; Galagan, 1985). These referral, testing, and placement rates have been shown to be very stable even after 14 years (Ysseldyke, Vanderwood, & Shriner, 1997), indicating that most students who are referred for testing are eventually placed in special education albeit the advent of prereferral interventions.

Texas does not require the use of prereferral interventions. Such interventions, when utilized, are left to individual school localities. Elementary school teachers in Texas, in the absence of prereferral services, are limited to either consultative or referral interventions as strategies for dealing with students who require extra assistance for school related problems. And since teacher decisions to consult or refer are personal and thus may vary from teacher to teacher, school to school, etc., there is a need to document teacher preference for either of these intervention modalities. Disparate treatment of students has been documented elsewhere in educational research. For instance, Wright and Dusek (1998) found differential discipline treatment patterns for students with and without disabilities, while Skiba, Peterson, and Williams, (1997) revealed that minority students were disproportionately disciplined.

In this study, we examined teacher preference for either referral or consultation in the context of several common school related student problems. The following hypotheses were examined in this study:

1. Elementary school teachers in south Texas would prefer consultative interventions to referral interventions in addressing student school related problems.

2. Elementary school teacher ratings of student problem severity in academics (as opposed to teacher ratings of problems labeled as “withdrawal” or “acting out”) would contribute the most to discriminating between teachers who prefer consultative to referral interventions.
3. Teacher preference for consultation or referral interventions would be significantly related to teacher demographic variables.

METHOD

Participants

Participants in this study were 77 elementary school teachers (5 African-Americans, 21 Hispanic-Americans, and 50 Caucasian-Americans, and 1 “Other” race/ethnicity) from four south Texas public schools. Participants ranged in age from 24 to 62 years with a median age of 42 years. The mean age of the participants was 41.47 with a mode age of 36 years. There were 73 females (94.8%) and 4 males (5.2%) in the sample. The sample consisted of 24 pre-kindergarten and kindergarten teachers, 10 first grade teachers, 17 second grade teachers, 12 third grade teachers, 6 fourth grade teachers, 3 fifth grade teacher, and 5 teachers who taught combinations of pre-kindergarten through sixth grade classes. Of the total sample, 58.4% of the teachers indicated that they taught all elementary school classes, 11.7% taught mathematics, 6.5% taught science, 11.7% taught reading, 2.6% taught special education, 2.6% taught computer skills, and 6.5% taught combinations of classes in elementary school. The mean total years of teaching experience for the sample was 13.35 years (the median and mode were 11 and 5 years respectively). The mean for the total number of years taught at the current school with 6.45 with a median and mode of 4 and 2 years respectively.

Instrumentation

The Pupil Problem Behavior Inventory (Gutkin, Singer, & Brown, 1980) and a demographics questionnaire were used to collect the data. The Pupil Problem Behavior Inventory (PPBI) consists of two scales; the Preference for Consultation Scale (PCS), and the Problem Severity Scale (PSS). Each of the scales contains 24 items that are further divisible into three subscales. Each of the three subscales in turn contains 8 items describing typical elementary school student related problem indicators. The three subscales in each scale are: 1. Acting Out, 2. Withdrawal, and 3. Academic.

For the PCS, participants were asked to respond to a 5-point Likert scale ranging from “very likely to use consultation rather than referral (1)” to “undecided whether to use consultation rather than referral (3), to “very unlikely to use consultation rather than referral (5). A total PCS scale score of less than 72 indicated a preference for consultation while total PCS subscale score values of more than 72 were considered as preference for the referral approach (Gutkin, Singer, & Brown, 1980).

For the PSS subscale, participants were asked to rate the severity of each of the 24 student problem indicators on a Likert scale ranging from “not very serious (1)” to “moderately serious (3)” to “very serious (5).” Scoring for the PSS was based on summation of all item response values for each participant.

Gutkin, Singer, and Brown (1980) reported the internal consistency reliability for the PPBI as .87 for the Preference for Consultation Scale, and .88 for the Problem Severity Scale. Additionally, alpha coefficients of reliability for both subscales of the PPBI ranged from .55 to .80, with a median coefficient of .75. Gutkin, Singer, and Brown also reported that the PPBI had face, content, and construct validity.

Procedure

Each volunteering teacher was handed a packet containing the Pupil Problem Behavior Inventory (Gutkin et al., 1980), consent to participate form, and a demographics questionnaire. Principals from the participating schools handed out the questionnaires. Participants completed the questionnaires over the weekend and turned them in to the school principal the following Monday.

RESULTS

A discriminant function analysis was conducted to determine whether five predictors – teacher ratings of student problem severity on three dimensions; acting out, withdrawal, and academic, in addition to teacher age, and years of teaching experience – could predict teacher preference for consultative or referral interventions. The overall Wilks' lambda was significant, $\Lambda = .52$, $\chi^2 (10, N = 77) = 47.39$, $p < .001$, indicating that the predictors differentiated among the two teacher intervention modalities. However, the residual Wilks' lambda was not significant, $\Lambda = .99$, $\chi^2 (4, N = 77) = 1.03$, $p < .905$, indicating that the predictors failed to significantly differentiate between the two teacher intervention procedures after partialling out the effects of the first discriminant function. As a result of the nonsignificance of the second discriminant function, only the first discriminant function will be interpreted. Within-groups correlations between the predictors, the discriminant functions, and standardized weights are presented in Table 1 below.

Table 1: Standardized Coefficients and Correlations of Predictor Variables with the Two Discriminant Functions

	<u>Correlation coefficients with discriminant functions</u>		<u>Standardized coefficients for discriminant functions</u>	
	Function 1	Function 2	Function 1	Function 2
Acting out	.43	-.03	-.24	.57
Withdrawal	.51	-.25	-.20	.51
Academic	.88	-.05	1.36	-.04
Teacher Age	.04	-.75	-.71	.32
Years of teaching- Experience	.04	-.83	.66	.78

Teacher ratings of student problem severities in academics show the strongest relationship with the first discriminant function, followed by teacher ratings of student problems indicating withdrawal, and lastly, teacher ratings of student problems labeled as acting out. Based on the results presented in Table 1, we labeled the first discriminant function as student classroom attributes. This interpretation is consistent with the means on the one significant discriminant function. Elementary school teachers who preferred consultative interventions ($M = .93$) had the highest mean scores on the student classroom attributes dimension (the first discriminant function), while teachers who preferred referral interventions ($M = -.92$) evinced lower mean scores.

In the attempt to predict elementary school teacher preference for consultative or referral interventions, we were able to correctly classify 83% of the participants in our sample. We computed a kappa coefficient to account for chance agreement and obtained a moderate value of .48. Finally, we used the leave-one-out technique to determine how well the classification procedure would predict in a new sample and correctly classified 83% of the cases.

DISCUSSION

The finding in this study that elementary school teachers prefer consultative to referral interventions replicates results from earlier studies. For instance, Kading (1997) using a sample of Nevada school teachers in a study of teacher preferences for consultation or referral services found overwhelming preference for consultative interventions rather than referral interventions. Since the state of Nevada participates in the use of prereferral interventions (and as a result may avail its teachers to broader consultative interventions), the present results extend Kadings' findings to states which do not require or recommend prereferral interventions.

In support of hypothesis two, this study revealed that elementary school teacher ratings of student academic problems are more potent predictors of teacher preference for consultation or referral than are teacher ratings in the domains of “acting out” or “withdrawal.” This finding may indicate that elementary school teachers consider student academic achievement to be a more personally relevant duty than are other problems such as student misbehavior as in acting out or student withdrawal problems which the teachers might view as secondary to their main duties. This finding is somewhat consistent with Kading (1997) who found that elementary school teachers rated withdrawal problems as the least severe, acting out problems as the most severe, but academic problems as falling in between withdrawal and acting out problems.

This study did not find support for hypothesis three which examined whether teacher demographic variables would be useful in discriminating between teacher preference for consultation or referral interventions. The nonsignificant finding for this hypothesis in this study contrasts with Kading (1997) who found that teacher demographic variables inclusive of age and length of teaching experience were related to teacher choice of consultation or referral interventions. More research is needed to clarify these disparate findings.

In summary, this study highlights the central role that consultation has attained in the education of elementary school students. Additionally, the study reveals that public school teachers find consultative interventions to be helpful and more so than the traditional model of referral interventions. However, the results of this study are limited by the use of a single self-report measure of teacher preference for consultation or referral interventions. A combination of self-report measures and administrative documentation would allow for better generalization of these findings. Use of convenience sampling also limits interpretation of the findings in this study to other settings.

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TEACHER PREPARATION: A PEDAGOGICAL MODEL FOR REDESIGNING FIELD EXPERIENCES TO INCORPORATE VIDEO CONFERENCING

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ABSTRACT

The emergences of new technological instructional strategies are changing the way we deliver instruction to students. As educational institutions embrace new technological tools as a vehicle to facilitate the learning of perspective teachers, teacher educators will be able to sustain their role in the classroom and advance learning through interactive field experiences. With this in mind, teacher educators must evaluate the current processes in place for teacher education preparation. The shift in instruction is significant as perspective teachers are able to view and interact with cooperative teachers in the field through video conferencing technology. The purpose of this study was to assess the use of video conferencing in teacher preparation field observations. Furthermore, instructional practices and models were presented to provide direction for other teacher educators to implement.

INTRODUCTION

“Technology is a key to change” –John Morton

Theory-to-practice is a common term that has very different meaning and values for teachers and perspective teachers alike in the field of education. The researchers acknowledge the often heard comments by prospective teachers, “I really didn’t learn what teaching was until I entered the classroom.” This suggests that while test scores, lectures based on theory and class instruction are required to gain a teaching certificate, most perspective teachers feel they gain a better understanding for teaching through field experiences and class observations. While progress has been made in student placement for field experiences, there is still a lot of work that needs to be done to create diverse field experiences for students. Video conferencing provides an alternative to traditional classroom observations by offering a way for students to observe classrooms from a distance. The use of video conferencing technology provides a win-win situation for the college, school community, and the perspective teachers. Higher education is driven by models, instructional design and the learning process (Ellis, 2007). This paper provides an examination of the theoretical framework for teaching utilizing video conferencing as a tool, which is grounded in Vygotsky’s (1978) cultural theory of development. Furthermore, the research presents the perceptions of clinical teachers and perspective teachers that utilized the new methodology for field experiences. The researchers also provide insight into the challenges, benefits, and next steps in refining video conferencing for future field experiences.

THEORETICAL FRAMEWORK

Any aspect of a child’s cognitive development occurs twice: first on the social plane in interaction with others then on the psychological or internal plane. Whatever language and logical structures utilized in their cognition, they first learned via social interactions. Therefore, this led the researchers to ask: how does the teacher educator organize the social environment now manufactured through technology in a manner to promote learning? Two possible ways according to Vygotsky’s (1978) model of social cultural learning theory are to use mediation and scaffolding. *Mediation* here refers to Vygotsky’s observation that all higher psychological processes, such as the conscious control of attention and memory are neither innately specified nor reactions to the environment. Instead, both evolve indirectly through the mediating action of tools, signs, and the people who wield them (Iju, & Kellog, 2007). *Scaffolding* refers to supports that teachers can provide to the learner during problem solving in the forms of

reminders, hints, and encouragement (Shepard, 2005). Such an idea is encompassed in Vygotsky's idea entitled the *Zone of proximal development* that relates subsequently to the continuum a teacher must walk in order to know when to provide guidance or foster independence as the student masters the concepts. Within these parameters, the teacher educator organizes learning within the videoconference medium.

A model of scaffolding described by Cazden (1988) depicts how through the traditional direct instructional approach that includes teacher input via discussion and modeling in phase 1, student engagement and feedback during guided practice in phase 2, and ultimately independent practice by the student in the phase 3. Figure 1 illustrates the Cazden scaffolding model from a Vygotskian perspective.

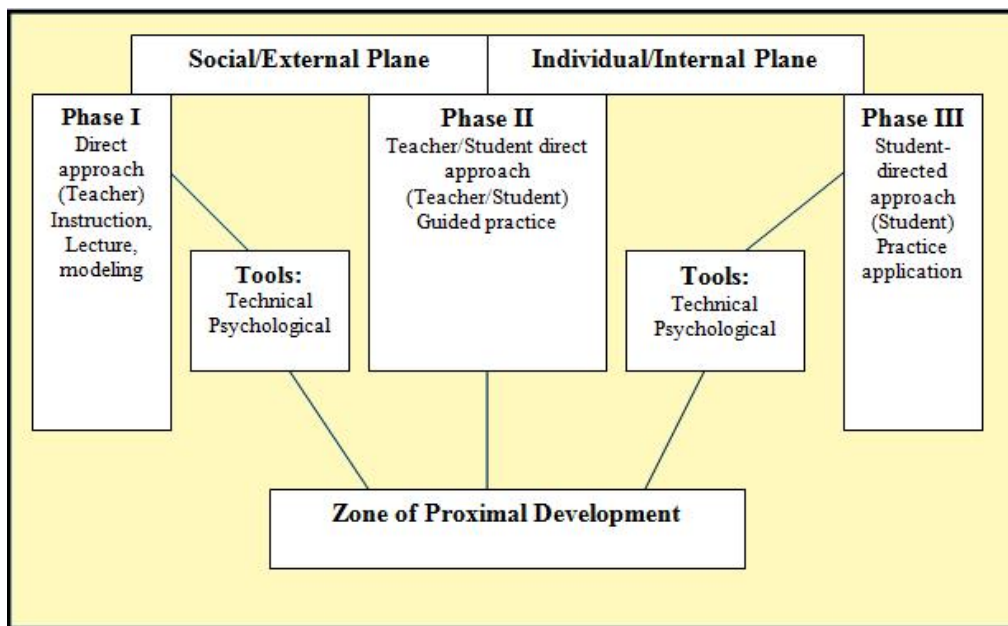


Fig 1. Model of scaffolding used in teaching the course. *Source:* Cazden (1988)

In order to reach the level of independence, the teacher educator in this case utilized the assumption that teaching is a linear process. This entails moving perspective teachers from being students with external book knowledge to being skillful and competent practitioners (Kagan, 1992). Phase I encompasses the time and energy spent on directing students to readings that introduce new skills and concepts. Lectures are also prevalent at this stage due to the amount of new material. In Phase II, the learning tasks are scaffold through the usage of mediators, psychological and technical tools such as live examples and simulations. In this phase, supports are relinquished as a clear understanding occurs. Student engagement and decision making is also expected at this point. In Phase III, knowledge is internalized as assistance from the teacher is surrendered and the student becomes capable of accomplishing the task. Ultimately, a student participates in a performance-based or written summative test to note their level of accomplishment.

Such a model of learning correlates with the level of accountability and responsibility placed on institutions of higher education to produce highly qualified teachers (NCLB, 2001)). However, there must be a way to show within the Zone of Proximal Development model the support supplied by not only the teacher educator but also the cooperating teacher of moving a perspective teacher from theory to practice. Therefore, a modification was made to the Cazden model to show the shared responsibility and collaboration needed to educate perspective teachers in a manner that depicts the African adage "It takes a village to raise a child".

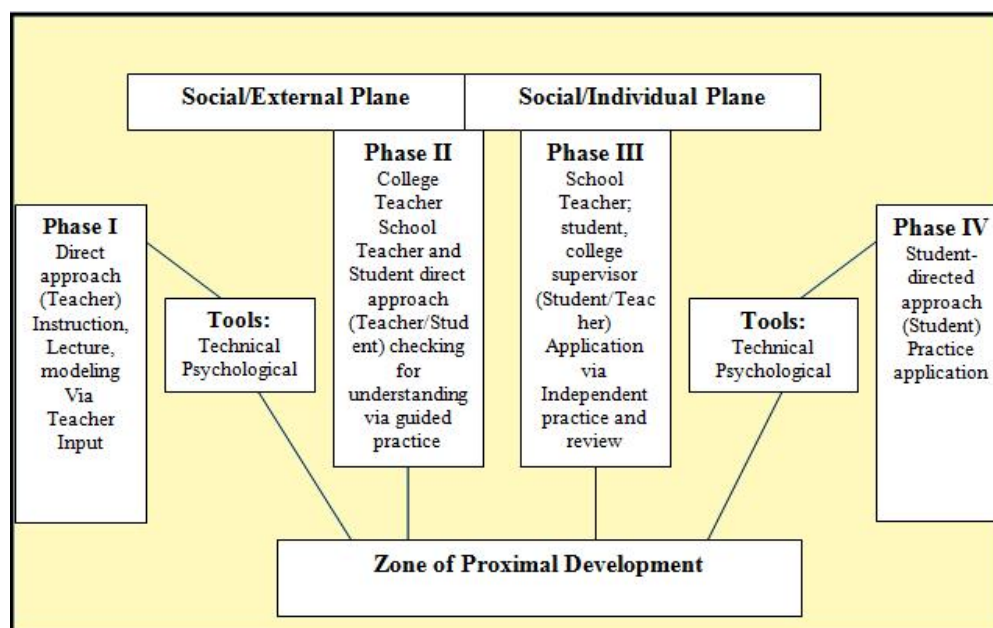


Figure 2: Revised Cazden model of scaffolding used in teaching courses accompanied by a field experience.

In the revised Cazden model, more time is given to the mediation portion of scaffolding. Phase II and III are also visually depicted on the same level to portray and relate their similar significance in determining as noted in ZPD, “the actual development level as determined by independent problem-solving and the level of potential development as determined by problem-solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p.8). Phase I and IV are basically the same as Phase I and III respectively of the formerly depicted Cazden model.

Video conferencing has certain benefits for teaching and learning. Such a tool can serve as a mediating device within the zone of proximal development. This correlates with the finding by Miller that technological tools can serve as mediators of higher learning (1983). When adult learners such as perspective teachers engage in social interaction and discourse about real world teaching and learning settings, such as vignettes from real time field experiences, they are exposed to thought processes and expertise of diverse peers and mentors which may help them internalize new competencies, such as best practices (Brown, Collins, & Duguid, 1989).

Scarcity or “over mining” causes the effected group to search for new possibilities. By connecting perspective teachers via technology colleges can alleviate issues faced in finding appropriate field experiences. Video conferencing is one of those possible ways to make a suitable connection. Video conferencing can also serve to help bridge the gap between the more abstract theory-based educational courses and the more concrete partner, the field experience because regardless of the challenges inherent with field experiences, education course work needs to be connected to the realities of classroom teaching (Kagan, 1992).

RESEARCH PARTICIPANTS

The participants consisted of seven participants: four cooperating teachers from the rural schools and three perspective teachers enrolled in the ELEM 3235 and the accompanying field experience 3236. All participating rural teachers were “highly qualified” and held an elementary license. Diversity of the teachers ranged from a black male kindergarten teacher, two white females, and one black female. All teachers had experience with mentoring perspective teachers. Two perspective teachers were white females, one perspective teachers was a black female. None of the perspective teachers were teacher candidates at the time of study due to the fact that they each had a phase in the enrollment process to complete. Roughly 33% of the perspective teachers were within the age range of 16 to 21, and the rest were within the age range of 22 to 31. All of the perspective teachers were U.S. female students, one is senior and two were junior.

RESEARCH METHODS

In order to explore the notations and thoughts of perspective teachers about best practices when video conferencing is applied in the mediation process of Phase II of the scaffolding model, the teacher educator restructured an entry level elementary course entitled, Curriculum Organization and Instructional Planning in Early Childhood and Elementary Education with an accompany 12-hour field experience. To pilot the study, the teacher researcher was given permission by the Dean of the College of Education to teach an on-campus class during the first 5 week summer session. A rural elementary school site in North Carolina was also selected because of the benefits for teachers in rural schools such as small class size, fewer discipline problems, more personal contact, and greater chance for leadership (Boylan & Bandy, 1994; Lemke 1994; Stone 1990). The school system agreed to allow the school to participate and teachers volunteered either to be the cooperating teachers and/or the video conference teacher to help perspective teachers explore best practices.

The perspective teacher spent five days a week for approximately three hrs meeting either in the general education classroom, the video conferencing equipped classroom, or at their assigned classroom at the rural school site. The general classroom was equipped with internet access, individual laptops for each student, dvd/cd player, stationary personal computer, LCD projector, and a podium and desk chairs which were placed in a semi-circle. The video conferencing room had all of the previously mentioned equipment plus the Tandberg of Polycom System and tables that were placed directly in front of the viewing screen.

The classrooms in the public school were 7 yrs old and equipped for technology and are a part of the Sprint Technology Initiative used video conferencing to support learning. This was done by the Technology Support team at the university after permission for taping was obtained by the teachers from the parents. A camcorder and digital camera were also provided in case of an issue with the video conferencing equipment.

The teacher educator developed video mediated forms based on readings and lectures from Phase I or the teacher input part of the course. These included three topics which were lesson clarity, student engagement, and classroom management (See appendix 4 for more details). Secondly, these forms were used to help students hone in on specific elements of the school partners' presentation to assess their present knowledge of these topics. Note that only one form was used at a time per each real time video conference presentation. The perspective teachers also did this independently at first while the teacher educator took notes simultaneously on her video mediated form. Third, both teacher and student mediated on what they saw by reviewing jointly a recorded session or by speaking directly to the teacher after their presentation. During this time, the student revised their former observations and comments if necessary.

DATA COLLECTION, ANALYSIS & FINDINGS

A survey was completed by the perspective teachers to gain information on their technological background and their feelings about using video mediated conferencing. All of the perspective teachers had internet access at home. The subjects were fairly technology literate. The comfort levels with DVD player were "high" for 100% of the students. The reported comfort level with videoconference technology as the observer of the telecast was "high" for 33% of the perspective teachers and "moderate" for 67%. All of them reported a comfort level with videoconferencing Technology as the subject of the telecast as "moderate". On the question regarding the comfort level with videoconferencing Technology as the participant in a conference during a telecast, 67% reported "moderate" and 33% reported "low". Regarding the previous use of Video Conferencing Technology, 33% reported moderate and 67% reported that they had no previous use of it.

As reported in Table 1, the results of the Video Conference Survey show very positive responses from the perspective teachers regarding the quality of the video conference. From the technical viewpoint, they did not experience problems while observing a classroom with the video conference equipment. They found no delay in the relay of words or images from the video conference equipment. All of them found the quality of the picture and audio to be adequate. Most of them felt at ease and found it easy to communicate with the teachers through the video conference equipment.

Regarding the usefulness, all of the respondents agreed that the DVDs recorded from Videoconferences were helpful, and interviewing cooperating teachers through the video conference equipment was beneficial. Most of them feel that observing the practicum through the video mediated approach was beneficial. When it came to problems experienced, most of them indicated that they did not feel that they were distracted due to the video conference technology, although most of them felt that the presenting instructor was distracted due to the video

conference technology. In terms of instructor effectiveness, the majority felt that the instructor handled the video conferencing technology effectively, explained the purpose for using video conferencing technology, and was eager that perspective teachers use video conferencing technology.

Overall, all of the respondents indicated that they were encouraged to reflect on recorded videoconferencing sessions with the support of the DVD recordings. Most of them found the instruction with video conferencing technology useful and indicated that they would request the use of this video system again to support learning.

Table 1: Summary of Survey on Video Conference

Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
I did not experience problems while observing a classroom with the video conferencing equipment.	33.33%	66.67%	0%	0%	0%
I felt at ease with the video conferencing equipment while instructing students.	33.33%	33.33%	0%	0%	33.33%
I found it easy to communicate with the teachers in the interview through the video conference equipment.	33.33%	33.33%	0%	33.33%	0%
I did not experience problems during the recording of my session with the video conferencing technology.	33.33%	0%	0%	33.33%	33.33%
There was no delay in the relay of words or images from the video conference equipment.	33.33%	66.67%	0%	0%	0%
I found the quality of the picture to be adequate to view the presenting instructor.	33.33%	66.67%	0%	0%	0%
I found the quality of the audio to be adequate to understand the presenting instructor.	33.33%	66.67%	0%	0%	0%
I felt that the students were distracted due to the video conference technology.	33.33%	0%	33.33%	33.33%	0%
I felt that the presenting instructor was distracted due to the video conference technology.	0%	66.67%	0%	33.33%	0%
DVD's recorded from Videoconferences were helpful.	100%	0%	0%	0%	0%
Observing the practicum through the video mediated approach was not beneficial.	0%	0%	33.33%	66.67%	0%
Interviewing teachers through the video conference equipment was not beneficial.	0%	0%	0%	66.67%	33.33%
I would request the use of this video system again to support learning.	33.33%	33.33%	33.33%	0%	0%
Instructor handled the video conferencing technology effectively.	33.33%	33.33%	33.33%	0%	0%
Instructor explained the purpose for using video conferencing technology.	66.67%	33.33%	0%	0%	0%
I feel that the instructor was eager that we use video conferencing technology.	66.67%	33.33%	0%	0%	0%
I was invited to ask questions to receive answers about video conferencing technology.	33.33%	33.33%	33.33%	0%	0%
I was encouraged to reflect on recorded videoconferencing sessions with the support of the DVD recordings.	33.33%	66.67%	0%	0%	0%
I found the instruction with video conferencing technology useful.	66.67%	0%	33.33%	0%	0%
The comments added by the teacher after my initial review of the video conferences were helpful.	66.67%	0%	33.33%	0%	0%

Qualitative data was also collected through interviews with both clinical and perspective teachers to ascertain the value of video conferencing for field experiences. The following section summarizes the findings from the interviews and suggestions for future studies.

CONCLUSION

This research study explored the experiences and thoughts of perspective teachers learning about best practices when video conferencing is applied in the mediation process of Cazden's scaffolding model. This research shed light on how video mediated conferencing can play a role in enhancing our understanding of its value in supporting perspective teachers learning. It is evident that the benefits of video conferencing for teaching and learning include: (1) it allows inter active access to experts, (2) it enables collaboration by teachers and learners with the peers, (3) it enriches the experience of distance education by reducing feeling of isolation and encouraging interaction, and (4) it raises learner's motivation (British Educational Communications & Technology Agency, 2003). All of these benefits are included in Cazden's scaffolding model which promotes the best practices for videoconferencing. The first two benefits directly correspond with the goal of developing and seeking new school partners in outlying rural areas. Therefore, by developing stronger ties with universities; rural school systems have the possibility of attracting more perspective teachers (Crews, 2002) who realize that rural or remote schools do not have to be equated with isolation and less opportunity for skill development. Clearly, technology such as video conferencing can be a key player in building new partnerships and opportunities for both the universities and outlying rural schools. There are however, some limitations. The supervising teacher has to be aware of technology and its uses in the classroom. The supervisor needs to be able to use the technology as well as be able to teach others to utilize it. Without this knowledge, the technology will not be as beneficial as was found here and could even become a hardship in the classroom. Using technology in the correct way with a sufficient understands can continue to enhance the classroom setting for all members involved.

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BUILDING A COHORT THROUGH EXPERIENTIAL LEARNING

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ABSTRACT

Universities are exploring ways to better prepare teachers and to retain them. Building cohorts of pre-service teachers is one of the ways currently under scrutiny. The University of Memphis began a new cohort-based, grant funded program entitled Recruitment and Retention through Reinvention of Teacher Education (3R's) to prepare middle school math and science teachers in the summer of 2006. This article presents the results of a qualitative study on the effects of a 4-day experiential learning program on the development of the 3R's cohort of middle school pre-service teachers. Participants indicated that their experience was an effective way to build a graduate student cohort. Close relationships with each other were developed and support from the faculty was noted. Few pressing concerns were voiced. Getting away for an overnight stay, focus on educational best practices, and demonstrating the need and importance of this experience were listed as essential to the program.

INTRODUCTION

To better prepare teachers for the classroom and to increase teacher retention many universities are examining a variety of innovations. According to Desjean-Perrotta (2006), preparing and retaining qualified teachers is an urgent need in education today. She asserts that a pre-service teacher's fitness to teach is not based solely on grade point averages and standardized tests, but largely on dispositions and interpersonal skills which can be developed through cohorts. The National Center for Education Statistics reported that across the nation 9.3% of public school teachers leave before they complete their first year in the classroom, and over 20% of public school teachers leave their position within their first three years of teaching (Rosenow, 2005). Building cohorts of pre-service teachers is one of the innovations currently being explored as a means to better prepare teachers and increase teacher retention (Desjean-Perrotta, 2006).

Cohorts

Cohorts in academia are groups of students who typically begin a program of study at the same time and take most of their classes together (*Merriam-Webster Online Dictionary*, 2007). Dinsmore and Wenger (2006) state that cohort building requires an environment that fosters a community of learners. Cohorts in pre-service teacher preparation programs leads to the formation of natural learning communities (Dinsmore & Wenger, 2006; Fullan, 2001). As a result of taking most of their classes together, a sense of cohesiveness amongst the participants is established (Wenzlaff & Wieseman, 2004). Cohort building provides opportunities to socialize thus decreasing feelings of isolation, often an issue at large universities (Calcagno, Crosta, Bailey, & Jenkins, 2007). Adams and Hambricht (2005) contend that cohort building develops leadership skills and provides a lens through which students can examine educational issues and concerns in light of their own lived experiences. In an attempt to grapple with the issue of pre-service teacher preparedness and retention, the University of Memphis is exploring the benefits of cohort building. The University began a new cohort-based, grant-funded program to prepare middle school math and science teachers in the summer of 2006 entitled Recruitment and Retention through Reinvention of Teacher Education (3R's). Students were recruited from across the country to participate in the program. The requirements included a bachelor's degree in either a math or science related field. After the 4-day cohort building experience at Team Trek, students attended classes and taught half days at a middle school clinical site. Upon completion of the 18-month long intensive program, graduates received a master's degree and dual licensure in middle school education and special education. This manuscript focuses on the experience at Team Trek and its effectiveness in building a cohort as a small but important component of the 3R's Program.

Experiential Learning

Experiential learning as a concept dates back to the early 20th Century. Its philosophy underlies the ideals of Progressive Education, which focuses on experience as the most important tool for learning (Lindsey & Ewert, 1999). Dewey championed the concept of learning through direct experience, being engaged and reflecting upon those experiences (Stevens & Richards, 1992). Experiential Learning allows participants the opportunity to explore personally meaningful concepts that are derived from their experiences based on their feelings and history (Cassidy, 2001). Knowledge is developed by the learner rather than presented by the teacher (Lindsey & Ewert, 1999).

Experiential Learning creates knowledge through the transformation of one's lived experiences into existing cognitive frameworks, causing a change in thought and behavior (Kolb, 1984). Experiential Learning Theory proposes that learning consists of four interdependent constructs: (1) Concrete experience- engaging with the world through direct experiences, (2) Reflective observation- serious consideration and meditation, (3) Abstract conceptualization- from the experience and to create a plan for future actions and (4) Active experimentation- testing the plan by implementation (Kolb, 1984; Cornwell, Manfred, & Dunlap, 1991).

Experiential education is a learner centered approach which caters to the individual learning styles. The learner's experiences are structured to accommodate his or her various styles of learning (Sewchuk, 2005). Encouraging reflection along with the activity structure has proven to be a necessary and effective cycle for students (Miettinen, 2000).

The Team Trek (2006) program is primarily based on the Experiential Learning Cycle, coupled with leadership, management, communication, team development, problem-solving and conflict/dispute resolution theory and /or skills training. Participants engage in challenging experiences including one high level initiative and numerous low-level ropes course activities. As participants reflect on their initiative experiences and discoveries, they develop new skills, new theories or ways of thinking that are derived from their own learning and not from something that they happened to read or hear from someone else (Stevens & Richards, 1992). The activity-based program provides opportunities for adventure which is highly effective in building stronger bonds within cohorts (Dinsmore & Wenger, 2006). Individuals become better team players as the result of developing listening skills that are important in understanding fellow team members (Cazden, 1988). Activities conducted on both high and low rope courses have proven to be enjoyable while providing lessons in leadership and teamwork (Steinfeld, 1997). Participants begin to recognize the strengths of the individuals with whom they are working, helping to foster mutual support (Steven & Richards, 1992).

METHODS

Purpose

The main purpose of this qualitative research study was to answer the question, "What perceptions do students and faculty have of an experiential learning based-cohort building experience?" Results will be used to help develop our own experiential learning, cohort building program. Qualitative research is based on the assumption that knowledge consists of multiple, socially constructed realities, not some objective entity that exists independently of the social setting and the interactions of the participants (Glesne & Peshkin, 1992; Merriam, 1988). The cohort's perceptions of the Team Trek experience are best examined in the actual settings where the researcher can understand the framework for the participants' emotions, thoughts, and conduct while exploring the events' meanings and processes (Marshall & Rossman, 1989). One of the authors took the role of participant observer to hear, see, and experience what the participants did through immersion in the research setting (Marshall & Rossman, 1989).

Procedures and Participants

Participants in the study included the 12 students who were recruited into the 3R's program, three University of Memphis faculty members, and one of the authors. Two of the students were females, 10 were males, half were African American, and the other half Caucasian. The ages of the students ranged from the mid-twenties to the late fifties. About half of the group came from other parts of the country to participate in the program. Faculty were sent a brief email questionnaire that simply asked what benefits, concerns, and program essentials they recognized from

and about the Team Trek experience overall. Only one of the three faculty who responded to the questionnaire attended Team Trek, while the other two taught classes for the cohort.

The week following the experience at Team Trek, students were interviewed in groups of four about their perceptions of the program. Students were also offered the opportunity to add thoughts via email. Interview and survey questions consisted of what were the benefits, concerns, and essential components of the Team Trek experience. Tapes of the interviews were transcribed. All data from the interviews and surveys were closely examined for emerging themes in response to the three questions about the benefits, concerns, and program essentials of the experience using constant comparison and inductive analysis to identify patterns and develop categories (LeCompte & Priesle, 1993). The following results section will outline both the benefits of the experience and those concerns that were raised by participants, as well as describe program essentials.

RESULTS

Benefits

Members of the cohort discussed two major benefits of the experience. The first was relationship building, getting to know each other. The second was learning about faculty outside of the classroom and witnessing faculty commitment to the Three R's program.

Relationship building.

Comments from the participants support Dinsmore and Wenger's (2006) assertion that the cohort approach is a powerful tool for building relationships. Eric stated, "For me the number one thing was the relationships, getting to know each other in depth." Natasha reinforced the research that stated that the use of graduate student cohorts was a valuable tool for retaining and helping students succeed (Wenzlaff & Wieseman, 2004, Calcagno, Crosta, Bailey, & Jenkins, 2007) when she added, "Yeah, I would agree with that. I think it was extremely beneficial, especially with the intense program like the one that we're in where you jump right into it. We have gotten to know all the members of the program pretty well. It just makes it a lot easier to interact in class, since you participate and collaborate."

Faculty participation.

Faculty participation in the experience also proved to be important to the students as indicated by the subsequent discussion. Students noted a different kind of relationship between student and teacher as a result of the experience. Students described it as a mentoring experience and appreciated the willingness of the faculty to participate, not just observe the action. This exemplifies Lindsey and Ewert's (1999) research on how knowledge development is undertaken by the learner rather than presented by the teacher in experiential learning.

Eric provided this insight, "Secondly, I think with the faculty there, it made me feel like I was participating in a mentorship rather than the usual teacher-student relationship. It's totally different than my first college experience in that way." Kendall inserted, "I think having the faculty there from the schools that we'll be working at and the faculty from the university was a big help because I really felt like they were there for me." Jim conveyed, "I thought it showed that they were very committed to the program and committed to supporting us."

Faculty had a similar perspective on the benefits of the experience. They observed that the students had made significant connections to each other and were able to work better together than most class groups they had encountered previously. Lisa, a faculty member, echoed Dinsmore and Wenger's (2006) description of the cohort experience as being like a family resulting from the interactions and bonds created among individuals, "I think the beauty of the 3R's cohort is that they appear to be so close to each other, they are comfortable with each other, almost family-like."

Jana added, "It helps with bonding- a time of self reflection. It is a time to work as a team and learn about what that means personally and professionally. And this is for both students and faculty." Kay conveyed that, "with this bonding, the students should then be comfortable enough with one another that the graduate classes are enhanced by them working together and engaged in lively discussions."

Concerns

Few concerns were mentioned by the students interviewed or the faculty surveyed for this study. Most of the students agreed that their only concern about the 4 day experience was the timing, immediately before classes began. Philip stated, "You need a day or two [between the experience and the start of classes], two at the most. Because it's

kind of like the movie *Remember the Titans*. You get bombarded.” One of the authors also taught the first class after the program and agrees that at least one intervening day would be appreciated. Faculty mentioned several other issues. Jana dealt with personal knowledge issues, “It is quite a personal experience and some of the information [learned about individuals] can be used against individuals in other contexts.” A related concern about academic work was brought up by Kay, “the students in the experience may have such a comfort level with their professors that they do not take the coursework seriously, believing that a friendship has developed in which an A is an automatic given without any effort on their part.” These issues will eventually have to be addressed by those providing the cohort-building experience.

IMPLICATIONS

As we look toward the future, plans are being made to develop our own cohort building experience for all teacher education candidates. With this in mind, participants were asked to list essential elements of an effective experiential learning/cohort building program. Clearly the most important aspect of the program for the students was the isolation resulting from being 3 hours away from home. One of the students, Patrick said, “Well, the biggest thing is being at Team Trek, getting out of Memphis to where the only people you’re going to get to hang out with is [sic] people there.” Kendall supported this statement, “If we were back in Memphis and we got done [sic] with the program for the day, all of us would’ve gone back home.” Natasha added, “Being out of town was a different situation, a different atmosphere to spend time with each other, isolated.” Essentials for faculty included the need to make the program more focused on education and best teaching practices, as well as ensuring that all participants understand the importance and need for the experience. Based on the results of this study, university faculty involvement is another key component of the program’s success. “How can we encourage faculty to participate?” was the last question asked of the professors involved in this research. One said it needs to be a part of the instructor’s regular schedule. Another stated that the experience is appropriate for faculty leading cohorts, but not for all. The third faculty member advised that the program should only be 2 days long and should be held closer to home.

CONCLUSION

This study examined the perceptions of students and faculty of a cohort-building program based on experiential learning. Comments from participants indicated that the experience at Team Trek can be an effective way to build a student cohort. Previous research on cohorts, especially the studies focused on how a cohort leads to the formation of natural learning communities (Dinsmore & Wenger, 2006; Fullan, 2001), establishes a sense of cohesiveness amongst the participants (Wenzlaff & Wiesenman, 2004), decreases feelings of isolation (Calcagno, Crosta, Bailey, & Jenkins, 2007), and is a valuable tool for retaining and helping students succeed (Calcagno, Crosta, Bailey, & Jenkins, 2007; Wenzlaff & Wiesenman, 2004) was supported. Students stated that they developed close relationships which each other and felt supported by the faculty. Faculty noted the close ties the students had made and their collaborative spirit in class.

Studies of experiential learning were also reinforced. Participants had the opportunity to explore personally meaningful concepts derived from their own history and make connections between experience and learning (Cassidy, 2001). Knowledge development was the responsibility of the learner rather than the teacher (Lindsey & Ewert, 1999). Reflection was encouraged along with each activity and proved to be a useful and effective part of the learning cycle (Miettinen, 2000).

Few concerns were mentioned. Among those stated included the timing of the experience and classes, personal knowledge shared inappropriately, and over-familiarity with the instructors. Staying overnight, an emphasis on educational best practices, and demonstrating the need and importance of the experience were deemed essential to the cohort building program.

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INTEGRATING ELECTRONIC PORTFOLIOS INTO AN EDUCATIONAL LEADERSHIP CURRICULUM USING TASKSTREAM SOFTWARE

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ABSTRACT

According to a study conducted by the American Association of Colleges of Teacher Education (2002), approximately 90% of universities and colleges of education use portfolios regarding student assessment. 40% of universities use electronic portfolios in teacher certification programs for licensing. Because of the popular use of electronic portfolios (e-portfolios) as a major assessment instrument in education programs, particularly educational leadership programs, a need exist to look at the effectiveness, validity, and reliability of e-portfolios. Educational Leadership Programs at Mississippi State University-Meridian currently uses taskstream software (taskstream.com) as a means to collect data and create student electronic portfolios. This presentation will look at the effectiveness of electronic portfolios and taskstream software and will address the following themes: (1) A review of requirements for electronic portfolio implementation, (2) the benefits of electronic portfolios, (3) models/ template designs and the use of rubrics for research assignments in taskstream software, (4) reflections of Mississippi State University-Meridian Educational Leadership (EDL) students on technology integration, and (5) serving purpose of Electronic Portfolios for student and program data collection.

INTRODUCTION

In assessing student progress, the use of electronic portfolios has become a part of many educational leadership programs throughout the country. It is a measurement of what students and teachers know and are able to do. The potential for improving practice by enhancing an educational leadership students' ability to reflect while assuming more responsibility from an electronic self-paced point of view such as e-portfolios has been widely discussed (Anderson & DeMeulle, 1998; Bartel, Kaye & Morin, 1998; Wolfe & Dietz, 1998; Barton & Collins, 1993). E-Portfolios are used throughout many educational leadership programs as formative assessments and as a final evaluation of student performance. E-Portfolios can also serve as an excellent source of graduate program documentation or a tool of demonstration for prospective employers or current supervisors. Since January 2005, Mississippi State University-Meridian (MSU-M) has utilized e-portfolios as a way for demonstrating performance in classes and in field experiences (internships) in elementary education, secondary education, and educational leadership programs. In the Educational Leadership Program at MSU-M, expectations for candidate portfolios have slowly evolved from a trial electronic tool to one that is used for final assessments of performance outcomes. In addition to serving as a means for addressing candidate performance in our program, e-portfolios are also used in the collection of program data for the National Council for Teacher Education Programs (NCATE).

Mississippi State University-Meridian, a small upper-level undergraduate and graduate university, sits directly across the street from Meridian Community College. MSU-M has approximately 1,000 students, 20 of which are in the Educational Leadership Program. Meridian Community College has approximately 4,600 students. Mississippi State University-Meridian is a branch campus of Mississippi State University. Mississippi State University is located in Starkville, MS, and has approximately 17,000 students. The Educational Leadership Program faculty at Mississippi State University-Meridian works collaboratively with the Educational Leadership Program faculty at the main campus. The city of Meridian, MS, has approximately 40,000 people and over 100,000 in the county.

ELECTRONIC PORTFOLIO IMPLEMENTATION

Students in the Educational Leadership Program at MSU-M benefit from e-portfolios. In addition to serving as documentation of research activities during the program, the e-portfolio is a flexible and valuable tool. E-portfolios can be printed from any computer at any time. This gives the student easy access to their research. Over ten years

ago, Danielson and Abrutyn (1997) laid out the following process for implementing e-portfolio assessments which is part of the implementation process at MSU-M:

Collection: Students learn to save artifacts that represent the successes and growth opportunities during their course rotations.

Selection: Students review and evaluate the artifacts they have saved, and identify those that demonstrate achievement of specific standards.

Reflection: Students become reflective practitioners, evaluating their growth over time and their achievement of specific standards.

Projection: Students compare their reflections to the standards and performance indicators, and set learning goals for the future. This is the stage that transforms e-portfolio development into professional development and supports lifelong learning.

Presentation: Students share their e-portfolios with their peers. At this stage, appropriate public commitments are made to encourage collaboration and commitment to professional development and lifelong learning.

While most people would view the creation of e-portfolios as something that is overwhelming, using taskstream software makes this process very simple. Research assignments are assigned at each of the core EDL courses at MSU-M and over the course of the program, saved as a part of the students' electronic portfolio. The electronic portfolio could also be called a research portfolio. A generic instructional systems design model can be used in the development process for programs planning to use e-portfolios (Ivers & Barron, 1998):

Assess/Decide: Conduct a needs assessment of the audience, the presentation goals, and the appropriate tools for the final e-portfolio presentation.

Design/Plan: Organize or design the presentation; determine audience-appropriate content, software, storage, and presentation sequence; and, construct flow charts or write storyboards.

Develop: Gather materials to include in the presentation and organize them into a sequence for the best presentation of the material, using an appropriate multimedia authoring program.

Implement: Present the e-portfolio in the intended audience.

Evaluate: Evaluate the presentation's effectiveness in light of its purpose and the assessment context. Use rubrics created by EDL faculty to assess student work.

In January 2005, the Educational Leadership Programs at Mississippi State University and Mississippi State University-Meridian made the change from paper-based research portfolios to electronic-based research portfolios. Two benefits of this change were that students would be able to include multi-media exhibits and make the portfolio a more portable one. Some of the benefits of electronic portfolios are cited in recent research (Ascherman, 1999; Barrett, 2000; Boulware & Holt, 1998; Goldsby & Fazal, 2000; Weidmer, 1998). These benefits include:

Electronic portfolios allow for the use of multimedia artifacts.

Candidates can use hyperlinks to make direct connections from the standards to portfolio artifacts.

Candidates are able to show actual teaching episodes and provide annual teacher-student interactions for evaluators. (professors choice)

E-Portfolios are easily distributed by burning multiple copies on CD or by publishing on the web.

Programs are able to assess a variety of technology skills that candidates must use in the creation for their portfolios.

Prospective employers can be introduced to a candidate's technology skills as they review the e-portfolios.

Teachers who create e-portfolios are more likely to infuse technology in their classrooms and require their own students to develop e-portfolios and projects.

RUBRICS

Using the Rubrics, professors must assign grades in each EDL class and by the end of the candidates' program, the e-portfolio will be formed. Revisions of assignments can be made if the professor chooses so. Typically (depending on professor), students at MSU-M have adequate instructional opportunities to succeed in meeting the requirements of the e-portfolio and to remediate when performance is inadequate. Rubrics reflect leadership skills and are created in accordance with the six ISLLC standards (Interstate School Leaders Licensure Consortium). Rubrics for assignments reflect the knowledge and skills demonstrated to be essential for this program. They must represent important job-related behaviors and be authentic representations of the work that the students will do in the workplace.

VIEWS OF ELECTRONIC PORTFOLIOS/TASKSTREAM SOFTWARE BY MSU-M EDL STUDENTS

Students in the 2007 EDL Cohort at MSU-M were surveyed ($n=12$) on the use of taskstream software into our EDL program. Students were asked to comment on the use of technology into our EDL classes. The following are reflections of student views on e-portfolios in taskstream software:

"Being forced to use electronic portfolios improves my technological skills by providing technological hands-on experiences. I understand technology better"

"I entered the program knowing that there would be online integration. I wanted to learn more about technology. If the technology component was removed, I would see other classes that would give me that experience"

"I prefer an EDL program that uses technology such as taskstream"

"Taskstream is great! I enjoy the technology component"

"All of our classes (non-EDL classes) should have taskstream"

"Without the technology/hybrid classes, I would not be able to continue my education at this point in my life"

"I would look for another school if technology was removed from this program. Taskstream helps to improve my technological skills."

"I did not have a choice in the matter, but taskstream has improved my technology skills."

"Taskstream aids as a remediation technique in acquiring better technology skills."

"I'm forced to use technology in this program, which is a good thing..."

"My skills really haven't changed because of this program."

The responses from the survey were a result of questions meant to yield reflections of educational leadership students about the use of taskstream software and e-portfolios in their program. Most of our students viewed

technology integration and taskstream software as tools that increased their technology skills. Students did not comment specifically on e-portfolios.

PROGRAM PURPOSE OF ELECTRONIC PORTFOLIOS AT MSU-M

Quality assignments are necessary to build a worthwhile program. While e-portfolios can provide insight into a candidate's readiness for becoming a practitioner in the field, a more authentic assessment is needed than a candidate's ability to complete research assignments online and closely follow rubrics. On-site and university supervisors play a large role in witnessing leadership development. Graduates must be able to demonstrate both a solid familiarity of educational research as well as proven capacity to integrate the latest research findings into practice. An authentic assessment of student ability may contribute to a more rigorous evaluation of the program. A successful e-portfolio could provide a wealth of data for evaluation for the program itself, students' academic development, changes in effective uses of instructional technologies, and a diversity of experiences in the applications of those technologies.

E-Portfolios are not only used as a means of program documentation, but can be used as a form of data collection for accreditation agencies. NCATE (National Council for Accreditation of Teacher Education) assesses education programs based on standards and program documentation. The taskstream software provides proper documentation of student work for NCATE evaluators.

Portfolios continue to be topics of debate in higher education. E-portfolio assessment is prevalent throughout most areas of teacher education. E-portfolios at MSU-M are primarily used as a record of documented program research. But like all assessment instruments, the tests of validity, reliability, fairness, and absence of bias will need to stand the test of time. This requires an appraisal of their potential benefits and risks. The faculty at Mississippi State University-Meridian and Mississippi State University (main campus) will continue to study e-portfolios as an assessment of program research.

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COMMUNITY COLLEGE PARTNERSHIPS: THE INFLUENCES OF CULTURE, ROLE CONFLICT, AND ROLE AMBIGUITY

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ABSTRACT

This paper presents the results of the first known quantitative examination of the implementation of the Workforce Investment Act (WIA) of 1998 within Mississippi. Particular emphasis was on the factors that impact the collaborative effort between community colleges and the state's WIN Job Centers as these two disparate cultures attempt to develop a "seamless" system. Important aspects of this study involved: 1) determining the effect of the alignment of institutional/organizational culture type with leadership style and its associated impact on the level of collaboration between the groups mentioned; 2) determining the impact of various aspects of institutional or organizational culture upon boundary-crossing personnel by examining the level of role ambiguity/conflict present in their job; and 3) determining the perceived strengths and weaknesses found within the state with the hope of making policymakers aware of the factors most germane to a successful collaborative effort. Throughout this paper, "organization(al)" will be used in reference to "institutional/organizational".

INTRODUCTION

While the implementation of the Workforce Investment Act of 1998 has been examined across various sectors of the nation (Barnow and King, 2003; Cohen, Timmons, & Fesko, 2005; & Koonce, Mauldin, Rupured, & Parazo, 2000) this was the first known study conducted within Mississippi relative to any aspect of this Act. The initial studies of the Act involved multiple states during the early stages of its implementation. These studies examined barriers affecting the implementation of WIA as well as disparities in the manner in which data was collected and shared. This study is unique in that it examined a mature system, one that had evolved over the span of six years, and it examined the complex relationships between institutional culture, leadership, role ambiguity, role conflict, and collaboration between two of the fourteen partners mandated by the Act.

The structure of Mississippi's state workforce system consists of four workforce investment areas, each with a governing local workforce board and the 14 mandated partners. This study examined only two of these partners: a) Employment Service — Mississippi Department of Employment Security (MDES) and b) Postsecondary Vocational Education— Mississippi's 15 public community/junior colleges and their associated branch campuses. This study was conducted at the workforce district level; therefore, state level representatives were not included. Comprehensive WIN Job Centers (MDES offices) and community college districts are contained within each of the four workforce districts. However, some overlap exists between community college districts and workforce areas.

One goal of this study was to establish a theoretical framework for future studies of this system by obtaining baseline data regarding the interaction between community colleges and WIN Job Centers within the state's four workforce districts. A second goal of this study was to conduct an exploratory factor analysis of the Wilder Collaboration Factor Instrument to validate the factor structure proposed by Mattessich, Murray-Close, and Monsey (2001). Established factors were used to compare the level of collaboration between Mississippi's community colleges and WIN Job Centers based on the variables of role ambiguity, role conflict, type of culture, strength of culture, and congruence of organizational culture.

To this end, the following salient issues were examined: a) the effect of dominant culture type, strength of organizational culture, and leadership style upon the level of role ambiguity and the level of role conflict among boundary-crossing positions (personnel whose position crosses organizational boundaries requiring interface to one or more groups); b) the associated role ambiguity and role conflict among all levels of personnel (upper, central, and lower level actors) involved in boundary-crossing positions; c) the degree to which the 20 collaborative factors (variables) of the Wilder instrument (Mattessich et al., 2001) were present in the existing WIA system being studied; d) the effect of culture type and levels of congruence on the degree of collaboration between WIN Job Centers and

community colleges; and e) the relationship between the level of collaboration and the level of role ambiguity and/or the level of role conflict for boundary-crossing personnel. The perceived strengths and weaknesses found within the state were also examined with the hope of making policymakers aware of the factors most germane to a successful collaborative effort, and thus, offer suggestions for improving the existing system to the benefit of the citizens of this state.

BACKGROUND

The literature review identified the following theoretical underpinnings integral to this research: a) collaboration; b) institutional culture and leadership; and c) role ambiguity/conflict between actors and the associated impact of policy ambiguity/conflict.

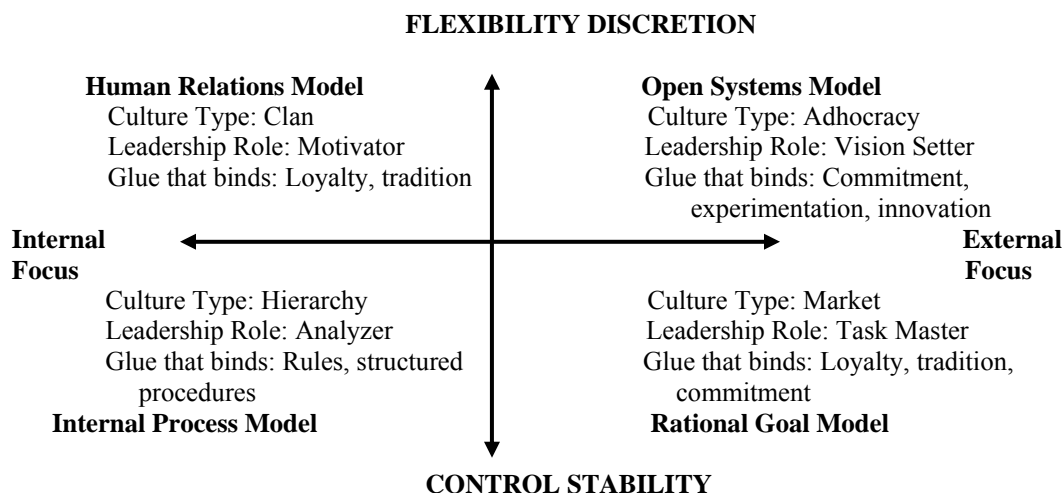
Collaboration

Collaboration, as distinguished from cooperation and coordination, operates at an interdependent level among all actors (regardless of position) involved in the collaborative effort. A common mission and a shared vision are fundamental to successful collaborations. Through meta-analysis, Mattessich and Monsey (1992) and Mattessich et al. (2001) identified 20 factors (variables) of successful collaboration which were grouped into six categories: environment, membership characteristics, process and structure, communication, purpose, and resources. Other prominent researchers (Bruder, 1997; Gray, 1989; Rackham, Friedman, & Ruff, 1996; and Schlough & Streeter, 2001) note that successful collaborations can accomplish more collectively than can be achieved by individual efforts since no single organization has the complete “power, resources, or expertise to deliver the most effective services possible” (Bruder, 1997, p. 2). The role of the organizational leader is crucial to successful collaboration since collaborative efforts involve multiple groups, multiple circumstances, and multiple resources (Gray, 1989). Knowing the history of issues pertinent to the collaborative effort and being aware of any preexisting relations between involved parties will enable leaders to more aptly facilitate a successful collaboration (Schlough & Streeter, 2001).

Culture

The evolution of organizational culture is traced to the work of Jones (1961) and Jung (1970) with their application of psychological archetypes to specific types of culture. Present research efforts in the area of organizational culture derive from the Competing Values Framework (CVF) developed by Quinn and Rohrbaugh (1988). The CVF identified four basic culture types (hierarchical, market, clan, and adhocracy), thus creating four quadrants that define specific culture characteristics and associated leadership styles (Figure 1).

Figure 1: Competing Values Framework¹



Cameron and Ettington (1988) applied the CVF to four-year institutions of higher learning while simultaneously applying the nine dimensions of organizational effectiveness (Cameron, 1978) moving culture research and literature from the business sector to the educational arena. Their research led to the development of the Organizational Culture Assessment Instrument (OCAI). Smart and Hamm (1993) applied the OCAI to 2-year institutions with the addition of two factors — institutional culture and external environment. Smart and Hamm's application of the CVF, with the inclusion of these two factors, provided the theoretical framework for evaluating and interpreting leadership roles and campus cultures in the community college arena.

Policy Ambiguity and Policy Conflict/ Role Ambiguity and Role Conflict

Additional underpinnings of WIA involve theoretical models of public policy implementation which is rooted in the nature of the legislative process. Passing legislation requires compromise which often leads to ambiguous language and contradictory goals (Matland, 1995). WIA was crafted with deliberate policy ambiguity in order to provide greater flexibility with regard to program implementation (Harris-Aikens & Brown, 2000). The ambiguous wording of the act creates uncertainty in its interpretation for mandated partners resulting in conflict of policy implementation. Such uncertainty creates job stress among actors (role ambiguity and role conflict) who are now required to cross organizational boundaries. Thus, ambiguity and conflict of public policy implementation, as well as the associated role ambiguity and role conflict among all levels of actors, became foundational aspects of this research project.

Kahn, Wolfe, Quinn, and Snoek (1964) examined the influence of role ambiguity (2 types) and role conflict (5 types) on employees within organizations. They defined the basic types of role ambiguity and role conflict and their interrelatedness to one another and to job related stress. Kahn, et al. (1964) determined that role ambiguity and role conflict were statistically independent. Rizzo, House, and Lirtzman (1970), based on the work of Kahn et al. (1964), developed a 30-item questionnaire seeking to ascertain levels of role ambiguity and role conflict within organizations further correlating these levels with the variables of job satisfaction, leadership, organization, and anxiety. Much debate ensued with the development and use of Rizzo's et al. (1970) instrument. Smith, Tisak, and Schmieder (1993) attempted to confirm the findings of Rizzo et al. (1970) by administering the questionnaire to three separate large sample populations. Smith et al. (1993) concluded that Rizzo et al.'s (1970) scales warranted continued use as separate scales. "Research spanning 20 years has not demonstrated that the role conflict and role ambiguity scales operate differently than expected. . . . These results support the continued use of Rizzo's scales" (Smith et al., 1993, pp. 46-47). Smith et al. (1993) also confirmed the validity and reliability of the 14-item Role Ambiguity/Role Conflict Assessment Instrument (RHL) used in this study.

METHOD

Sample

The sample included participants from three sources: 45 WIN Job Centers, 15 community colleges, and 4 workforce district area offices. Personnel represented those upper, central, and lower level positions most likely to be involved with the administration of WIA. A total of 572 individuals participated with the return rate for the questionnaires exceeding 65%. Of the 874 instruments mailed, 511 were distributed to community colleges with 346 returned (response rate of 67.7%). The majority of the participants were between 41 and 50 years of age (29.1%) and were female (68.3%). The participants were evenly distributed with regard to residency — 48.3% were a resident of the community in which they were employed while 49.1% were not. Community colleges represented the largest organization type (58.7%) with personnel affiliated with MDES representing 35.2%. The majority of the participants were employed by their organization for more than 10 years (51.6%). Participants were evenly distributed over the number of years their job responsibilities involved WIA, while the extent to which participants were familiar with the mandates of WIA fell primarily into two categories — somewhat familiar (25.4%) and fairly familiar (23%).

Instrumentation and Procedures

The status variables germane to this study included, institutional location (main campus, branch campus, urban or rural), frequency of formal and informal communications, age, gender, length of time in present position, boundary-crossing position, and community residence (Do they live within the community where they work?). The

six factors included in this study were type of culture (adhocracy, clan, hierarchy, market), strength of culture (strong, weak), congruence of culture (high, moderately high, moderate, low), leadership/culture congruence (yes, no), type of institution (community college or WIN Job Center), and job level (upper, central, or lower levels). The dependent variables included level of role ambiguity/role conflict and composite level of collaboration.

Collaboration

The Wilder Collaboration Factor Inventory is a 40 item instrument which measures collaboration in six categories: environment, membership, process and structure, communication, purpose, and resources. Respondents were asked to indicate the extent to which certain conditions exist between the organizations studied. Individual scores (personnel from each organization), group scores (upper level, central level, lower level actors) and organizational scores (overall score for each community college, WIN Job Center, workforce board and workforce district office per workforce area) were calculated. Reliability for the instrument was established by (Derose, Beatty, & Jackson, 2004). However, validity measures were not available for the Wilder instrument; therefore an exploratory factor analysis was conducted to support the measurement and discussion of the level of collaboration and its relationship to other pertinent variables (Townsend & Shelley, 2008).

Culture

The Organizational Culture Assessment Instrument (OCAI) (Cameron & Ettington, 1988) was used to assess six dimensions of organizational culture and the strength and congruence of the organization's culture. Used extensively across a myriad of settings, the reliability of the OCAI has been established in the public sector by Quinn and Spreitzer (1991), in business by Yeung, Brockbank, and Ulrich (1991), and in institutions of higher learning by Zammuto and Krakower (1991). Validity has been supported by the work of Cameron and Quinn (1999) within 4-year colleges and institutions in the United States and by Smart, Kuh, and Tierney (1997) within 2-year institutions. The OCAI allows the assessment of the six key dimensions of culture by presenting four scenarios. Respondents completed two forms of the same set of scenarios; one indicating how the individual presently perceives the organization (Now) and one indicating how the individual perceives the organization should be in five years (Preferred).

In addition, the OCAI helps ascertain the cultural congruence and strength of the organization culture. Complete cultural congruence occurs when the same quadrant of the CVF (Figure 1) is dominant in each of the six dimensions. Strength of the culture within highly congruent cultures is based on the mean organizational score given to the four attributes with strong cultures being those in which all culture attributes receive at least 50 points (Cameron & Ettington, 1988).

Role Ambiguity/Role Conflict

An amended version of the Rizzo, House, and Lirtzman (RHL) Role Ambiguity/Role Conflict Assessment Instrument was used to measure the degree of role ambiguity and role conflict among those employed in boundary-crossing positions between the institutions studied. The amended version is a 14 item instrument – 8 measuring role conflict (reliability of 0.82) and 6 measuring role ambiguity (reliability of 0.80). Studies by Chambers, Moore, & Bachtel (1998), Acker (2004), and Jaskyte (2005) confirmed the validity of the scale in a variety of research settings. The RHL was administered to upper, central, and lower level actors in boundary-crossing positions. Responses ranged from (1) not true of my job to (5) extremely true of my job with high scores indicating low role ambiguity and high role conflict. Mean scores were calculated for both role ambiguity and role conflict items for each respondent and then compared to identify differences between job levels (upper, central, & lower).

Data Analysis

An exploratory factor analysis was conducted for the purpose of validating the Wilder Collaboration Factor Inventory instrument (Townsend & Shelley, 2008). A one-way ANOVA was conducted to determine the effect of type of culture upon composite level of collaboration between community colleges and WIN Job Centers. Finally, MANOVAs were conducted to determine if institution type, leadership congruence, and institutional position level made a difference in the level of role ambiguity and role conflict for boundary-crossing personnel and separately; if

levels of culture type and cultural congruence differed for role ambiguity and role conflict. Analyses were conducted using SPSS 15.0.

RESULTS

Collaboration

The 40 items used in the Wilder Collaboration Factor Inventory were grouped into four theoretically meaningful components by an exploratory factor analysis. These components were labeled community, membership, purpose, and resources. Low levels of both informal and formal methods of communication and low levels of trust between the two partnering agencies were the principle weaknesses identified by the study. The strengths of the collaborative effort included a favorable political climate (state, regional, and local), a strong political infrastructure, and the feeling by participants that this collaborative effort was in their own self interest.

Culture

The analysis of data obtained from the OCAI indicated that the community colleges and WIN Job Centers host multiple cultures and subcultures. However, no strong cultures (a dominant organizational culture selected by more than 50% of the organization's respondents) were found within either group. Clan cultures were the most predominant culture type found in the study among both partners. Clan cultures connote a sense of community and oneness as members share successes and failures. Positively, clan cultures are rife with opportunity for quality collaboration as evidenced in their member and leadership characteristics (Figure 1).

An analysis of variance was conducted to evaluate the difference in composite level of collaboration among community colleges and WIN Job Centers based on the types of organizational culture. The factor, organizational culture type, included three levels: clan, hierarchy, and market, since only two of the 65 organizations possessed an adhocracy culture. Therefore, this culture type was excluded from the analysis. The ANOVA indicated a significant difference, $F(2,58) = 6.22$, $p = .004$, with the mean level of collaboration of clan cultures higher than that of market cultures ($p = .004$).

Perceptions among community college and WIN Job Center personnel concerning the inner relationships/ideologies (culture) of their respective organizations were highly inconsistent. The perception of organizational culture by upper, central, and lower level actors appears fragmented at most organizations with senior/upper level administrators and lower level personnel often having opposing views of the organization. An even more striking observation was the lack of consensus regarding the views of the organizational culture among upper level administrators. The indicated weaknesses in formal and informal means of communication almost surely affect this disparity. There is a general consensus across all levels of personnel for a preferred culture that more closely resembles the attributes of a clan culture.

Role Ambiguity/Role Conflict

Levels of role ambiguity and role conflict were assessed for boundary-crossing personnel relative to position level, organization type, culture type, leadership congruence, and cultural congruence. Results from the MANOVA revealed that the multivariate model was not significant. When evaluating role conflict alone, however, it was found that boundary-crossing personnel in upper level positions experienced significantly higher levels of role conflict than those in lower level positions regardless of organization type or leadership congruence (leadership style matches the dominant organizational culture). Additional findings indicated no significant differences relative to level of cultural congruence. Finally, organizations having a clan culture experienced significantly lower levels of role conflict than those with hierarchy (bureaucratic) cultures.

The lack of significant results for tests of role ambiguity may be a function of the low levels of role ambiguity found within Mississippi and may indicate that boundary-crossing personnel have come to understand the system and the associated job responsibilities indicating a maturation of the system since its implementation in 2000. This finding is neither an assessment of the system's functionality nor an indication of the need for improvement in the existing policies and procedures.

Maturation of the State's Workforce System

The findings of this study were further explicated by the discovery that 51.6% of the respondents were employed within the state system for 10 or more years. The personal ingenuity of experienced employees and the maturation of the WIA system within Mississippi possibly allowed them to take an ambiguously worded act (Cohen et al., 2005), whose implementation was considered to be "bottom-up", and remove the role ambiguity from their day-to-day operations as they crossed boundaries between partners. These experienced workers adapted to the environment, understood what needed to be done, and learned to navigate the existing system in order to accomplish the required tasks.

DISCUSSION

Implications and Recommendations

It is essential that the leadership of these partners have a clear understanding of their culture as well as that of their partner in order to effectively communicate and interface with one another (Schein, 1992). This includes the mission, the "language" (how they communicate), the job responsibilities (what are the accountability measures), and the interfacing guidelines for each of the organizations involved in the collaborative effort. The overall state level of collaboration was 3.5 (scale of 1 to 5) which is the dividing point between approaching strength and approaching concern (Mattessich et al., 2001). Based on this rating, organizational leaders should consider taking steps to increase the levels of communication between these two partners at all position levels, to increase the level of cultural strength within these organizations, to better assess culture/leadership congruence and make the needed changes to increase this level of congruence, and to continuously train and advise current and new personnel entering the system. These initiatives will assist in keeping the WIA system in Mississippi viable.

The meta-analysis conducted by Mattessich et al., (2001) on factors of collaboration noted that communication builds trust and vice versa. As communication is improved, the right attitude and spirit among the partners is increased. Thus, increasing the level of trust can significantly increase the level of collaboration leading to a greater sense of community – oneness for the organization. Leadership within community colleges, WIN Job Centers, and workforce districts across the state should consider adopting the suggestion of Mattessich et al. (2001) to provide an environment in which personnel from each agency have opportunities to engage socially getting to know one another on a more personal level.

Some considerations for improvement would include orchestrating small group meetings at all levels where open discussions regarding needs, assessment, and noteworthy praise can occur and instituting small group interactions that incorporate both inter-communication (within the organization) and intra-communication (between the collaborative partners) (Kahn et al., 1964). These steps would encourage an open exchange of ideas and insure that personnel at each position level were kept in the communication loop; thus, the actors would feel more a part of a seamless system.

As new individuals are hired into the system, a concerted effort should be made to train these persons regarding the ambiguous nature of the WIA system and to have seasoned veterans of the system mentor and manage these persons. Otherwise, the benefit of experienced personnel within the existing system will be wasted. This would ensure continuity within the system as these veteran employees approach retirement. Innovative strategies (multimedia presentations or web-casts) should be developed to train personnel regarding WIA's ambiguous nature and its bottom-up design, as well as keeping all partners informed of new legislative and policy updates.

CONCLUSION

Clan cultures were predominant among the partners studied exhibiting higher levels of collaboration than market cultures. Role conflict was lower within clan cultures as opposed to hierarchical (bureaucratic) cultures. Surprisingly, personnel in upper level positions experienced significantly higher levels of role conflict than those in lower level positions, regardless of organization type. There was no significant role ambiguity within the system.

Strengths

The success of WIA in Mississippi has been fostered by the adaptability of lower level personnel with regard to the ambiguity of the Act. The personnel to maintain Mississippi's WIA system is sufficient. Although these partners may not be operating as efficiently as possible, community colleges and WIN Job Centers are two of the correct partners to have linked for operating the WIA system. The political climate and infrastructure is favorable for the continued success and growth of WIA.

Weaknesses

Significant areas of concern identified by the study include low levels of trust and low levels of formal and informal communication between the two partnering agencies. Additionally, there was significant conflict among upper level personnel relative to the interaction of both community colleges and WIN Job Centers potentially impacting the achievement of a true seamless system within Mississippi.

Actions

The following actions are recommended as a means of improving the present workforce system: 1) improve trust between partners; 2) improve the understanding of organizational mission and culture across all levels; 3) improve the understanding of collaborative purpose within and between partners; and 4) examine ways to improve the degree of flexibility in procedural guidelines. Improvements within these areas have the potential to create concomitant benefits in the economy of Mississippi as well as to foster better trust among community colleges and WIN Job Centers.

ENDNOTES

1. "Organizational Effectiveness of 2-Year Colleges: The Centrality of Cultural and Leadership Complexity," by J. C. Smart, 2003, *Research in Higher Education*, 44, p. 676. Copyright 2003 by Springer. Adapted with permission of author.

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THE ECONOMIC IMPACT OF COMMUNITY COLLEGE CAREER AND TECHNICAL EDUCATION EXPENDITURES IN TENNESSEE COMMUNITY COLLEGE STUDIES

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ABSTRACT

Although community colleges have been recognized for their important contribution to the local labor market and their role in increasing the overall productivity and economic viability of a community, economic impact studies focusing on a specific program of study such as career and technical education programs at community colleges are rare. Specifically, this study examines the economic impact of career and technical education expenditures within the community college system in Tennessee.

The various economic impacts of the community college career and technical education programs were calculated using a well-established input/output model known as IMPLAN®. Using the model, this study was able to estimate that through the initial expenditure of \$64,562,040 in career and technical education programs, community colleges generated a total output impact of \$125,098,582, a labor income impact of \$56,673,457, and a total tax impact of \$11,653,018.

INTRODUCTION

Economic impact studies of educational institutions, their activities, and their programs are undertaken to attempt to measure the effect of the institution on a regional or local economy. Occasionally educational institutions are examined with a state economy in mind. Although community colleges have been recognized for their important contribution to the local labor market and their role in increasing the overall productivity and economic viability of a community, economic impact studies focusing on particular areas of study have not been forthcoming. There are few economic impact studies of a particular course or area of study like the current analysis. This study examines, specifically, the economic impact of career and technical education expenditures within the community college system in Tennessee.

Tennessee community colleges are two-year institutions that offer certificate and associate degree programs. Typically the expenditure budget for career and technical education ranges around \$65 million dollars. These institutions strive to provide students with a quality education that will enable them to seek employment upon graduation.

Geographically spread across Tennessee, there are 14 community colleges that offer a variety of career and technical education programs. Program offerings include Workforce Preparation and Retraining, Quality and Productivity Technology, Management Supervisory Training, Computer Information Technology, Manufacturing Systems Technology, Healthcare, Tourism, Environmental Technology and Safety, and Customized Training.

The institutions offer both transfer and occupational degrees and typically have transfer and articulation agreements with secondary schools and four-year universities. Associate degrees are granted by a two-year college for the completion of undergraduate courses. Associate degrees are divided into two categories: occupational degrees and transfer degrees. The focus of the current research is on expenditures related to Occupational degree programs that are designed to prepare students to enter the work force directly after graduation.

BACKGROUND

Research studies conducted for the past five decades have recognized the economic benefit to the individual and the community of investing in human capital through education and training (Becker, 1964; Grubb, 1999). Throughout the 1960s, local and state funding for secondary and postsecondary education proliferated at an

unprecedented rate as baby boomers funneled through the system. However, as demographic shifts and economic conditions fostered financial realignments, funding levels declined and competition for resources became more pronounced. An education accountability movement began that is still in evidence today. As the public began to demand results-oriented quantitative evidence of proficiency, the educational community saw the potential of economic impact studies as a means of communicating a more complete picture of the contribution of education to a community. Consequently, the *American Council on Education Commission on Administrative Affairs* embarked on an effort that resulted in the development of a standard model by Caffey & Issacs (1971) of methods to measure the economic impact of an institution of higher education on a local economy.

Although the process became the “gold standard” for economic impact research in higher education for over a decade and was modified for community colleges and technical schools, it came under criticism almost immediately. The process was viewed as cumbersome and not applicable in too many settings. For example, an early revision by Manning & Viscek (1976, 1977) in their study of the economic impact of Metropolitan Community Colleges in Kansas expanded Caffey & Isaacs:

To capture local government income to the college;

To recognize that since most community college students already reside in the local community their expenditures are inherent;

To capture expenditures of part-time students; and

To account for differences in expenditure patterns based on income level of faculty and staff.

Their method found an annual impact of \$5 million to the Kansas City economy. Other contributions that were identified included increasing the size and quality of the skilled workforce, professional development programs, and the tendency of graduates to remain in the local community. Economic impact studies began to appear more frequently throughout the 1980s as the demand for accountability and quantification in education grew.

In the 1990s and continuing today, economic impact studies of post-secondary education proliferated. In 1992, Ryan & Malgieri constructed a widely used method in a report for the *National Council for Resource Development*, entitled “Economic Impact Studies in Community Colleges: the Short Cut Method,” where they present a set of outcomes more current and measurable than earlier methods. Following a comprehensive list of the types of funds community colleges bring into a community, Ryan & Malgieri note the importance of these studies for political purposes and the handicaps that institutions face seeking higher levels of local and state funding without economic return data for legislators. In 1993, Bluestone produced a report expanding Caffey & Isaacs (1971) for higher education that looked at the long-term economic impact of a university or college on a region’s economy.

A number of specific examples of local economic impact studies in post-secondary education are available. Studying the economic impact of Utah Valley State College for 1999-2000 with the widely-used Ryan-New Jersey model that estimates the economic impact on a local community by summing the expenditures of the college, its employees and the students, Brown & Hoyt showed that \$153 million of the Utah County economy was due to the college, accounting for 3,774 total employment and a \$4.04 dollar return on every \$1.00 invested by the state in the college. The Office of Institutional Research for the Johnson County Community College in Kansas produced an economic impact study in 2001 that illustrated \$104 million injected into the economy, supporting 7,300 jobs and a return on investment of \$3.95 for every dollar spent to support the college. In 2001, Brooks & Miller studied the economic impact of a rural Georgia technical college on its local economy finding that the total impact on local businesses was \$8 million dollars, with 456 jobs created. In 2002, an analysis of Pellissippi State Technical Community College located in Knoxville, Tennessee was published for the years 1996 through 2001 (Martin, 2002). It reported that the institution produced \$420 million, or \$85 million for each of five years accounting for an infusion of \$324 million new revenues, creating 15,626 local full-time jobs, with a return of \$6.81 to \$7.20 for every dollar of local support for the college.

In a study of the economic impact of Dickinson College on Carlisle and Cumberland counties in Pennsylvania, Bellinger and McCann (2002) found that the college added \$21.1 million dollars to Carlisle and \$32.1 million dollars to Cumberland County and created 1,090 and 1,133 jobs respectively. In 2003-2004, Polk Community College, Florida contributed an additional \$98.95 million to the Polk County Economy and was responsible for adding 1,360 jobs to the 510 positions at the college. The study showed that expenditures returned \$6.00 dollars for

every dollar of support expended on the institution. A glance at the results reported by the studies of the seven institutions reviewed in this section show the important contributions that can be communicated to legislators, policymakers and the general public. These few examples show \$841.1 million injected into local economies, resulting in 30,122 jobs and returning an average of \$5.60 for every local dollar expended on the institution.

ECONOMIC IMPACT ANALYSIS FOR THE CURRENT STUDY

To accomplish an economic analysis of the impact of Community college career and technical education expenditures in Tennessee, the most recent year of comparable annual data for program budgets and employment were required. For institutions and programs, institutional operating expenses and employment information generated from this analysis will include turnover effect, return on investment, and taxes generated by community college career and technical programs. The various economic impacts of the community college career and technical education programs were calculated using a well-established input /output model known as IMPLAN®. The brief note on the model's development with a description and explanation of its principal outputs follows.

IMPLAN® (Impact Analysis for PLANning) was developed by the U.S. Department of Agriculture Forest Service in cooperation with the Federal Emergency Management Agency and the United States Department of Interior Bureau of Land Management. In 1993, Minnesota IMPLAN® Group, Inc. (MIG) was formed to supplement the model and privatize the development of both the IMPLAN® data and software (MIG, Inc., February, 2004). The software performs the necessary calculations, using the input/output study area database customized to the county level (or if required aggregated to the state level), to create the impact models. The IMPLAN® database, created and maintained by MIG, Inc., consists of multiplier matrices and estimates of regional data for institutional demand and transfers, value-added, industry output, and employment for each county in the U.S. as well as state and national totals. IMPLAN® model outputs include multipliers by NAICS (North American Industrial Classification System—a classification scheme for summarizing economic data by business sector) sectors, provides the following:

Calculated indirect and induced effects of direct expenditures for the economic entity being modeled (in this case, the community college career and technical education system in Tennessee); Employment effects of the economic entity, aggregate dollar output effect of direct expenditures with that entity in its business sector; Estimated employee compensation associated with that level of output; Estimated proprietary income generated from those same direct expenditure levels; Estimated other property income associated with the output level of the economic entity;

Indirect business taxes; and Total taxes summary associated with the output level of the economic entity being modeled.

The interpretation of each of the above model outputs follows below:

Direct Effect - The direct effect measures the impact (e.g., change in employment or output) as a result of the initial expenditures by customers with the facility being modeled (in this case, expenditures on various educational services).

Indirect Effect - The indirect effect represents the impact (e.g., change in employment or output) caused by the iteration of industries purchasing from industries as a result of the initial expenditures (the subsequent purchases by the businesses that supply goods and services to the post-secondary educational institutions included in this study).

Induced Effect - Workers in businesses stimulated by direct and indirect educational expenditures use their additional incomes on goods and services creating an induced effect. The induced effect represents the impact (e.g., change in employment or output) on all local industries caused by the expenditures of new household income generated by the direct and indirect effects of the initial expenditures.

Total Effect - Finally, the total effect is the sum of the direct, indirect, and induced effects (MIG, Inc., February, 2004).

OUTPUT, EMPLOYMENT, EMPLOYEE COMPENSATION, AND TAXES

Below are the definitions of several measures that were modeled in the analysis:

Output - Represents the value of the economic entity's (educational facilities) total services or production. The data to determine the model output estimates were derived from a number of sources by MIG, including the Bureau of Census economic census, Bureau of Economic Analysis (BEA) output estimates, and the Bureau of Labor Statistics (BLS) employment projections (MIG, Inc., February, 2004).

Employment - Represents the estimated number of jobs for each economic entity modeled and includes both full-time and part-time workers in its estimate of total jobs (MIG, Inc., February, 2004). Therefore, this estimate will be higher than the number of full-time equivalent employees (FTEs) associated with the economic activity of a business entity.

Employee Compensation - The total payroll costs (including benefits) of the business entity in the region or county being modeled. It includes the wages and salaries of workers who are paid by employers, as well as benefits such as health and life insurance, retirement payments, and non-cash compensation. Employee compensation is derived for each economic entity based upon the industry classification of which it is a part using ES202 and Regional Economic Information System (REIS) data. The ES202 data summarizes employment and wages for employers subject to state unemployment insurance laws. Since data are collected from employers who are required to comply by law, employee compensation is considered to be reliable and is usually more current than other publicly reported series.

Proprietors' Income consists of payments received by self-employed individuals as income. Any income received for payment of self-employed work, as reported on Federal tax forms, is reflected here and includes income received by private business owners, doctors, lawyers, etc.

Other Property Type Income - Consists of payments for rents, royalties, and dividends. Payments to individuals in the form of rents received on property, royalties from contracts, and dividends paid by corporations are included here as well as corporate profits earned by corporations. Other property type income numbers are derived from the U.S. Bureau of Economic Analysis Gross State Product data (MIG, Inc., February, 2004).

Indirect Business Taxes - Consists of excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses. These taxes occur during the normal operation of businesses but do not include taxes on profit or income. Indirect business tax numbers are derived from U.S. Bureau of Economic Analysis Gross State Product data (MIG, Inc., February, 2004).

Tax Impact - Describes in detail taxes related to the chosen impact analysis. These estimates are based upon the average for all industries within the model—the average taxes associated with each household income class and the average taxes and transfers associated with each of the government institutions defined by the model. The tax impact report includes details of the indirect business taxes (MIG, Inc., February, 2004).

In summary, this analysis will use IMPLAN® model multiplier estimates for the state of Tennessee to approximate the economic impact of community college career and technical education expenditures in Tennessee from fiscal years selected for the analysis.

BENEFIT-COST ANALYSIS

Benefit-cost analysis is a means of assessing how beneficial community college career and technical education is to Tennessee. "Benefit-cost analysis is a tool for determining whether projects or programs are economically efficient, that is, whether they generate social benefits in excess of social costs . . ." Lee G. Anderson & Russell F. Settle, *Benefit-Cost Analysis: A Practical Guide*. Lexington, MA: D. C. Heath and Company, 1977. This is the basic criterion by which community college career and technical education expenditures were analyzed in this report.

TENNESSEE CAREER AND TECHNICAL COMMUNITY COLLEGE SPENDING IMPACTS

Output Impacts

Output represents the value of goods and services produced by the industries or entities in question. The impacts of Tennessee's community college career and technical education spending on output are shown in Table 1 and are spread across the full spectrum of the state's economy. The direct output impact is simply the initial expenditures made by community college career and technical education programs (\$64,562,040) spread throughout the state.

Table 1: 2002 Tennessee Community College Career and Technical Education Spending Output Impact

Industry	Direct	Indirect	Induced	Total
Ag, Forestry, Fish & Hunting	\$0	\$38,949	\$284,132	\$323,081
Mining	0	9,865	30,655	40,520
Utilities	0	55,756	132,703	188,460
Construction	0	558,725	237,084	795,809
Manufacturing	0	1,532,271	3,443,874	4,976,144
Wholesale Trade	0	919,428	2,185,861	3,105,289
Transportation & Warehousing	0	1,039,962	1,187,871	2,227,833
Retail Trade	0	191,535	4,556,333	4,747,868
Information	0	1,922,168	1,233,791	3,155,959
Finance & Insurance	0	1,414,149	3,449,059	4,863,208
Real Estate & Rental	0	9,433,896	2,252,655	11,686,551
Professional- Scientific & Tech Services	0	1,311,458	967,551	2,279,009
Management Of Companies	0	84,929	249,680	334,609
Administrative & Waste Services	0	1,939,603	680,626	2,620,229
Educational Services	64,562,040	358,623	549,357	65,470,020
Health & Social Services	0	911	5,496,861	5,497,773
Arts- Entertainment & Recreation	0	317,254	524,941	842,195
Accommodation & Food Services	0	361,407	2,112,170	2,473,578
Other Services	0	741,888	1,848,469	2,590,357
Government	0	1,061,622	5,818,471	6,880,094
Total	\$64,562,040	\$23,294,400	\$37,242,142	\$125,098,582

The indirect output impacts represent the change in output caused by the iteration of industries purchasing from industries as a result of the initial expenditures within the community college career and technical education program (i.e., the subsequent purchases by the businesses that supply goods and services to Community College career and technical education programs throughout the state). As can be seen in Table 1, Community College career and technical education indirect output impact totals to nearly \$23.3 million.

The induced impact on output represents the impact (e.g., change in employment or output) on all local industries caused by the expenditures of new household income generated by the direct and indirect effects of the initial expenditures. As shown in Table 1, the induced output impacts total over \$37.2 million. Finally, the total impact of community college career and technical education expenditures is the sum of the direct, indirect, and induced effects for a total of nearly \$125.1 million.

Labor Income Impacts

Labor income consists of both employee compensation and proprietary income. Employee compensation represents the total payroll costs (including benefits) of business entities in the region being modeled and includes the wages and salaries of workers who are paid by employers, as well as benefits such as health and life insurance, retirement payments, and non-cash compensation. Proprietary income consists of payments received by self-

employed individuals as income. This includes income received by private business owners, doctors, lawyers, and so forth.

Table 2: 2002 Tennessee Community College Career and Technical Education Spending Labor Income Impact

Industry	Direct	Indirect	Induced	Total
Ag, Forestry, Fish & Hunting	\$0	\$8,970	\$34,928	\$43,898
Mining	0	1,335	3,560	4,895
Utilities	0	11,732	28,377	40,110
Construction	0	259,966	99,889	359,855
Manufacturing	0	417,454	650,058	1,067,512
Wholesale Trade	0	368,316	875,640	1,243,956
Transportation & Warehousing	0	522,967	493,279	1,016,246
Retail Trade	0	87,343	2,056,357	2,143,700
Information	0	526,677	314,912	841,589
Finance & Insurance	0	556,733	1,131,866	1,688,598
Real Estate & Rental	0	1,520,249	377,568	1,897,816
Professional- Scientific & Tech Services	0	781,612	585,115	1,366,727
Management Of Companies	0	39,045	114,787	153,832
Administrative & Waste Services	0	976,141	349,402	1,325,543
Educational Services	37,186,280	138,804	307,674	37,632,756
Health & Social Services	0	377	3,081,119	3,081,496
Arts- Entertainment & Recreation	0	155,129	220,547	375,676
Accommodation & Food Services	0	140,248	811,114	951,362
Other Services	0	273,320	823,940	1,097,260
Government	0	145,880	194,752	340,631
Total	\$37,186,280	\$6,932,298	\$12,554,882	\$56,673,457

Table 2 shows that Tennessee community college career and technical education spending had an estimated direct labor income impact of almost \$37.2 million, an indirect labor income impact of more than \$6.9 million, and an induced labor income impact of greater than \$12.5 million. All totaled, Tennessee community college career and technical education spending is estimated to have had an impact of nearly \$56.7 million on labor income in the state of Tennessee.

Employment Impact

Table 3 presents estimates of Tennessee community college career and technical education spending employment impact (a count of jobs, both full- and part-time). As was the case with the output impacts, the employment impact is spread across the full spectrum of the state's economy, but is concentrated heavily in educational services. In total, it is estimated that 2002 Tennessee Community College career and technical education spending created or had an impact on just over 1,692 jobs.

Table 3. 2002 Tennessee Community College Career and Technical Education Spending Employment Impact

Industry	Total
Ag, Forestry, Fish & Hunting	11.4
Mining	0.2
Utilities	0.5
Construction	10
Manufacturing	23
Wholesale Trade	23.9

Transportation & Warehousing	21.7
Retail Trade	83.8
Information	18.4
Finance & Insurance	30
Real Estate & Rental	82.3
Professional- Scientific & Tech Services	27.5
Management Of Companies	2.8
Administrative & Waste Services	48.7
Educational Services	1,103.20
Health & Social Services	68.3
Arts, Entertainment & Recreation	17.9
Accommodation & Food Services	57.4
Other Services	54
Government	7.4
Total	1,692.50

Tax Impacts

Table 4 shows estimates of the total tax impact generated as a result of community college career and technical education operations in its 2002 fiscal year. These estimates are based on the average for all industries within the IMPLAN® model; the average taxes associated with each household income class and the average taxes and transfers associated with each of the government institutions defined by the model.

Tax revenues were generated by corporate earnings of businesses supplying community college career and technical education administered programs, employee income and employee expenditures of both community college career and technical education suppliers and community college career and technical education itself. As shown, taxes generated include everything from corporate and personal income taxes to property taxes to even hunting and fishing licenses purchased. As shown, community college career and technical education FY 2002 operations generated a total of over \$11.6 million in tax revenues. The tax impact is a result of direct, indirect, and induced impacts of Tennessee community college career and technical education operations on employee compensation, proprietary income, household expenditures, and corporations.

Table 4. Estimate of 2002 Total Tax Impact of Tennessee Community College Career and Technical Education Spending

		Total
Federal Government Non-defense	Corporate Profits Tax	\$625,274
	Indirect Bus Tax: Custom Duty	83,676
	Indirect Bus Tax: Excise Taxes	283,406
	Indirect Bus Tax: Fed Non-taxes	88,722
	Personal Tax: Income Tax	272,927
	Social Ins Tax- Employee Contribution	3,242,399
	Social Ins Tax- Employer Contribution	3,100,124
	Federal Total	\$7,696,528
State/Local Govt. Non-education	Corporate Profits Tax	119,466
	Dividends	203,194
	Indirect Bus Tax: Motor Vehicle Licenses	32,470
	Indirect Bus Tax: Other Taxes	286,322
	Indirect Bus Tax: Property Tax	742,210

Indirect Bus Tax: S/L Non-taxes	74,270
Indirect Bus Tax: Sales Tax	2,124,041
Indirect Bus Tax: Severance Tax	186
Personal Tax: Income Tax	57,123
Personal Tax: Motor Vehicle License	78,364
Personal Tax: Non-taxes (Fines - Fees)	140,457
Personal Tax: Other Tax (Fish/Hunt)	24,690
Personal Tax: Property Taxes	18,644
Social Ins Tax- Employee Contribution	14,807
Social Ins Tax- Employer Contribution	40,245
State And Local Total	\$3,956,490
Total	\$11,653,018

The tax impact is a result of direct, indirect, and induced impacts of Tennessee Career-Technical community college operations on employee compensation, proprietary income, household expenditures, and corporations.

Total Impact

Table 5 shows the total impact of community college career and technical education expenditures. Tennessee's community college career and technical education spending had a total output impact of \$125,098,582. The total labor income impact was \$56,673,457, and the total tax impact was \$11,653,018. Community college career and technical education expenditures also created or had an impact on over 1,692 jobs. In terms of output, the cost-benefit ratio produced by community college career and technical education expenditures was 1:1.94. For every \$1.00 expended on community college career and technical education, \$1.94 is returned to the state economy in goods and services produced.

Table 5. 2002 Tennessee Community College Career and Technical Education Spending Total Impacts

Impact Category	Community College Career and Technical Education
Output	\$125,098,582
Labor Income	\$56,673,457
Employment	1,692.50
Taxes	\$11,653,018

DISCUSSION

By almost any measure, community college career and technical education is big business in Tennessee. With 14 institutions, employing thousands of support staff and teachers, graduating thousands of career and technical education students each year, with expenditure budgets above \$65 million, that produce an impact of nearly \$200 million, community college career and technical education programs are an important part of the state economy.

While some may view the state tax dollars spent on career and technical education program at Tennessee's community colleges a drain on the economy, the results of this study prove otherwise. In the competition for adequate funding and support, an economic impact study of an area of concentration coupled with a cost-benefit ratio provides an important communication device to help provide a more complete story of community college career and technical education in Tennessee.

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A COMMUNITY COLLEGE STEM-BASED PROJECT: FINDINGS FROM A TEACHING CERTIFICATE PROGRAM

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ABSTRACT

The NSF funded graduate certificate program in Community College Teaching was developed by the departments of Adult and Higher Education (AHE) and Mathematics, Science and Technology Education (MSTE) within the College of Education at North Carolina State University. This program focuses on developing the knowledge and skills necessary to design and deliver course content through technology-enhanced learning environments for faculty who teach in Science, Technology, Engineering, & Mathematics (STEM) related areas. The courses enhance faculty abilities in both online and classroom environments. Current community college teachers from North Carolina and South Carolina have been recruited into the program. The project meets the broader goals of the NSF Advanced Technological Education (ATE) program by institutionalizing the means by which working professionals can be recruited to fill shortages in community college faculty teaching positions in STEM fields. It also provides a means whereby current community college faculty can upgrade their instructional skills. This paper describes the online program and presents summary data from three online cohorts of this program.

INTRODUCTION

The goals of the graduate certificate program in Community College Teaching was to develop the knowledge and skills of the faculty members who teach in the Science, Technology, Engineering, & Mathematics (STEM) related areas at community colleges and enhance their abilities to design and deliver course-related content through technology-enhanced learning environments. The courses in the graduate certificate program were designed to enhance faculty members' abilities to teach in both online and face-to-face classroom environments (Branoff, & Hsiang 2006).

PROJECT GOALS

The key goal for the online Community College Teaching certificate program is to provide high quality content and instruction for the systematic development of instructional expertise for regional community college instructors. The goals addressed during the first three years are:

Table 1

1- Developing key knowledge and skills regarding the adult learner, instructional strategies, and the nature of a supportive learning community classroom instructional environment.
2- Enhancing skills and adapt classroom design, instruction, and evaluation in disciplinary content areas.
3- Gaining knowledge and skills for critical decision-making in the necessary adaptations of classroom activities for diverse students who represent diverse contexts.

RESEARCH QUESTIONS

There are three questions guiding this research.

Table 2

1- Does the program meet the educational needs of adult and distance learners from diverse backgrounds and cultures?
2- Does the Program develop and enhance knowledge and skills for understanding the diverse ways and settings in which adults learn?
3- Does the Program prepare individuals and enhance instructors' abilities to research, design, implement, and evaluate distance learning and classroom instruction?

PARTICIPANT SELECTION AND REQUIREMENTS

The graduate certificate program in Community College Teaching was advertised and promoted in the states and of North and South Carolina. The requirement for selection of potential students for this program had to be a graduate of an accredited four-year college, and have a GPA of at least 3.0 on a 4-point scale in their last 60 credit hours of undergraduate study. The select participants had to be currently employed either full-time or part-time as a faculty member at a community college in North Carolina or at a technical college in South Carolina in a Science, Technology, Engineering, & Mathematics (STEM) related area (Branoff, Wiessner, & Akroyd, 2005).

Core Courses

The first three courses provide an introduction to instructional techniques and technologies as well as lay a foundation for further program options. These courses represent conceptual and technological content that provide learners with knowledge and skills necessary for conducting a variety of approaches to teaching while emphasizing the use of technology in instruction. In addition, courses in the certificate program provide knowledge and skills useful for the design and delivery of content in distance, and in particular, web-based learning environments.

The Adult Learner

This course focuses on the under girding principles in adult education programs including theories and concepts. Emphasis is placed on the interrelationship of the nature of adult learning, the nature of the subject matter and the setting for learning occurrence. The applicability of relevant principles and pertinent research findings to adult learning are discussed in the course.

Instructional Strategies in Adult and Community College Education

This course covers the forms of instruction appropriate for the teaching of adults. Special emphasis is placed upon the methods for maximum involvement of the adult learner. Students study the relevant concepts, theories and principles for selection, utilization and evaluation of instructional strategies with focus on integration of theory into practice. Students develop proficiency in use of applicable teaching techniques for adult and community college education through participation in online and classroom practice exercises.

Instructional Design in Technical and Technology Education

This course involves creating instructional activities for technical and technology education settings. Students examine learning theories appropriate for technical and technology education and explore and apply models for instructional design. Issues relative to electronic applications in technical and technology education classrooms are also explored (Branoff, & Hsiang 2006).

Certificate Options

After completing the 3 core courses, students make a decision whether to pursue the community college teaching certificate or to apply to a master or doctoral program (Figure 1). If they elect to only complete the certificate, they have to complete 2 approved courses from the AHE and/or MSTE departments. If a student wishes to continue on to complete a graduate degree, application must be made to the appropriate department. All core courses in the certificate program transfer into either department.

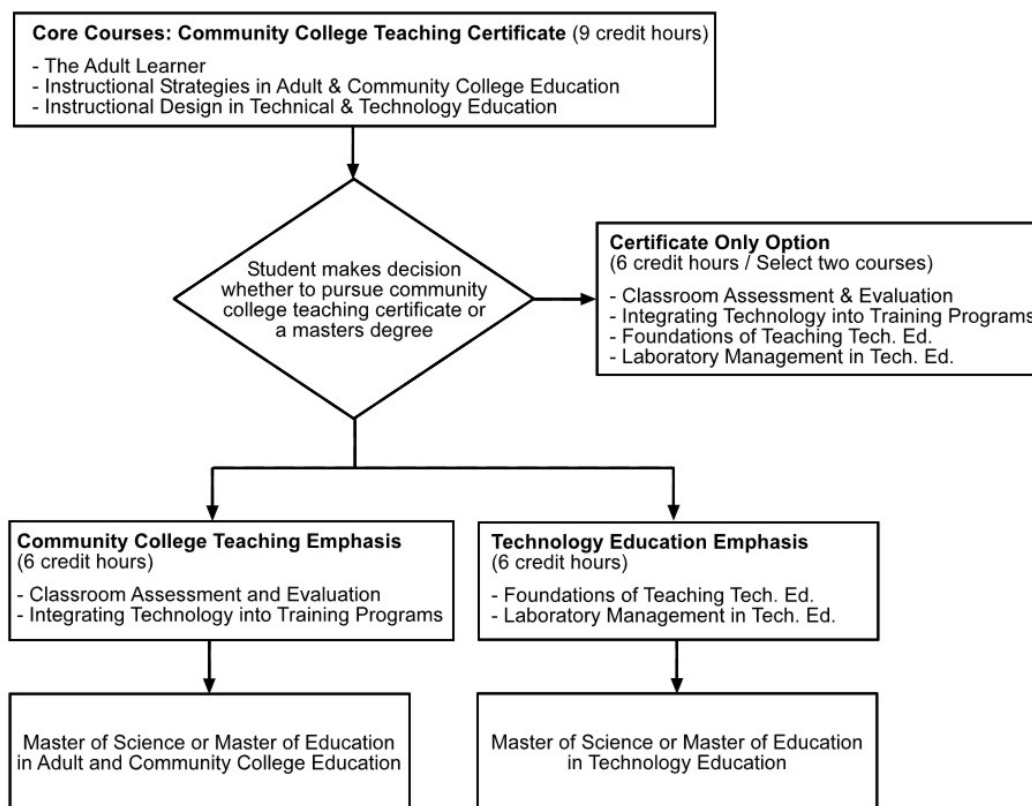


Figure 1. Flowchart for Community College Teaching Certificate.

Delivery of Course Content

The courses in this program are all delivered through WebCT Vista. This tool is used mainly to deliver asynchronous material in the course. Asynchronous tools involve instruction through a “different time-different place” mode. Examples consist of discussion boards, blogs, email, online quizzes, streaming audio and video, narrated slideshows, learning objects, and website links. The main advantage of these tools is that participants can access the instruction at their own convenience (Ashley, 2003). Before beginning the program, students were asked to complete an “Online Preparedness Guide Quiz” to determine their readiness for the online courses. One of the biggest concerns for all faculty involved in the project is that the online learning experience is as good as or better than a traditional classroom experience. Traditional face-to-face courses involve having students complete required reading assignments before coming to class and then participate in classroom discussions. Some instructors require students to watch a short video (3-4 minutes) of the instructor introducing the material for the week before completing readings that were on EReserves. Additional assignments for units involved posting original ideas on the course discussion board, writing papers, and participating in synchronous web activities.

In addition to the Vista, instructors also used Centra Symposium to deliver synchronous instruction. Synchronous tools involve instruction through a “same time-different place” mode. These tools allow the instructor

and students to engage in activities in real-time. Examples of synchronous tools are application sharing, audio conferencing, text chat, web conferencing, white boarding, and video conferencing (Ashley, 2003).

Data Gathering Techniques

The project used a variety of ways to gather data about participants and the intervention of the project. Self-assessments were given during the time participants were involved in the project focusing on their technology skills. Phone interviews were conducted through the external evaluator for the project and analyzed students interest and understanding of the course materials being presented in all online course offerings. Researchers reviewed samples of student work to check for clarity of understanding and at the end of each course, surveys were given for student feedback about how to improve the course content and process used for offering the course in a distance education environment.

RESEARCH QUESTIONS

The project focused on three research questions to aid in the successful completion of the project's goals. The first question was "does the program meet the educational needs of adult and distance learners from diverse backgrounds and cultures?" Current findings for this question can be summed up from the cumulative data about the first two cohorts. The major finding to answer this question indicated that 48% instructors who completed the course surveys said their expectations had been met by the courses. Quotes from the qualitative research conducted for this question include "This program has made me more aware of the diversity in my classroom." And another participant said "The professors and the course design in general, made many attempts to include discussions from and about gender and race" (Branoff & Akroyd, 2007).

The second research question stated "Does the Program develop and enhance knowledge and skills for understanding the diverse ways and settings in which adults learn?" Both quantitative and qualitative research found evidence that the courses enhanced community college faculty's understanding of the following areas: adult learners in both online and face-to-face settings, various learning styles, adults' motivation to learn, classroom assessment and evaluation, and application of learning theories and instructional strategies in diverse settings and situations.

The third research question for this project was designed to assess participants' abilities to use knowledge gain the courses. The question stated "does the program prepare individuals and enhance instructors' abilities to research, design, implement, and evaluate distance learning and classroom instruction? Data collected to answer this question found that students' use of technology increased significantly in sending & receiving email attachments, working with PDF files, knowledge of listserves, and working with synchronous LMS (Centra). Further analysis indicated that community college faculty participants were assigned new responsibilities in developing course materials for their departments. Also, participants were involved in implementing course assessment and evaluation at the community colleges where they teach. Finally, these participants expressed their willingness to communicate the learned knowledge and skills with their colleagues where they teach (Branoff & Hsiang, 2006).

RECOMMENDATIONS

The following recommendations are made based on the research founded from this project. First, if the study is to be duplicated or a similar study conducted, the researchers suggest to make potential participants clearly aware of the time commitments of courses. Many participants had no idea as to how much time an online course can take as compared to traditionally taught classes. Next, having student in cohorts and working together does work well, but the researchers suggest that others continue to investigate ways for developing a sense of community within distance environments. Third, the project used a variety of technologies to communicate information to participants, but more incorporation of synchronous learning tools was needed. The researchers also suggest that university faculty work harder and better at communicating more effectively with community college instructors. Another recommendation deals with finances for both the project and participants. The researchers suggest that if others are to try a similar type project that they make sure participants are clearly aware of the costs of the program, especially with tuition costs between states (i.e. instate verses out-of-state tuition). Finally, it is suggested that a system be setup that requires community college instructors to complete some type of training in how to be successful in an online course before beginning the program (Branoff & Akroyd, 2007).



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THE UNIVERSITY AS A LEARNING COMMUNITY THE PURPOSE OF DIVERSITY IN HIGHER EDUCATION

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ABSTRACT

The lack of substantial numbers of minorities in the professional and graduate rank results in a substantial lack of diversity in individuals and ideas on American colleges campuses. The result is that American graduate students are deprived of opportunities for appreciation of the differences in the world that create environments where individuals can perform to their optimum potential. This article examines the current status of minority representation in faculty and student bodies of the research universities of this country, and concludes that the lack of diversity in both has affected the diversity and complexion of the academy. We offer no solution to these phenomena, but conclude that race must be a consideration in the development of learning communities in higher education.

INTRODUCTION

The indispensability of university education in the acquisition of critical skills and disciplines such as teaching, medicine, engineering, accounting, architecture and administration has been acknowledged. University education is important for promoting socio-economic, personal, and professional development. Johnson, Dupuis, Musial and Hall (1994) define equal educational opportunity as providing every student the educational opportunity to develop fully whatever talents, interests, and abilities she or he may have without regard to race, color, national origin, sex, handicap or economic status. Sharp, Register and Grimes (2000) maintain it is generally believed that if everyone had equal access and opportunity to training and education, many of the major issues in our society, such as poverty and extreme income inequality would be significantly alleviated, perhaps even eliminated. This explains why people struggle for equal educational opportunity.

The goal of equal opportunity in higher education, as well as diversity in higher education is becoming a fleeting concept, especially in graduate education in America. Research universities in the United States are internationally known as the foremost institutions in graduate education and although they have been successful in recruiting students of all nationalities, ethnic groups, and religions for their student population, U.S. graduate schools have been less successful in recruiting and retaining our Hispanic, Latino, African American, and American Indian citizens. In fact, according to the U.S. Department of Education, the proportion of minority students in higher education declines as one moves from baccalaureate to master's to professional and doctoral degree programs, and at each level the percentage is well below the percentage of these individuals in the U.S. population (U.S. DOE, 2005). U.S. Department of Education statistics further document that American Indian, African-American, and Hispanic students have made important gains in completing college during the late 1980s and mid-1990s. However, they continue to be less likely to complete college than Asian-American and white students and when compared with prior years, the most recent six-year college completion data (i.e., data on the rate of completion six years after first enrolling in college) show a slight increase in the completion rates among these groups (U.S. DOE, 2005). This lack of completion of college results in less people of color joining the graduate education ranks. In other words, a lack of minority students in the educational pipeline at the bachelor's level means a lack of minorities in the master's, and doctoral and professional education programs across the Nation. Therefore, despite minimal gains, recruiting, retaining, and graduating minority students in graduate and professional programs, it is still a problem.

Minorities lag in terms of degree attainment at all levels. Nineteen percent of whites aged 25 and older hold a bachelor's degree compared to seven percent of Hispanic/Latinos, 11 percent of African Americans, and 29 percent of Asian/Pacific Islanders. At the master's level, the percentages are seven percent white, two percent Hispanic/Latino, four percent African American, and 12 percent Asian/Pacific Islanders. Currently, there is a dearth of minority doctoral students in colleges and universities across the United States. At the doctoral level, the

percentages are less than one percent for Hispanic/Latinos and African Americans, just over one percent for whites, and three percent for Asian/Pacific Islanders (Wartzok, 2000).

DIVERSITY IN HIGHER EDUCATION

The lack of substantial number of minorities in the professional and graduate rank results in a substantial lack of diversity in types of individuals and ideas on American college campuses. It also deprives American graduate students of an appreciation of the rich mosaic of differences in the world that helps to create an environment where individuals can perform to their fullest potential. Diversity is respect for individual differences and American universities must prepare students for citizenship, employment, and daily living by teaching them the skills required to succeed and lead in the global marketplace. Therefore, diversity in academic institutions is essential to teaching students the human relations and analytic skills they need to thrive and to become productive members in their professional and personal lives. Diversity skills include the abilities to work well with others from diverse backgrounds; to view issues from multiple perspectives; and to anticipate and respond with sensitivity to the needs and cultural differences of highly diverse individuals of various cultures, ethnicity, thought, abilities, and sexual orientations.

The diversity of the American population is poised to grow over the next two decades, challenging our conceptions of race and ethnicity and requiring all Americans to develop diversity skills and ability to be active members in American communities. Therefore, the quality of education provided by American universities profoundly affects the ability of our students to thrive in their future lives. Therefore, the development of diversified university community and consequently diversity training and the development of diversity skills are an important element of the academic experience.

CURRENT STATUS OF DIVERSITY

Forty years ago, Justice Powell declared in *Bakke* that “the ‘nation’s future depends upon leaders trained through wide exposure to the ideas and mores of students as diverse as this Nation of many peoples” (438 U.S. at 313 (quoting *Keyishian v. Board of Regents*, 385 U.S. 589, 603 (1967)). A majority of the Supreme Court held in *Bakke* that the University of California had “a substantial interest that legitimately may be served by a properly devised admissions program involving the competitive consideration of race and ethnic origin” (at 320).¹ In his opinion, Justice Powell stated that “attainment of a [racially and ethnically] diverse student body”...“clearly is a constitutionally permissible goal for an institution of higher education” (at 312) because it enhances the educational process by teaching students skills that will strengthen their performance as leaders and professionals in a heterogeneous society (at 313) and promote thinking processes that are “essential to the quality of higher education.” (438 U.S. at 311-312 (quoting *Sweezy v. New Hampshire*, 354 U.S. 234, 263 (1957) (Frankfurter, J., concurring)).

This position was fortified four years ago in the United States Supreme Court on June 23, 2003. At that time, the Court upheld the constitutionality of race-conscious admissions policies designed to promote diversity in higher education. In a 5-to-4 decision in *Grutter v. Bollinger* the Supreme Court, drawing on Justice Powell’s opinion in the 1978 case of *Regents of the University of California v. Bakke*,² upheld the University of Michigan’s (U of M) belief that student body diversity is a compelling governmental interest that can justify the use of race as a “plus” factor in a competitive admissions process.

Supreme Court’s ruling in *Grutter v. Bollinger* affirmed the U of M’s position that the Constitution and civil rights statutes, as interpreted by the Supreme Court in the 1978 *Bakke* decision, permitted it to take race and ethnicity into account in its admission’s program. It also affirmed the U of M’s policy that a racially diverse student body produces significant educational benefits. The Supreme Court’s decision also resolved a disagreement among the lower federal courts⁴ and permitted colleges and universities throughout the country to employ race in admissions. Furthermore, the decisions rejected the complete race-blind approach to higher education admissions advanced by the plaintiffs in *Grutter* and by the U.S. government and others in their amicus curiae briefs.

¹ Five Justices (opinion of Powell, J., joined by Brennan, White, Marshall, and Blackmun, JJ.). In *Bakke* agreed that “a properly devised admissions program involving the competitive consideration of race and ethnic origin” is constitutional. 438 U.S. at 320. Justice Powell’s opinion, which reasoned that racial diversity furthered the University’s educational mission, provides the controlling rationale for that majority holding.

Finally, the decisions also overruled primary portions of the 1996 ruling of the U.S. Court of Appeals for the Fifth Circuit in *Hopwood v. Texas*¹ allowing colleges and universities in the states of Texas, Louisiana, and Mississippi to use race-conscious admissions policies designed to advance diversity. The Supreme Court's decision in *Grutter v. Bollinger* was the culminating event of many other legal and political battles against Affirmative Action given that in 1997, the Supreme Court refused to review *Hopwood*.² The Supreme Court also refused to review an appeals court decision upholding the validity of Proposition 209 in California.

In Texas, California, and Florida, percentage plans, admitting a certain percent of the highest performing graduates of each high school to state public universities emerged in response to lawsuits, legislation, and public opinion against race-conscious affirmative action. However, eliminating race preference affirmative action programs in higher education and adopting these plans, has had a negative impact on African American, Hispanic, and Native American enrollment in three of this nation's most populous states. For example in Texas although minority admission rates have increased at some schools, they have declined overall at the top tier Texas law and medical schools. In Texas:

Minority enrollment rose to 17.2 percent at University of Texas School of Law in 2000–01. This was only a 1.1 percent increase from the previous academic year, and an overall decline of 7.5 percent from the year following Hopwood.

In 2000–01, the University of Texas Medical Branch at Galveston School of Medicine enrolled 5.6 percent fewer minority students than in the 1997–98 academic year.

Asian Pacific Americans were the only group to have experienced a steady increase in enrollment at the University of Texas Medical Branch at Galveston School of Medicine over the five-year period. (USOCR, 2000, p. viii)

In California, the results were very similar.

The race ban of 1997 resulted in reductions in the already small proportions of African Americans, Hispanics, and Native Americans admitted and enrolled in the University of California system, including both undergraduate and professional schools.

The recent changes in admissions policies have resulted in small increases in applications and admissions from racial minorities compared to when the race ban was initially imposed.

Proportionally fewer racial minorities apply or are enrolled than in 1995, when the race ban was first announced.

In particular, the chances of admission dropped for African American, Hispanic, and Native American applicants to the Los Angeles, Berkeley, and San Diego campuses, and for the system as a whole higher admission rates did not always result in higher enrollment rates (USOCR, 2000, p. viii).

Finally, since November 1999, when Governor Bush signed Executive Order 99-281, banning the use of race or ethnicity in university admissions decisions in Florida, the following results have occurred:

In the two post-race ban years, African Americans were underrepresented among first-time students, within State University System and the most selective University of Florida and Florida State University, compared with their representation among 1999–2000 high school graduates. (The same

¹ A Federal district judge ruled in July 2000 that three white female applicants denied admission to the University of Texas Law School were denied their 14th right to equal protection, effectively ending the University's policy of giving special consideration to minority applicants. In his ruling Judge Avant Edfield says the University's 1999 admission process violated Title VI and Title XI by intentionally use race in the admission process of the University of Texas Law School

² 78 F.3d 932 (5th Cir), cert. denied, 116 S. Ct 2580 (1997).

under representation is evident when comparing African American first-time students in the pre-race ban year with the 1999–2000 high school graduates. A similar situation prevails for Hispanics at the two more selective universities.)

First-time minority graduate enrollment increased substantially in State University System in 2001–2002 during the second year of the race ban. However, first-time African American graduate admission rates declined over the two years of the race ban and have almost always remained lower than those of other groups.

In law schools, the number of first-time minority students fluctuated in the State University System and decreased steadily in the University of Florida College of Law. Furthermore, African American and Hispanic law students were admitted at lower rates than whites and Asian Pacific Americans.

First-time minority medical students grew very slightly, but medical school admission rates are lower for African Americans and Hispanics compared to those of whites and Asians. (USOCR, 2000, p. x)

However, the Michigan Civil Rights Initiative (MCRI), or Proposal 2, a [ballot initiative](#) banning Affirmative Action in higher education in the State of [Michigan](#) that passed into constitutional law by a 58% to 42% margin on [November 7, 2006](#), dimmed the prospects of diversity of higher education Michigan, as well as across the country. Although three Michigan universities and an advocacy group has legally opposed Proposition 2, the Proposal became law on [December 22, 2006](#). Therefore, at a time when the national population is becoming increasingly diverse, our graduate school population is becoming less diverse compared to the general population. This is especially alarming since after 2050, our minority population is projected to surpass the non-Hispanic white population in size (U.S. Department of Commerce, p. 11, 1999). This lack of diversity in higher education obscures one of the main purposes of educational efforts in higher education—the formation of learning communities which challenges students to be more than the sum of their degree-earned but to be citizen-scholars.

THE IMPORTANCE OF A LEARNING COMMUNITY

One of the purposes of education is the development of the individual as well as the whole society (Johnson, Dupuis, Musial and Hall, 2005). Some educational researchers have focused on the benefits and problems of creating and maintaining a professional learning community (Barth, 1990; Schwab, 1976; Sergiovannia, 1994) and of learning organizations within educational settings (Raitt, 1995; Senge, 1990a, 1990b, 1994). These researchers concluded that universities are:

“A community of persons united by collective understandings, by common and communal goals, by bonds of reciprocal obligation, and by a flow of sentiment, which makes the preservation of the community an object of desire, not merely a matter of prudence or a command of duty. Community implies a form of social obligation governed by principles different from those in the marketplace and the state” (Katz, 1987, p.179).

Schwab (1976) asserts, “The importance of community lies in its contributions to three distinct but related factors. It is indispensable to the development of individuality. It is necessary for the maintenance of our social and political structure. It is essential to satisfying conviviality, the interplay of persons as persons without which existence of men as social animals is barren” (p.237).

Schwab also asserts “community can be learned” and that “human learning is a communal enterprise”. He states

When the learning is the development of latent capabilities, our first trials are undertaken only with the support of members of our community. Further development occurs only with the support of members of that community. Even “experience,” as a form of learning becomes experience only as it is shared and given meaning by transactions with fellow human beings (p.235).

Therefore, the exclusion of minorities within the university harms all students and prevents proper community formation. Schwab believes that there are seven propensities of community, which benefit all members of the higher education institutions. These are:

A propensity to find, with others, joint needs and wants which confer on self and others a sufficient identity of purpose and endeavor to constitute an immediate group.

A propensity to see others as affording states of character, competence, and habit which complement one's own, thus marking each person a part of another who is distinctly other.

Other students differing in ethnic-religious-social, class styles, attitudes, and values, as well as children of different talents and abilities.

Other adults differing in the same ways and affording a variety of models.

A propensity to seek realization of the complementarities of self and others by welcoming problems, which call for the joining of diverse talents and attitudes.

A propensity to recognize other and different groups as bearing the same relations to one another that diverse members of an immediate group bear to one another, and to seek similar realization of the complementarities of these groups.

A propensity toward reflection -- alone, with another, in a group-on past actions and consequences; their circumstances; the means employed; the desirability of the ensuing gains and losses.

A propensity toward service, toward the giving and receiving of confront in disappointment and congratulation on achievement, a propensity deriving from past actions and undergone with others.

A propensity toward accrual of symbols of past achievement of a group, and of past members of it, and the celebration of these persons and moments by way of the symbols accrued.

Community is the hallmark of a "learning organization" and it is a place where people are various cultures, ethnicity, thoughts and ideas are continually learning how to learn together. In a learning community, individuals work together to achieve intellectual and social understanding. People in learning communities are committed to thinking differently about educational environment and realize that constructing learning communities have and will continue to require changes in University's environment. One is to change the work -- the tasks -- that students do in University. Another is to change the participation structures, the class organization -- the ways in which students and the faculty work together in learning. Senge states, "Perhaps the most salient reason for building learning organizations is that we are not only starting to understand the capacities such organizations must possess" (Senge, p.5). It is the authors' belief that this propensity for caring, this sense of connection to all people, must be fostered in the University setting because without these feelings, without these connections, the University is a mindless entity—a corporation whose main goal is for profit.

CONCLUSION

Diversity is a source of opportunity. In a community where people are unified on the basis of shared values and meanings, there is a propensity to develop a commitment to receptive attention and a willingness to respond to the legitimate needs of its all members. They (members of the community) draw on a collective to do what they cannot do alone. It also reinforces a type of spiritualism--- a source of meaning, energy and achievement---into the University environment. Diversity within the university community is an important educational goal for all campuses and for all students. The graduate and professional level has affected the diversity and the complexion of the academy. The loss of diversity in graduate education has increased segregation in our country's top universities and colleges in certain professions, such as law and medicine and limits community members to exposure to various thoughts, ideas, and individuals. Justice Harry Blackmun stated in *Bakke* "in order to get beyond racism, we must first take account of race. There is no other way". Race must be a consideration in the development of learning communities in graduate higher education.

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THE IMPACT OF HUMAN-MACHINE INTERACTION IN THE PERFORMANCE OF A DECISION SUPPORT SYSTEM: A SIMULATION EXPERIMENT

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ABSTRACT

In this paper, the function of a data-centred decision support system (DSS) is simulated to investigate whether the incorporation of human pattern-recognition abilities significantly improves the system's performance. Two decision-making scenarios using a stream of data are considered. In one scenario, there is no human interaction, whereas the other uses the pattern-recognition capabilities of humans. The simulation is performed by mining ten thousand records in 980 replications. Samples of different sizes are collected and the human role is represented by the ability of the program to recognize a pattern. The DSS has the ability to take corrective actions with the purpose of keeping the incoming data records within a given set of upper and lower boundaries. The results indicate that incorporating pattern-recognition ability in a DSS significantly improves the system performance. However, the impact of human input is not linear with respect to system performance, and a moderate degree of human intervention will usually provide the greatest impact.

INTRODUCTION

A decision-support system (DSS) is an 'alliance' between a decision-maker and specialized support provided by information technology (IT). In this alliance, IT provides the capability of rapid processing of a large amount of data (and, in many cases, capabilities in quantitative analytical processing), whereas the decision-maker provides capabilities in qualitative analysis and 'know-how' in the form of experience, intuition, judgment, and knowledge of relevant factors (Hoch & Schkade, 1996; Haag et al. 2005).

There have been many efforts to 'close the gap' between man and machine, and thus optimize DSS performance. Dolk and Kridel (1991) proposed an active DSS in which computer and user worked as partners in the problem-solving process. Chuang and Yadav (1998) proposed a conceptual model which included a meta-level controlling unit that was capable of introspecting the system's capabilities and limitations, and determining appropriate actions to adjust the capabilities of the DSS. In a more recent study, Vahidov and Kersten (2004) advocated the development of a higher degree of effective interaction and proposed a new paradigm for computer-based decision support. In all of these studies, the essential issue is how the quality and flexibility of interaction between humans and computers can be improved (Beynon et al. 2002).

Over the years, research and practice has focused on developing DSSs that can use their processing power to compensate for the inherent weaknesses of the decision-maker in data-centred and model-centred DSSs. This has usually been done by incorporating artificial intelligence techniques that mimic human behaviour (Radermacher, 1994; Liang, 1993; Keen, 1987), and by the development of 'adaptive' and 'evolutionary' support systems (Arnott, 2004).

The development of data warehouses that are capable of storing terabytes of data has facilitated the role of data-centred DSSs in supporting organizational decision-making processes (Gray, 2006). In particular, organizations require information systems that are capable of analyzing and using information collected about customers or online visitors (Schonberg et al., 2000). The key to the optimal use of these huge data warehouses are so-called 'data miners'. In most modern data-mining DSSs, the system takes inputs from users, uses these data to find patterns or to discover knowledge, and then supplies answers to users. In these circumstances, although the computer's processing power is fully utilized by data-mining algorithms, the user is only an observer and not an active participant in the discovery process. The strength of DSS in these cases depends on the capabilities of the DSS designers in making the DSS as comprehensive as possible.

However, it is known that human decision-makers are better than machines at identifying relevant variables (Dawes, 1979). It is also known that pattern recognition is one of the fundamental capacities of human cognition

(Andersen, 1983), and in the quest for better interaction between humans and DSSs, several ‘user-adaptive’ models have been developed (Sankar & Ford, 1995).

The study simulates two decision-making scenarios. Each scenario consists of a stream of data being monitored by a DSS. These data could reflect various parameters—such as consecutive online transactions, average customer spending over time, daily demand for a given product, and so on. The purpose of the DSS is to monitor these data, look for patterns, and ensure that the trend of incoming data remains within given boundaries. An example of such a system is the statistical control process, which is a process used to monitor standards, make measurements, and take corrective actions as a given product or service is being produced (Heizer & Render, 2004).

The difference between the two scenarios considered here lies in the different degrees of human interaction involved. The *first scenario* has no human interaction—that is, the DSS is based solely on its processing power to maintain the incoming data within the desired boundaries. Although no pattern recognition is simulated in this scenario, the computer is programmed to make a correction every time a sample of data is not within the given boundaries. The *second scenario* is similar to the first scenario in many respects, but adds another layer to the decision-making process by incorporating the decision-maker’s ability to recognize unacceptable patterns and to indicate an appropriate correction. The two scenarios thus serve as microcosms of man–machine interaction under various degrees of variability and system tolerance in a data-centred DSS.

DECISION-MAKING PROBLEMS

Scenario 1

This scenario simulates the functions of a DSS that is designed to monitor and maintain randomly generated data within given boundaries. This model has no ‘human’ ability to recognize patterns—that is, there is no interaction with a human decision-maker and no automatic pattern-recognition capabilities. The model first generates its initial parameters (such as the number of transactions to be monitored, sample size, and the value of pre-established boundaries), and the initial transaction value is then randomly generated. In the experiment, different degrees of input variability are provided by changing the standard deviation of the input variable. In a normalized distribution, the experiment considers low variation (standard deviation = 1), normal variation (standard deviation = 2), and high variation (standard deviation = 3). The record value (x) of the sample distribution is calculated as follows:

$$x_i = N(x_{i-1}, \sigma) \text{ and } x_0 = N(0, \sigma) \quad (1)$$

where x_i is the value for record i and $N(x, \sigma)$ represents normal distribution with mean x and standard deviation σ (sigma).

Once a value is generated, it is checked to ascertain whether it falls within the pre-established boundaries. If it falls within the boundaries, the generated value is added to the observations of a defined sample of size n and the sample mean is then calculated by the processing power of the DSS. If it does not fall within the boundaries, the number of records out-of-bounds (ROB), which serves as the dependent variable, is increased; the value is still used to calculate the mean of the upcoming sample size.

The next step in the model is to compare the sample mean with the same pre-established boundaries. If the sample mean falls outside the pre-established boundaries, the DSS takes corrective action and makes the necessary adjustments. As indicated by formula (1), the adjustment process consists of allowing the next value to be based on the target value (in this case 0), rather than the allowing it to be based on the previous value (x_{i-1}). If the sample mean falls within the boundaries, no action is required. This process continues until the model reaches the number of transactions to be processed.

Assuming that the machine has the processing capability to process all transaction values, a smaller sample size means that a greater number of interactions is needed by the DSS to ascertain whether the sample mean value is falling within the boundaries. Sample size thus serves as the independent variable in the model. Indirectly, this variable represents the degree of interaction of the DSS with the system. It is postulated that a strong relationship exists between the independent variable (sample size or degree of interaction) and the dependent variable (ROB). Any such relationship will be tested for different levels of system tolerance.

Different degrees of tolerance can be simulated by changing the pre-established boundaries (also known as upper and lower control limits). A low level of tolerance will have the upper and lower control limits based on a 2-

sigma tolerance for normal distribution (allowing 4.55% of samples to fall outside by chance), whereas a high level of tolerance will have the limits set for 3-sigma (allowing only 0.3% of the samples to fall outside the limits by chance). In general, it is postulated that a less-tolerant system will require a higher degree of interaction. In such systems, the decision-maker (if present) needs to be in control and monitor the system more closely.

Scenario 2

In the second scenario, the system is able to recognize patterns—usually associated with the decision-maker. In this scenario, although the DSS automatically makes the necessary corrections to keep the data within the defined boundaries, the human decision-maker also observes the system for any pattern in data that can cause problems for the future behaviour of the system. In this specific problem the decision-maker can recognize and take corrective actions (if required) for: (i) ‘in control’; (ii) ‘out of control’; (iii) ‘upward trend’; or (iv) ‘downward trend’. The decision-maker takes corrective action as soon as a trend is identified.

In this scenario, the degree of human interaction, m serves as an independent variable. For the same machine-processing capability, it is postulated that there is a relationship between the independent variable (m) and the dependent variable (ROB). For example, in the process of web-data mining, whereby millions (or even billions) of recorded transactions need to be analyzed, the efficiency of the program can be significantly increased when the processing power of the computer is appropriately directed by the decision-maker’s experience and ability to recognize patterns. Any such relationship will be tested for different levels of system tolerance.

SIMULATION MODEL: VALIDATION AND VERIFICATION

Promodel® is a simulation tool that is primarily used for modelling various manufacturing and service systems. It has an efficient graphical user interface and strong programming capabilities that allow decision-makers to test various alternative designs, ideas, and process maps.

Using this software, simulation results for both scenarios. A total of 10,000 records were randomly simulated as potential input in the system. The target value is 0, because it was desirable to keep the record values as close as possible to 0. At the moment shown in this screenshot, record number 1835 is generated with a value of -6.15. The boundaries are set to -50 and +50, and sigma for the system variability is 3. The current sample size is 120, and up to this point of time in this simulation, 331 (of 1835 so far) records have indicated values beyond the boundaries (ROB = 331).

Scenario 2 is more tolerant, with boundaries set to -200 and +200. In addition, the input is less variable (sigma = 2). Scenario 2 includes pattern recognition, in which the sample run is used to count the number of samples in a row that have consecutive increases (or decreases). In this specific experiment, the sample run is set to 3. Sample size is randomly set to 1500, and the results so far indicate that there are 361 (of 4780 so far) records out of bounds. Several validation techniques are available (Sargent, 1998), among which are the degeneracy and extreme conditions test. Sensitivity analysis was also performed. Promodel® enabled a dynamic view of the system performance and facilitated tracing of the program step by step.

The number of replications (n') needed to establish a particular confidence interval between the mean \bar{x} and the unknown true mean μ can be estimated by using the following formula (Harrell et al., 2004):

$$n' = \left[\frac{\left(Z_{\alpha/2} \right) s}{\left(\frac{re}{(1+re)} \right) \bar{x}} \right]^2 \quad (2)$$

where re denotes the relative error for the dependent variable.

In both models, a 10% error in the point estimate was chosen for the number of records outside the boundaries (ROB). In other words, the number of replications would be such that, with a 95% level of confidence, the deviation

of the target error (half width) would be around 50 units. In formula (2), $Z_{\alpha/2} = Z_{0.025}$ since $\alpha = (1-0.95)/2$. Also, \bar{x} and s denote mean and standard deviation of an initial number of replications of 100.

For Scenario 1, it was found that $\bar{x} = 545.26$ and $s = 789.5$, and for Scenario 2, $\bar{x} = 443.37$ and $s = 787.88$. Applying formula (2), 954 replications can be calculated for Scenario 1 and 975 replications for Scenario 2. To generate reliable statistical results for the dependent variable and to have equal sample size, it was decided to replicate each model 980 times.

RESEARCH QUESTIONS AND RESULTS

As shown in Table 1, system performance was positively correlated with variability of input (0.499) and with degree of computer interaction (0.241), but negatively correlated with system tolerance (-0.584). This shows that the number of records falling outside the boundaries increased when input variability increased. Similarly, the number of out-of-boundary records decreased when the system became more tolerant. More importantly, the impact of the DSS on the system outcome is apparent—that is, the degree of computer interaction significantly improved the performance of the system by reducing the number of records falling outside the boundaries.

Table 1: Correlation between dependent and independent variables in Scenario 1

ROB1	Pearson Correlation	ROB1
	Sig. (2-tailed)	1
	N	980
SysV	Pearson Correlation	.499(**)
	Sig. (2-tailed)	.000
	N	980
Sample Size	Pearson Correlation	.241(**)
	Sig. (2-tailed)	.000
	N	980
UCB	Pearson Correlation	-.584(**)
	Sig. (2-tailed)	.000
	N	980

** Correlation is significant at the 0.01 level (2-tailed).

The main research question of the present study was whether the addition of pattern recognition to a DSS significantly improves the system performance. To answer this question, the number of records outside the boundaries was compared between Scenario 1 (ROB1) and Scenario 2 (ROB2). Usually such tests require data to be independent and normally distributed. The data sets were independent because a unique segment (stream) of random numbers from a random generator was used for each replication. In addition, two different sets of random numbers were used to simulate the 980 replications of each scenario. Therefore, the two columns of observations were not correlated. However, although observations were independent within a scenario and between scenarios, the data failed the test of being normally distributed. As such, rather than using a typical t -test, non-parametric Wilcoxon and Sign tests were utilized. Both tests show that ROB2 was significantly lower than ROB1.

CONCLUSIONS

The huge number of electronic transactions that are handled every day in the contemporary digital economy requires effective data-mining capability. Apart from the processing power of the computer, it is postulated that the performance of a DSS can be significantly improved by adding the pattern-recognition ability of a decision-maker. This paper has investigated the degree and importance of human interaction in the performance of a DSS by conducting a simulation experiment, which replicated the work of a data-mining DSS.

Ten thousand records were mined in each replication, and samples of different sizes were collected. The human role was represented by the ability of the program to recognize a pattern—such as a consistent increase or

decrease in the sample means. The DSS had the ability to take corrective actions with the purpose of keeping the incoming data records within a given set of upper and lower boundaries. To generate reliable statistical results, 980 replications of two basic scenarios (one with human interaction and the other without human interaction) were conducted.

The results indicate that the incorporation of pattern-recognition ability in a DSS significantly improves the system performance. However, it has been found that the impact of human input is not linear with respect to system performance, and a moderate degree of human intervention will usually provide the greatest impact.

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MARKETING OF COLLEGIATE ATHLETICS TO STUDENT CONSUMERS: BEST PRACTICES AND SURVEY RESULTS

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ABSTRACT

Colleges and universities desire to provide student athletes with “the finest educational and athletic experience.” Part of meeting this mission includes providing student athletes with a competitive forum to display their talents. The general consensus is that players perform at higher levels when supported by a strong fan base. This paper reports on the results of a comprehensive research study aimed at addressing the marketing of student athletics. In particular it attempts to understand what factors influence students’ attendance behavior and to determine “best practices” in terms of what marketing programs are successful. The project included interviews with the athletics marketing directors of six universities and a comprehensive online survey of 6,122 current students. The results of the survey are used to identify reasons for non-attendance, to validate the usefulness of various promotional programs, to identify specific media channels and to propose an integrated set of recommendations for marketing athletics to students.

INTRODUCTION

Many collegiate athletic departments are very successful financially. But what is more common is a situation where athletics typically break even or operate in the red. Unfortunately, at many schools, despite efforts to market sporting events as a means to motivate and encourage student attendance, numbers have failed to reach expectations. Indeed, at many colleges and universities, students make up a small proportion of those attending sports events. For example, a study conducted by Stevens et al (1995) discovered that, at a majority of schools, less than twenty percent of those attending home games are typically current students. Many factors play a role in determining whether or not student consumers choose to attend home games. A review of the literature has identified four significant groups of attributes as influential in the decision to attend men’s sports: economic variables [price, substitutes or complements and income], demographic variables [population size and ethnic mix], game attractiveness [home and visiting team records, promotions and characteristics of players], and residual variables [weather, stadium quality, travel distance for consumers and time of the week or season in which game/event is played]. Smith and Nicholson (2003) conjecture that, “it is impossible to describe the archetypal sport consumer, because there are a multitude of interdependent values, attitudes, and behaviors to consider.” Because of this, they conclude, “Sport marketers should not only promote the benefits of identifying with the team and its players, but also the benefits of witnessing a spirited contest and a quality game. A number of typologies identified customer segments that involved high value supporters being attracted to the game as a whole rather than to a particular team.” Wells et al (2000) discovered that “the psychological trait most highly related to fraternity and sorority members’ attendance at college football games was a desire to be part of something larger than themselves...fans who strongly identified with the college represented by the football team are more motivated to attend a game...[while] the perceived accessibility of athletes increases fan identification.” Becker and Suls (1983) found evidence that “initial performance information (winning at the beginning of the season) weighed more heavily on fan attendance than did later performance.” Numerous studies, including one by Hansen and Gautier (1989), found that games on weekends and those close to the end of the season will show an increase in attendance, while afternoon games generally yield a decrease.

Holbrook and Schindler (1991) discovered, through a series of studies, that “nostalgic feelings relate directly to a fondly remembered age category; namely adolescence and early adulthood. This is likely the same age range when fans begin to closely identify with their favorite teams.” Wakefield and Sloan (1995) concluded that “team loyalty,” defined as enduring allegiance to a particular team, was the most important factor in determining spectators’ desire to attend live sporting events.” They identified four definite loyalty segments: high, spurious, latent and low loyalty supporters, each with appropriate marketing approaches. High loyalty fans exhibit high

behavioral loyalty and high psychological commitment to the team. Wakefield and Sloan also suggest that the best way to market to high loyalty fans is to “use a reinforcement strategy that includes reinforcing behavioral loyalty through economic incentives and attitudinal loyalty through personalized encouragement. This strategy is designed to increase the yield from this segment and to avoid any chances of losing the segment.” Spurious loyalty fans exhibit high levels of behavioral loyalty but low levels of psychological commitment to the team. These fans may appear to most observers to be loyal fans of the team because they behave in the same manner as the truly loyal fans. However, they are not committed fans of the favorite team and could drop out at any point with little dissonance. Sports marketers should focus on increasing the fans' psychological commitment through the use of a rationalization strategy. This can be done by promoting the positive attributes of the product or service, getting the fans to articulate why they support the team, and/or coupling attendance with support of a relevant social cause. Latent loyalty fans exhibit low behavioral loyalty, but high psychological commitment to the team. Although these fans are unlikely to change their team allegiance, they do not exhibit many of the behaviors that would benefit the team (attending games). Sports marketers should focus on increasing the positive behaviors of the latently loyal fan by using a market inducement strategy. This can be done by removing significant barriers to behavior and by offering economic incentives to engage in certain behaviors. Low loyalty fans are low on psychological commitment to the team and are low in behavioral loyalty. These fans are not committed to the team and rarely support the team by attending games or by watching on television. It is likely that when these fans do attend games, it is merely for some reason unrelated to the team itself. Although some might suggest marketers use a confrontation strategy, which requires a direct attack on the fan's existing attitudes, others believe this may only lead to strengthening the fan's low level of commitment. Many sports marketing strategists instead recommend focusing on using either a rationalization strategy to increase commitment or an inducement strategy to increase behavior as a first step to high loyalty. Given the segmentation that exists among fans, sports marketers must use a variety of tools and messages. Stevens et al (1995) were able to determine and rank the extent and effectiveness of advertising activities used by collegiate sports marketers. Their findings suggest that, in order of effectiveness, the tools used are: newspaper advertising, radio advertising, television advertising, word of mouth, corporate sponsorship, brochures, billboard advertising and student contests

Other research (see Wann et al 2004) has shown that parking, ticket cost, promotional events, team success, and the presence of star players play a role in attendance at sporting events. Another element in attendance is group dynamics, attending a game as part of a social group. Marketing strategists are thus encouraged to market to groups rather than individuals, using the group leader as an advocate and organizer (Kwon & Trail 2001). Also, not to be forgotten is the human factor, the athlete. It has been “found that the accessibility and approachability of athletes is an important factor in attendance...encouraging players to become accessible role models who will give autographs to children and interact with the public is recommended ” (Kahle et al 1996). Other studies (see Sebastian & Bristow 2000) have suggested that developing fan identification with the team and fan loyalties are important to building and sustaining attendance. These types of fans will continue to attend games even when the team does not perform well. Thus, “it seems clear that developing fan loyalty at an early age in the consumer's life becomes a business imperative in this industry...once an individual becomes attached to a team, he or she is unlikely to switch loyalties” (Sebastian & Bristow 2000)

PROBLEM STATEMENT

As an example of taking a sports marketing approach to generating increased student attendance we show a case example from San Diego State University (SDSU). The SDSU Aztecs have participated in sports at the collegiate level for over 80 years. Currently, it has six men's and twelve women's teams that compete at the intercollegiate varsity level, plus a number of club sport teams. The SDSU Athletic Department desires to provide student athletes with “the finest educational and athletic experience.” Part of meeting this mission includes providing student athletes with a competitive forum to display their talents. The general consensus, supported by secondary literature review, is that players perform at higher levels when supported by a strong fan base. With a student body of nearly 33,000 students to build from, the SDSU Athletic Department seeks to provide the student athletes with the support they need. Unfortunately, despite active efforts to market Aztec sporting events, student attendance numbers have failed to reach expected levels. Part of the difficulty in attracting student attendance is believed to be the general apathetic nature of San Diego residents, the mediocre record of Aztec teams, as well as traffic and parking concerns.

RESULTS

In meeting the objectives of this project, the athletics marketing directors of six universities comparable to SDSU were interviewed to determine best practices. These were the University of Utah, University of New Mexico, Tulane University, Louisville University, University of Houston, and University of Central Florida. The findings from these interviews were specifically analyzed with regard to the needs of the SDSU Athletic Department. Students at SDSU who belonged to fraternities, lived in the residence halls, and/or commuted to campus were also interviewed. This preliminary research helped in the framing of an extensive online survey of SDSU students.

The online survey was sent to over 28,000 current students, with the offer of a new Apple iPod to one respondent selected at random. The survey was aimed to assess the demographic and psychographic make-up of students in relation to Aztec sporting events, as well as determining awareness of promotions and the best channels of communication. A total of 6,122 students replied by the cut-off date, a response rate of over 20 percent of the target population. The demographic results of the survey mirrored the campus demographics (i.e. 61 percent female respondents, 14 percent freshmen, 54 percent age 19-22). Because of the large sample size, the high response rate, and the close relationship of the survey demographics to that of the university student population, sample bias and random sampling error within the survey were minimized.

Recommendations on ways to increase student attendance at sporting events, specifically men's basketball and football, were based on several primary and secondary information sources. Preliminary research, involving review of past studies, focus groups, and expert interviews, was used to develop background information and best practices. Quantitative and qualitative research tools were employed to identify student preferences as they relate to athletic attendance. Different segments of the general student population were focused on; including those living in the residence halls, members of fraternities and sororities, and commuters. To narrow and define the objectives of this project, attendance at Aztec football and men's basketball games were chosen as the ultimate focus. Also studied was the potential impact of a new light rail station on campus, due to open shortly, on increasing attendance. The findings of this research were used to recommend a communications program specifically designed for the target market.

RECOMMENDATIONS

The results of the survey were used to identify specific media channels that are currently being used by the student body. The findings revealed that over 70 percent of students read the local student newspaper at least once a week and close to 50 percent read the main local newspaper at least once a week. The study showed that students are heavy users of the online version of the campus newspaper, with roughly one-half going to that source for information on athletics and roughly one-third going to that website for ticket information. Although there are many radio stations in the region, results showed that nearly one-half of the student body listens to one radio station, making targeting more effective. Most students indicated they heard about special campus promotions, such as Homecoming, through the campus newspaper. That would be an example of an excellent on campus sports marketing promotion, as nearly one-third of respondents reported actually attending the game. As suspected, most students live more than one mile from campus (85 percent) and roughly two-thirds drive to campus, making on campus promotion more difficult. A majority of students, nearly sixty percent, attended no Aztec men's basketball or football games during the season. Interestingly, over one-half of the students surveyed did not know that tickets to athletic events are free for students. The survey results also show that the opening of the trolley station also presents an opportunity to entice a greater percentage of the students living on or near campus to Aztec football games at Qualcomm Stadium.

From the results of the research and analysis an integrated set of marketing recommendations was developed. Some of the critical recommendations are: update university Athletics Department website to include ticketing information for students, provide information on sports schedules, ticketing, and transportation during freshman orientation and in orientation packets, hang posters/flyers in the residence halls and fraternity or sorority houses with schedules, event, and ticket information, use the campus newspaper, local newspaper, and main radio stations for marketing communications, increase the usage of on campus promotion to generate initial trial of college athletics, have the campus bookstore and the eateries on campus include posters and sports schedules (possibly with schedule magnets) at checkout counters, and start a student spirit organization officially sponsored by the Athletic Department. With the coming arrival of the light rail station, it was recommended that trolley schedules and tickets

be available at the Aztec ticket office. This case example clearly shows how universities can conduct appropriate consumer research and actively market their sports events to student consumers.

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DEALING WITH CRITICISMS OF THE MBA ECOSYSTEM: SOME SUGGESTED DIRECTIONS**Shyam Kamath***Saint Mary's College of California***Guido Krickx***Saint Mary's College of California***Jagdish Agrawal***California State University, East Bay***ABSTRACT**

This paper reviews the major criticisms of MBA programs and different theories of adult and management learning that can be incorporated in such programs to address these criticisms. It discusses possible solutions and the integration of andragogical learning, experiential action learning, double-loop learning, managerial learning and the management skills/competencies approach in global management education as a means to deal with these criticisms.

Key words: andragogical learning; experiential action learning; double-loop learning; managerial learning; global EMBA education; integrated managerial skills/capability upgrading

INTRODUCTION

The Master of Business Administration (MBA) Program has been subjected to a rising crescendo of criticism even as enrollments have burgeoned in the U.S. and worldwide. The U.S. itself graduates over 110,000 MBAs every year (GMAC, 2005) and Europe, China, India and the former Communist countries have joined the MBA “gold rush.” Meanwhile, the MBA ecosystem has become very innovative and diverse and new types of programs, program variants, alliances, partnerships, learning innovations and experimentation has become the order of the day. There is a veritable Cambrian explosion of MBA program species and the MBA landscape mimics the Burgess Shale (Gould 1989) for some later-day MBA paleontologist/historian to discover (alas, MBA programs leave no skeletons). New programs bloom like a thousand flowers even as the crescendo of criticism mounts. To us, this seems like the very basis of a vibrant ecosystem as diverse species (programs) vie for salubrious ecological niches (market segments). Nevertheless, we need to presciently peer forward to see which event of punctuated equilibrium (Gould and Eldredge 1993) may result in the extinction of the species.

In this article, we look at the criticisms of the MBA degree and its receptacle programs and try to separate the sublime criticisms from the merely mundane or profane. We then examine the modern literature on managerial learning and present our view of what we believe is valuable for further MBA program innovation and change. The particular niche (segment) we examine is that of Executive MBA (EMBA) programs since our thinking is driven by a fundamental view of whom a business/managerial education can benefit. We then briefly overview some executive MBA programs that have incorporated some of the innovations in managerial learning and discuss why they provide a panacea for many of the problems identified in the critique. We also provide reasons for why such an approach is likely to gain favor and flourish in the MBA and managerial education ecosystem. We finally outline some suggestions for improving the thrust and outcomes of managerial education.

WHAT'S WRONG WITH MBA EDUCATION? A JOURNEYMAN'S “ECOSYSTEM” REVIEW

The rising crescendo of critiques of the MBA degree and MBA programs are so vast that they would require a separate book length treatment (that brilliant raconteur of managerial thinking, Henry Mintzberg offers just such a brilliant and controversial critique in his 2004 book). Rather than detail these criticisms at length, we identify those that we believe are most penetrating and that are likely to be most productive in transforming the way we think about and *do* managerial education. These criticisms also provide a fulcrum for the discussion below of our program as one adequate *riposte* to them (Henry Mintzberg's IMPM program and many other innovative programs in the current “Cambrian” upwelling are the others).

Criticisms of business education go back to the time of the foundation of the first business school with Joseph Wharton's gift of \$100,000 to establish America's (and the world's) first school of finance and commerce (see Cheit 1985). These criticisms have come from every conceivable source including the MBA accreditation profession itself (see AACSB 1980, 1984, 1986, 1987, 1988, 1989, 1996 and 2002; AACSB/EFMD 1982); academics (Sayles, 1970; Livingston 1971; Hayes and Abernathy 1980; Leavitt 1983, 1989; Behrman and Levin 1984; Whitley 1984a, 1984b; Hunt and Speck 1986; Murray 1988; Porter and McKibbin 1988, Linder and Smith, 1992; Lataif 1992; Mintzberg 1992, 2004 and 2005; Locke 1996; Crainer and Dearlove 1999; Kretovics 1999; Gaddis 2000; Huff 2000; Furnham 2001; Pfeffer and Fong 2002; and Richards-Wilson 2002) and managers, administrators and journalists (Business Week 1986, 2002; Byrne 1995; Economist 1995, 2004; Penley, Fulton, Daly and Frank 1995; Koudsi 2001; COMPAS and the Financial Post 2002; Doria, Rozanski and Cohen 2003).

It is useful to categorize and summarize the criticisms under six broad headings:

Reaching the Wrong People

Using the Wrong Model

Providing the Wrong Material

Utilizing the Wrong Ways

Inculcating Wrong Attitudes

Creating the Wrong Consequences

Cheit (1985), Pfeffer and Fong (2002), Doria, Rozanski and Cohen (2003), Mintzberg (2004, 2005) and Godfrey, Iles and Berry (2005) contain detailed discussions and development of these broad criticisms. For our purposes, it is sufficient to understand their main thrust. We provide such an overview below.

Reaching the Wrong People

The first business management degree was established at the University of Pennsylvania in 1881 and was originally designed as an undergraduate degree program based on an agenda modeled on the Prussian school of bureaucratic statecraft to teach "the application of the scientific method, meaning rigorous measurement, data collection, record keeping, statistical analysis and the development of rational-legal modes of order, decision-making and control over social activities." (Spender 1997, p. 13). Subsequently, the MBA program was established at Dartmouth in 1900 (to be followed by programs at Harvard in 1908 and Stanford in 1925) for undergraduates to extend their "scientific" business studies by another year. The MBA degree, perhaps as a consequence of this genesis has been mainly targeted at undergraduates and young individuals as a vehicle for gaining further knowledge about business management. There is a growing band of critics who argue that this is misguided since it means targeting the wrong people, those who are most likely to learn little that meets the needs of real businesses.

The criticism (with which we are in total agreement) is that, since management is more art (insight and vision), craft (experience) and practice than just science (analysis), it is meaningful and fruitful only to those who have work experience with some understanding about how management works or who have familiarity with the uncertainties of managerial work. From this perspective, as Mintzberg (2004) so aptly puts it, "effective managing therefore happens where art, craft and science meet. But in a classroom of students without managerial experience, these have no place to meet – there is nothing to *do*.....where there is no experience, there is no place for craft: inexperienced students simply cannot understand the practice.....but the experience of the student stops it (art) from being appreciated. They can only look on as non-artists do – observing it without understanding how it came to be." (p. 10). He goes on to say that this is why conventional MBA programs focus on the science in the form of analysis. Sayles (1970), in a perceptive article, expresses surprise that management is not taught at management schools where the focus is on the (fragmented) business disciplines/functions. According to Livingstone (1971), "formal management education programs typically emphasize the development of problem-solving and decision-making skills...but give little attention to the development of skills required to find the problems that need to be solved, to plan for the attainment of desired results, or to carry out operating plans once they are made." (p. 89)

The case against providing management education to individuals who are not managers is made best by the following passage from Mintzberg's iconoclastic 2004 book which we quote at length:

Put differently, trying to teach management to someone who has never managed is like to trying to teach psychology to someone who has never met another human being. Organizations are complex phenomena. Managing them is a difficult, nuanced business requiring all sorts of tacit understanding that can only be gained in context. Trying to teach it to people who have never practiced is worse than a waste of time – it demeans management. (Mintzberg 2004, pp. 9-10)

The “management learning” school (see Burgoyne and Reynolds 1997) also emphasizes such learning as being the interface between both theoretical inquiry and management practice for people who have practiced management. Such learning requires that the learners know management practice in order to fully benefit from the interface between theory and practice in an effective, critically reflective manner. Raelin (1990) also details much the same criticisms put forward by Mintzberg and Burgoyne and Reynolds in a thoughtful article about not teaching management as if it were a profession. He argues that teaching fresh graduates or those with two to three years of management experience is both counterproductive and unrewarding for those enrolled in such programs because of the practice-oriented nature of managerial work and the difficulties of educating those who have no grasp of the concept or the content of managerial work.

Executive MBA (EMBA) programs were originally set up (the first EMBA program was launched at the University of Chicago in 1943) to expand the MBA market to part-time students with full-time jobs. The number of EMBA programs has grown steadily to over 250 programs in the United States alone (EMBA Council 2005). Most, but not all, of these programs are targeted at the right people with the right experiences to gain from a management education program. Yet, this hope has been belied by the use of the wrong education model with the wrong curriculum and content of EMBA programs as outlined in the next two sections.

Using the Wrong Model

Ashen (1969), Livingston (1971) and Mintzberg (1975) sequentially put the cat among the pigeons of the business school arena when they argued that the analytical, academic model used in business schools was not serving the education of managers well. But, it was the publication of Hayes and Abernathy's (1980) attention-getting article that brought the issue of whether MBA programs and business schools in general were using the right model for educating managers. While considerations about managerial practice had gained in importance at business schools before World War II, the rise of the academic model at a number of leading business schools (most especially at Carnegie Mellon University) and the publication of two reports by the Ford Foundation (Gordon and Howell 1959) and the Carnegie Foundation (Pierson 1959) led to the adoption of the academic model of the social sciences in the post-war period. This model stressed analytical research over the study and propagation of (best) managerial practice at business schools.

Cheit (1985) has summarized these criticisms as business schools using an education model that was “too quantitative, too theoretical, and too removed from real problems” and that “the schools produce technical staff specialists rather than leaders.” (p. 50). Mintzberg (2004) has carried this criticism even further by arguing that business schools, with their focus on fragmented business functions and production of technical specialists have done very little (he describes the exceptions) in educating managers. While defending the importance of research, he argues for a focus on teaching through interactive theory and reflective practice while making the research relevant and accessible. He presents a radically different model of management education (not called an MBA so as to emphasize the focus on management, not only business) that attempts to overcome the lacunae of such education that he catalogues in detail.

Godfrey, Illes and Berry (2005) present four specific critiques of the business education model based on Kolb's (1984) and associates' experiential learning model (more on this model below):

the business curriculum eschews cross-functional and holistic knowledge and focuses on discrete and functional knowledge

it emphasizes practical problem-solving “tool kits” instead of the integration of deep theoretical knowledge with practical knowledge

it views humanity and human interactions in purely transactional terms not in holistic and humanistic terms

it emphasizes the supremacy of shareholder wealth over all other human values.

They argue that such a model ignores the four Rs of an effective business education - it denies the *reality* in which business education should be grounded; it ignores the need for *reflection* and *reciprocity* in real business learning; and abdicates on the *responsibility* that is demanded in business situations. They advocate a “service learning” model based on Kolb’s (1984) experiential learning model where “people learn by *concrete experiences* with the real world, by *reflective observation* of their own (and others’) lived experience, by *abstract conceptualization* of theoretical concepts and models (the focus of cognitive pedagogies), and/or by *active experimentation* to discover cause-and-effect relationships or to determine which of many solutions proves viable.”

According to the critics, the choice of the wrong educational model has had serious consequences for management education and the practice of management in general. These consequences range from the corruption of the educational process, to the corruption of managerial practice to the corruption of established organizations to the corruption of social institutions and the neglect of societal needs (see Cheit 1985 and Mintzberg 2004). More on this below.

Providing the Wrong Material

Mintzberg (2004) points out that the opportunity that was presented by the target market of the EMBA program was lost by these programs replicating the curriculum and the course content of conventional MBA programs designed for people with no or very little experience and no understanding of context. As noted by Mintzberg, a benchmarking study of seventy EMBA programs by the EMBA Council (1997) found that fully ninety percent of them offered each of the nine standard core courses of their regular MBA programs. This meant that the experience of the managers enrolled in EMBA programs and their appreciation and understanding of the art, craft, practice and context of management was not availed of in these programs.

Others, such as Leavitt (1989), Raelin (1990, 1993a, 1993b, 1994, 1997) and Pfeffer and Fong (2002) have pointed out that the material taught in the curriculum of MBA (and EMBA) programs lacks the development of synthesis and integration, entrepreneurship, problem-solving, interpersonal persuasion, political and implementation skills and focus almost exclusively on the development of analytical skills. For example, according to Leavitt (1989), “unfortunately, we don’t do a very good job of teaching those (interpersonal, teamwork, negotiation and political) skills because their mastery requires a lot of practice, and most business schools have been designed without practice fields.” (p. 40)

As is evident from the quote from Leavitt (1989) above, the major complaint of the critics is that, in spite of much lip service on the part of business schools, “soft skills” (interchangeably called “managerial competencies”) that are at the core of what managers need to succeed in the job of managing other people and themselves are not taught or focused upon in business schools (Mintzberg’s perceptive 2004 book focuses on this aspect of managerial (mis)education). These skills/competencies include personal skills (such as managing oneself through reflection; strategic thinking; and time and career management), interpersonal skills (such as leadership; team-building; conflict resolution; networking; collaborating; negotiation and politicking), informational skills (such as communicating verbally and non-verbally including seeing and sensing; listening; information collection and dissemination; data processing, modeling, measuring and evaluating) and actioning skills (such as scheduling; prioritizing; administering through goal setting, delegation, authorizing, allocating, systematizing and performance evaluation; designing; and implementation and mobilization). The critics argue that teaching or coaching in MBA/EMBA programs in these skills is either inadequate or absent, bringing in to question as to what an MBA has to do with training people for real-world management. Thus, according to Mintzberg (2004) in business schools “the soft skills simply do not fit in. Most professors do not care about them or cannot teach them, while most of the younger students are not ready to learn most of them. And few of these skills are compatible with the rest of the program – they get lost amid all the hard analysis and technique....the business schools have tended to “cover” them....they just have not embraced them, internalized them.” (p. 41).

Leavitt (1989) also reflects on other areas where American business schools in particular do not teach much needed skills and perspectives. According to him “we don’t... teach our rather chauvinistic American students to think globally, to view themselves as world citizens; nor do we teach them habits of lifelong learning; and though we occasionally try, we do not teach them much about that most vital characteristic of the semi-profession of management, *action*....we don’t teach...the critical visionary, entrepreneurial *pathfinding* part of the managing process....and the *problem-solving* and *implementing* parts.” (p. 39-40, italics in original). Much the same criticism was summarized by Cheit (1985) in his article on “Business Schools and Their Critics” under the heading that MBA programs ignore important aspects of managerial work.

Another criticism about the content of management education (including that of the EMBA variety) is that it does not encourage reflective thinking of the manager's experiences in the light of theory and other managers' practice. Thus, Burgoyne and Reynolds (1997) and others in the management learning school of thinking point out that effective management learning requires theoretical insights to interact with different types of practice respectively called *effective practice* (practice that is successful in attaining the articulated goals even though such success cannot be formally "explained"); *reflective practice* (successful practice that can be plausibly explained and inter-personally transferred); and *critically reflective practice* (where the practitioner is not only able to explain and transfer the successful practice but is also able to continuously question and revise their theory of such success in the light of alternative theories – the equivalent of Argyris and Schon's double-loop learning (see Argyris and Schon 1974, 1978; Argyris 1982, 1989, 1990, 1991, 1993a and 1993b; and Schon 1983, 1987)). Gosling and Mintzberg (2003) call this the reflective mind-set of the manager where she/he makes the connections between theory and practice, between experience and explanation. Mintzberg (2004), in particular, points out that reflection should be the centerpiece of MBA education of experienced managers since it allows them to synthesize their managerial experience with the theory that is learned in the classroom. This leads to the next set of criticisms.

Utilizing the Wrong Ways

The critics have also argued that MBA programs use the wrong methods to educate their students. Essentially, most management schools use the lecture method or the case method of teaching or a combination of the two. These methods are focused on teaching the business functions – accounting, finance, marketing, operations management etc. – without any sustained attempt to synthesize or integrate what is learned about these functional areas. The study of management per se is neglected or non-existent. This leads to fragmentation and a "silo effect" in learning with the problem compounded by the inappropriate methods that are used.

While the lecture method has a long and distinguished history dating back at least to Plato and Confucius, it has been long criticized in management circles as a method of learning involving passive receptivity. The approach essentially treats students as empty vessels to be filled up. It is very far from the real world of managing where one is constantly engaged between the practice of management and the thought processes that interact with the practice. It lacks the give and take that characterizes learning about the practice of management. As Livingston (1971) puts it, "fast learners in the classroom often....become slow learners in the executive suite....(they) are not taught in formal education programs what they need to know to build successful careers in management....to learn from their own experience." (pp. 79 and 84) Without the opportunity to reflect on practice, they do not "....discover for themselves what does – and what does not – work in practice." (p. 84) All this from someone who taught at Harvard after being a practicing manager at a place where case studies were used as the primary method of teaching!

The case method of teaching was pioneered at the Harvard Business School initially as a means of introducing theory in a contextual manner to make the MBA student more engaged with the learning process (see Mintzberg, 2004). However, its purpose soon became the introduction of real-world situations and experience in the classroom so as to imbue the teaching of theory with practice. However, many critics (Livingston 1971, Bok 1979, Argyris 1980, Turner 1981, Cheit 1985, Chetkovich and Kirp 2001 and Mintzberg 2004) have pointed out the problems with the case method. These criticisms include the following:

The "secondhand" experiences obtained from case studies do not provide an opportunity to do something about the real human problems that they contain and to reflectively learn from them. Without taking such action they cannot themselves learn what works and what does not work in practice. (Livingston 1971)

Cases reduce managing to decision making and analysis (just like in the theory-oriented lecture classroom) while ignoring the tacit knowledge and learning about the situation so essential to real managerial situations. While cases help in the development of logical thinking skills and to arriving at logical conclusions as well as making logical and persuasive arguments that are essential to what managers actually do, they do not develop the capability of the complex real-world process of painstaking learning, listening, weaving through complex and disjointed real-world phenomena, extracting information and probing deeply with all the necessary soft skills the underlying phenomena "on the ground", not the executive suite. And they do little, if nothing to develop these soft skills that are so essential to managing. (Mintzberg 2004)

The case method encourages, almost exclusively, an attitude focused on the executive suite rather than at the operational level where most companies are run on a day to day basis and where all the trench-work in formulating and implementing strategy is done. Cases focus on strategy and separate strategy formulation from “implementation” (though such “implementation” is mere verbalization, not action) violating the principle of practice that strategy is a two-way street of continual interaction between thought and action. (Cheit 1985, Mintzberg 2004)

The case method overemphasizes participation at the cost of understanding because of the requirements of the case study classroom where a series of one-minute bites of participation over the course of a semester may spell the difference between a passing and a failing grade and where the premium is on competition. This leads to biased and inadequate learning about the managerial process with a focus on gamesmanship and competition in getting the attention of the professor leading to inadequate and irrelevant learning. (Turner 1971 and Argyris 1980).

Top-down, or outside-in, models of decision making and action are the rule in case analysis and discussion with inadequate historical and situational context with a focus on conflict and the individual “heroic” manager, so that there is a systematic bias in the case method and the learning that it engenders. (Chetkovich and Kirp 2001)

As Mintzberg and others point out, these criticisms of the lecture and the case method are not meant to completely denigrate the use of these well-tested methods. The objection is rather that they are inadequate to meet the major challenges of management education and need to be supplemented by other methods that can better match the special needs of melding theory and practice in a meaningful and effective way. Much the same criticisms and caveats can be made about other pedagogical methods used in business schools such as business simulations, internships, projects and entrepreneurial business creation programs (see Mintzberg 2004). Much of the criticism about the content and the method used to educate students in MBA programs seems to be the cause of inculcating wrong attitudes. We review the criticisms leveled regarding this aspect next.

Inculcating Wrong Attitudes

Hayes and Abernathy (1980) argued that MBA education fostered in the manager with an MBA degree a “preference for (1) analytic detachment rather than the insight that comes from “hands on” experience and (2) short-term cost reduction rather than long-term technological competitiveness.” Cheit (1985) summarizes the criticisms in this regard as follows: “the schools foster a short-term, risk-averse attitude in their students. The schools encourage a variety of undesirable personal characteristics in students, including unrealistic expectations, job hopping, disloyalty.” (p. 51) While he goes on to dismiss these criticisms as contradictory and, in the case of job hopping, as being silly, others have expanded on these criticisms and added to them. Raelin (1990), in an article entitled “Let’s Not Teach Management As It Were a Profession”, argues that doing so in full-time programs to students with two or three years of experience creates a number of undesirable attitudes and characteristics including a predominantly analytic mindset that cannot deal with the day-to-day interpersonal challenges; creating expertise and attitudes suited to staff jobs not general management jobs; creating problem-solvers who are not good at problem identification or problem finding; and that such programs do not provide the wherewithal for inculcating the MBAs with professional values that can effectively transform organizations or effect social change. Mintzberg (2004, chapter 4) details much the same attitudes while discussing what he calls the corruption of managerial practice (more on this below).

Mintzberg (2004, p. 67-69) controversially summarizes the impression left by an MBA education in the minds of the graduates in terms of the following (undesirable) factors:

Managers are important people who sit above others in a pyramid and getting to the top does not require experience in that organization.

Managing is more science than art or craft and is synonymous with decision-making based on systematic analysis.

Data for managerial decision-making comes in neat packages and can be “massaged” to make them confess.

Managerial work is neatly divided into the business functions as is the organization to which a clear-cut repertoire of techniques can be applied.

“Strategies” pronounced by managers fit the functions together using analytical techniques like industry analysis.

Strategies that are clear, simple, deliberate and bold are the best with heroic leaders pronouncing them.

“Human resources” implement the strategies so formulated by managers which implementation process must be monitored but never done by managers.

Since implementation is never easy, managers have to “bash bureaucracy” using standard techniques and “empower” those who are left to do the work they were hired for.

Two years in a business school is all you need to be a manager or better still a “leader”, enabling you to manage anything.

Mintzberg laments that this is the attitude and world-view that millions of MBAs have carried to their jobs and companies with deleterious consequences that have affected the educational process, managerial practice, their companies and society at large. These alleged consequences are summarized in the next two sections.

Creating the Wrong Consequences

Some of the alleged consequences of MBA education have been touched upon in previous sections. Mintzberg (2004) has, once again, controversially grouped these consequences under four headings: corruption of the educational process, corruption of managerial practice; corruption of established institutions; and the corruption of social institutions. We briefly discuss each one in turn.

Mintzberg (2004) provides a discussion of the deleterious values that conventional MBA education inculcates in its graduates by reviewing three books by MBA students about their experiences. He argues that the values that stand out include short-termism; a disconnect from their social surroundings and the big questions that are being faced there; unscrupulous, demanding, strident and individualistic attitudes; a focus on shareholder value at the cost of customer needs and employee needs; and a lack of concern about social issues. According to him, in many MBAs, confidence without the requisite competence to match this confidence breeds arrogance instead of the humility that should emerge when they graduate with an appreciation of what they do not know. The corruption of the educational process that this engenders is further exacerbated by negative consequences of the business-press rankings race business schools dissemble about their programs and manipulate the rankings (as demonstrated by an excerpt from a former top 25 business school dean’s advice to aspiring top 25 ranking schools).

With regard to the corruption of managerial practice, Mintzberg (2004) provides further evidence of the managerial practices engendered by the wrong attitudes that MBA programs inculcate. These include a focus on compensation rather than contributing to the organization that they join; chasing the hottest jobs in a few narrow sectors where analytical skills are at a premium (usually in banking or consulting where over 60% of the graduates of the top 25 management school went in 1998) at the cost of sectors where making or selling goods and services where interpersonal and soft skills are at a premium; impatient, aggressive and self-serving MBAs look for fast tracks that may include an excessive focus on executive compensation, manipulation of financial statements, dismissal of human resources as cost-cutting when the stock price falls and a “cash-in-and-run” mentality harmful to long-term survival and growth of the business; all leading to an unbalanced managerial process that is based on the obsessive calculations of the individualistic “heroic manager” at the cost of creativity, imagination, teamwork and long-term performance.

In assessing the consequences of the MBA degree for established business organizations, Mintzberg quotes extensively from a conference paper based on the work of business historian Robert Locke (1984, 1989 and 1996) and argues that while America’s 20th century pre-eminence in management was established by the 1940s long before the MBA degree became ubiquitous, “the reputation of American management went into eclipse” in the 1950s and 1970s as the German and Japanese economies experienced a great surge of growth from the ashes of WWII. Locke also documents how neither Germany nor Japan developed MBA education in any substantial manner to speak of as they surged after WWII. Locke also claims that American business schools have also contributed almost nothing to

one of the most significant developments in business over the last fifty years in the form of the quality revolution and have created managerial elite that is detrimental to business cohesion and success at the operational level. In his more recent papers, Locke shows that MBA education has fostered a “hierarchical, production-driven model” that emphasizes volume and scale, cost reduction and control rather than entrepreneurship and innovation – in Mintzberg’s phrase “exploitation rather than exploration.” Mintzberg also argues that the risk-averse attitudes of MBAs has meant that they have gravitated towards industries with slow-moving technologies (considerable evidence is referenced in this regard) while eschewing entrepreneurial ventures and not being so successful in fast-moving technological areas (though the evidence here is only indicative and certainly not conclusive).

Finally, Mintzberg marshals the evidence for the corruption of social institutions by MBAs. His argument is that the analytical, calculating mind-set that is inculcated by business schools results in the subordination (he uses the term “degradation”) of human values to the profit motive; analytical immorality due to a focus on “hard data” at the cost of soft data and consequences (his paradigm case is Harvard MBA Robert McNamara and his execution of the “body count” focused Vietnam War); the neglect of social values and responsibility due to an exclusive focus on economic outcomes; and the emergence of legal corruption and “meanness” due to the “star system” created by the MBA mentality and the neglect of responsibility for externalities due to a focus on shareholder value maximization (recent experience with companies like Enron, Tyco and Global Crossing reflects this). While completely neglecting social sectors like non-profits, hospitals, educational institutions, government organizations and non-governmental organizations in its curriculum, MBA education gives its graduates the false impression that they can manage anything, even organizations with predominantly social, not profit goals. Mintzberg claims that this is where MBA education has the potential to cause (and has caused, though he presents no evidence to support this) the greatest harm.

Coda on the Criticisms

What to make of all these criticisms regarding MBA education? Needless to say, MBA educators, deans, the professorate and those with MBAs have provided staunch defenses of MBA education against these criticisms. In fact, when Mintzberg’s 2004 book was published, it caused a firestorm among the business school cognoscenti with many critical reviews and articles in journals defending what business schools do. A full issue of the *Academy of Management Learning and Education Journal* (Volume 4, Number 2, 2005) was devoted to articles that commented upon and, in many cases, took issue with Mintzberg’s claims even though many expressed agreement with many aspects of what he said. It is not our purpose here to go over these and other defenses of business schools and MBA education. It is our claim that like in Darwin’s (1859) metaphor of the “wedge”, there is substantial variation and selection taking place in the crowded eco-system of MBA and EMBA education (Mintzberg himself devotes a substantial part of a chapter on the programs he finds worthy in trying to respond to the criticisms and almost half the book to explaining the development, implementation and working of the IMPM program he and his colleagues developed at McGill and five other partner schools across the globe).

Rather than justify or rebut these criticisms (though, for purposes of full disclosure, we must state our sympathy and agreement with the majority of these criticisms), the next section discusses the theoretical and philosophical background of models of adult and experiential learning which, when suitably embedded in management education programs emphasizing the art, craft and science of management we believe can deal substantially with the majority of the criticisms. We believe that such innovative elements can become the basis of the “Cambrian explosion” in MBA (and especially EMBA education) that is currently under way. While only the future fossil record will show which models and programs succeeded, we do believe that the elements we describe provide a new and durable model to incorporate many of the missing features of MBA education stressed in the critical literature that we just reviewed.

MODELS OF ANDRAGOGICAL AND EXPERIENTIAL ACTION LEARNING – SOME SUGGESTED PANACEAS

A number of well developed models of adult learning, especially for managers, are available to help mitigate the impact of the well-directed criticisms mentioned in the previous section. A number of EMBA and management education programs have already incorporated some of these features and there are a number of innovative programs that are flourishing using adult learning, managerial learning and experiential learning models. This section reviews

the various models of managerial learning that are available and that deal with the criticisms raised in the previous section.

The traditional model of business learning, like most of traditional university learning, is based on a *pedagogical* foundation which evolved in the monastic schools of Europe from the seventh to the twelfth centuries in the secular schools across the continent and which was then embedded in the modes of instruction in the early twelfth century universities that were established in Italy, France and Germany (Knowles 1977, 1984). The word *pedagogy* was derived from the words *paid* (meaning “child”) and *agogus* (meaning “leading”) so that the method of *pedagogy* literally meant the art and science of teaching children. This model has been the dominant model of business learning in the MBA program from its very beginnings in the early 1900s.

In the 1970s, research primarily by Malcolm Knowles (1970, 1973, 1975, 1984) and his associates argued that adult learning was fundamentally different from the way that children learned and that the fundamental premise of tertiary education, especially those of adults, was flawed. Knowles called his new model of adult learning *andragogical* based on the word *aner* (meaning “man, not boy” and hence, adult) and *agogus* (as before, meaning “leading”). This new approach focused on the art and science of helping adults learn. The new approach was based on the following key assumptions (see Knowles 1973):

Adults are self-motivated to learn about the needs and interests they experience that learning will satisfy;

Adults’ orientation to learning is life centered;

Adults’ richest source of learning is experience;

Adult learning is driven by a deep need to be self-directing;

Adult learning has to be mode customized or individualized since individual differences among people increase with age.

Knowles (1970, 1980) initially saw the two approaches as diametrically opposed to each other and sub-titled his 1970 book as *Pedagogy versus Andragogy*. However, when subsequent evidence was presented by a number of his associates and researchers the adults also learned through pedagogical methods and more importantly, children also responded well to andragogical methods, he subtitled the 1980 second edition of his book *From Pedagogy to Andragogy*. This reflects the need to use elements of both learning models in adult learning situations.

The differences between the assumptions and process elements of the *pedagogical* and *andragogical* models of learning can be best contrasted as shown in Figure 1 below. It can be seen from the figure that the *andragogical* model of learning is *learner-centered* and *learner-focused* as against the *teacher-centered* and *teacher-focused* nature of the traditional *pedagogical* model. The former model is *problem-centered* and *performance-centered* while the latter is *subject-centered* or *process-centered*. The traditional model is based on an underlying ethos of *dependence*, *experience avoidance* and *external direction* while the *andragogical* model is *self-motivated* and *independent*, *experience embracing* and *self-directed*. The process elements are also different with the andragogical approach using a collaborative, supportive and informal approach as against the competitive, authoritarian-judgmental and formal approach of the pedagogical method. Participative planning and decision-making, mutual negotiation and assessment and independent study using experiential techniques characterize the andragogical process approach in contrast to the authority driven and top-down process of the traditional pedagogical approach.

Figure 1
Characteristics of Pedagogical (Teacher-directed) and Andragogical (Self-Directed) Learning Models

Characteristic	Pedagogical Model	Andragogical Model
Focus of Model	Teacher-focused and centered	Learner-focused and centered
Orientation of Learning	Subject and process centered	Problem and performance centered
Readiness to Learn	Varies with level of maturation	Develops from life’s tasks and problems
Concept of the Learner	Dependent	Independent
Role of Learner’s Experience	Experience avoidance	Experience embracing
Locus of Direction	Externally directed	Self-directed

Motivation	External rewards and punishments	Internal incentives and curiosity
Process Elements	Competitive, authoritarian-judgmental and formal	Collaborative, supportive and informal
Locus of Planning	Authority driven	Participatory
Locus of Decision-Making	Top-down	Participatory
Evaluation and Assessment	Primarily by teacher	By mutual assessment of self-collected evidence

Source: Based on Knowles (1975, 1980)

A second model of management education that influenced us is represented by the models of experiential learning brought into the managerial learning mainstream by Kolb (1984) and his associates (see Boyatzis 1994; Boyatzis and Kolb 1995 and 1997; Boyatzis, Cowen and Kolb 1995; Boyatzis, Stubbs and Taylor 2002; and Kolb and Kolb 2005). The insights of these models were incorporated in to three higher education programs at the Cleveland Institute of Art, the Case Western Reserve University undergraduate business program and the Case Western Weatherhead School of Management MBA program. Experiential learning is NOT a set of tools and techniques for incorporating experiences into the learning of adults but rather a comprehensive philosophy of education based on the insights of great international scholars like John Dewey, Kurt Lewin, Jean Piaget, Paulo Freire and William Rogers. Experiential learning theory is based on the view that learning is the process by which knowledge is created by the transformation of experience. Knowledge creation occurs through the process of grasping and transforming experience. The six precepts of the experiential learning philosophy can be summarized as follows (see Kolb and Kolb, 2005):

Learning is a process, not exclusively focused on outcomes. Such a process includes feedback on the effectiveness of the learning efforts of students.

Learning is relearning in the sense of drawing out the student's concepts and ideas and integrating them with new and more refined perspectives.

Conflicts, differences and disagreements drive learning processes and learning requires their resolution.

Learning is a holistic process of adaptation to real-world experiences that requires thinking, feeling, perceiving and behaving.

Learning is the result of synergistic interaction between the person and the environment.

Learning is the process of creating new knowledge through the interaction of social knowledge and personal knowledge as against the traditional learning process of transmitting knowledge.

The experiential learning model has much in common with the action learning model implemented at the General Electric Company of the U.K. in the 1970s (see Revans 1982 and 1983, and Keys 1994). The learning theory underlying the action learning model can be characterized in terms of two components of knowledge – programmed knowledge (P) that can be learned from books and lectures and questioning insight (Q) which is based on experience, historical evidence or creativity and is useful in solving problems which do not have previously worked-out solutions or which are unique and open-ended. Action learning advocates exhort managers to learn through Q-type learning experiences where they are in charge and the role of the faculty member or academic specialist is that of facilitation and support. The steps of the classic learning process can be depicted as follows (see Lewis and March 1987):

The learning vehicle must be a current (live) problem owned by the individual manager.

Teams should consist of groups of managers, each of whom brings their individual problems to the team process. Teams should incorporate a mix of experiences, abilities, responsibilities, functions, levels etc.

Team members learn from each other as they meet periodically to discuss analyses and possible solutions and to test their plans in the field.

There is a set advisor for each team (professor or consultant) for the entire duration of the life of each team.

The client(s) (or top executives) meet with the teams for evaluation of their final solutions to the identified problems.

Also related to the experiential learning and action learning models are the theory-of-action models of double-loop learning advocated by Argyris and Schon (see Argyris and Schon 1974, 1978; Argyris 1982, 1989, 1990, 1991, 1993a and 1993b; and Schon 1983, 1987) and the British management learning model developed at Lancaster University (see Burgoyne and Reynolds 1997 for a full description of the various aspects of this model). These theory-of-action or reflective practitioner models look not only at learning that corrects error by changing routine behavior (single-loop learning) but also look at learning that corrects error by emphasizing the underlying values and policies underlying the organization or behavior (double-loop learning). Both types of learning are based on what Argyris and Schon call reflection-in-action (“thinking what you are doing while you are doing it”). They argue that such learning requires the elimination of any separation between theory/research and practice and the creation of a process of learning where the constant application of theory in practice creates learning through reflection-in-action (Argyris later called this mode of learning as “leading-learning”). The following generic characteristics of learning-supportive educational experiences are emphasized by Argyris (1993a):

Learning should be based on the use of a real-life problem that requires early action and implementation. Without the requirement of taking action and implementation, theories-in-use are not activated and double-loop learning cannot take place.

The effective implementation or action should be directly related to the participating individual's competencies or skills and be related to the effectiveness of the organization in which they work.

The problem should be non-routine and difficult, preferably requiring innovative thinking and action. There should be the potential for failure and embarrassment.

It should be a problem about which the participants can take action or should be capable of being influenced by their actions.

The lessons about learning-leading from solving such real-life action problems should be usable to solve future problems (technical or human) similar or dissimilar to the one being used as a vehicle for learning.

The British management learning school (Burgoyne and Reynolds 1997) also emphasizes the close inter-linking of theoretical inquiry with professional practice where practice is shaped by theory and theory, in turn, is tested and developed through practice. They emphasize the role of three different types of practice: *effective practice* (successful practice which may or may not be articulated), *reflective practice* (effective practice that can be articulated in a working theory and can be used to transfer skills) and *critically reflective practice* (the ability to interpret and critically assess a diverse mixture of descriptive, normative and critical theories to understand the “best” practice). They emphasize that management learning can only work for adult learners with practical managerial experience so as to take advantage of the interplay between the formal, deliberate and explicit practices of management (M) and learning (L) and the informal, tacit and naturally occurring practices in management (m) and learning (l). The management learning framework melding theory and practice can be best understood simply by examining Figure 2 called the MLml framework from Burgoyne and Reynolds (1997) below. “M” connotes those activities that are formally categorized as management in organizational settings; “L” connotes events and courses formally designed to elicit learning; “I” denotes; “m” connotes the everyday informal processes of managing to get things done; and “l” connotes all the explicit and tacit informal learning that takes place in the workplace. It is the interaction of these four practice and learning categories that leads to managerial learning with the integration of theory and practice as evidenced by the categories generated (MM, mM, Mm, mm, LL, Ll, lL, ll).

Figure 2
The MLML Framework of the Management Learning School

M Formal, Explicit and Deliberate Management	L Formal, Explicit and Deliberate Learning
M Informal Managing	I Informal Learning

Source: Burgoyne and Reynolds (1997), Figure 1, p. 11.

A final model of management learning that influenced us was the managerial skills or competencies approach that evolved out of the reaction to the seminal AACSB report entitled *Management Education and Development: Drift or Thrust Into the 21st Century* (Porter and McKibbin 1988) which emphasized the then lack of and the need to teach MBA students managerial competencies including leadership and interpersonal skills. This approach involves the focused development of skills (such as self-management skills, creative problem-solving skills, group decision-making skills, conflict management skills, delegation skills, supportive communication skills, work-process management skills, information-gathering skills, leadership skills, planning and organization skills etc.) in business “learners” with an emphasis on improving the skills and changing the behavior of such learners. This organization behavior focused approach also emphasizes the role of practice in skill development and changing learner behavior through experiential action learning (see, for example, the approach of Cameron and Whetten 1984 and Whetten and Cameron 2005 and the contributed chapters in Bigelow 1991).

AN ANDRAGOGICAL MODEL OF MANAGEMENT EDUCATION: SOME SUGGESTIONS

In this section, we briefly outline some suggestions for developing EMBA and management education programs incorporation andragogical and experiential aspects of managerial learning. These suggestions involve integral elements incorporating the major elements of current thinking on managerial learning and addressing the critiques of business education reviewed in the first part of this article:

Reaching the Right People: The target group for MBA and EMBA programs should be limited to managers with at least 3-5 years of work experience and significant managerial experience so that the education is reflection and experience based. Accordingly, the program should develop an andragogical curriculum for working adults, though pedagogical aspects should also be included.

Using the Right Model: MBA and EMBA programs should eschew a purely analytical and theoretical model of business education common to most MBA/EMBA programs today. Instead, such programs should emphasize cross-functional, holistic and integrated knowledge. They should focus on the integration of deep theoretical knowledge with practice by requiring each program module to be integrated with every other and the required application of the theoretical knowledge gained should be threaded and integrated with real-world experiential consulting or business practicum projects with an actual client. The goal should be to emphasize praxis (theory applied to practice) throughout the program. Participants should be provided with opportunities for open-ended and problem-solving “human” interactions with their clients, overseas counterparts and in-country/overseas market participants (e.g. distribution channel participants, suppliers, competitors etc.). The use of an andragogical model with an experiential action-learning component should be used that utilizes the latest developments in managerial learning theory to develop a clearly-identified set of managerial competencies and skills.

Providing the Right Material: Management education programs should utilize an integrated, globally focused curriculum that lays a high emphasis on the development of entrepreneurial and interpersonal problem-solving skills alongside strong analytical skills. The curriculum should focus on developing team-based “soft skills”

through experiential action learning projects along with the development of “hard” functional area skills with global, real-time interactive requirements. Such programs should emphasize the development of personal, interpersonal, negotiation, informational and actioning skills. By focusing on reflective thinking and its application to critically reflective practice, MBA and EMBA participants can develop double-loop learning and action learning capabilities.

Utilizing a Variety of (Right) Ways: The “secondhand” experiences obtained from case studies, lectures and simulations can be enhanced with continuous real-world client interaction and problem-solving through the consulting or practicum project, domestic/overseas market interactions and overseas negotiation exercises. Program long managerial “practice” projects with a reflective *modus operandi* can ensure the effective melding of theory and practice in a meaningful and effective way. Throughout the program, participants can learn by themselves in interaction with their peers and in association with their faculty facilitators key managerial skills such as analytical and creative problem-solving skills; organization and planning skills; interpersonal, leadership and conflict management skills; communication and presentation skills; computing and technology management skills; cross-cultural and global skills; integration, collaboration and teamwork skills; reflective action learning skills; business negotiation and politics-management skills; and managerial “ownership” skills.

Inculcating Appropriate Attitudes: We believe that humanistic values based approach to program design that emphasizes a pluralistic and humanitarian approach to management (cf. the work of Gareth Morgan 1997, 1998) would go a long way towards reducing the hubris and mechanistic determinism of current approaches to management education. For example, emphasis could be placed on values such as:

Dedication to excellence in global business education and holistic learning

Focus on stakeholders and dedicated service to stakeholders

Trust in people

Commitment to innovation and life-long learning

Growth through value generation and re-investment

Focus on integrity, due process and fairness

Success through teamwork

In all interactions with the faculty, faculty facilitators, clients, market participants, domestic and overseas citizens, program participants, faculty and staff would be expected to adhere to these principles and make them the underlying tenets all their actions and for life. Such an attitudinal approach would emphasize openness, data “messiness”, organization and strategy “fuzziness”, and risk-bearing and management as the natural state of the world. Delivery of quality and complete “ownership” of all activities could be emphasized as the goal of every participant enrolled in the programs.

Creating the Right Consequences: The aim would be to provide values and skills to management education program participants that emphasize humility and contribution to their organizations; a focus on customer and employee needs; a long-term outlook; creativity and team-work; and a concern with social issues and the society in which they live. The consulting or business practicum project could also be designed to inculcate a passion for entrepreneurship and risk-taking, so that program participants choose careers as entrepreneurs, in non-profits and international organizations in addition to corporate careers.

CONCLUDING OBSERVATIONS

We have reviewed the major criticisms of MBA education and outlines the theoretical and philosophical approach that provides an effective way to deal with these criticisms when designing such programs. It is hoped that such an approach will provide a useful model for other EMBA and managerial learning programs to consider. By doing so, it will add to the “Cambrian” variety of innovative EMBA programs that is arising from the current upheaval in the MBA environment.

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Categories Generated

- MM Formal attempts to 'manage management' – e.g., formally define a new corporate management philosophy.
- mM The informal, personal and private strategies that individuals and groups employ to deal with formal management systems.
- Mm Formal management attempts to control informal management processes – e.g., attempts to manage culture.
- mm The interplay of informal management processes on each other.
- LL Formal research on and study of deliberate and explicit learning processes as in courses, etc.
- Ll Formal research on and study of informal learning.
- lL Learning to cope with formal learning experiences and situations.
- ll Informal understandings of informal learning processes.

ENGAGING STUDENTS WITH MENUS IN MANAGEMENT CLASSES

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ABSTRACT

Engaged students are more effective students. Educators who work with students as business partners engaged in a process of discovery and contract with them individually can touch students on a personal level. This paper describes my experience using a menu of activities student select from to demonstrate mastery of course material. This Activity Point Menu was conceived with three goals in mind. The system should allow students to use their preferred learning style. Second the assessment system gives students greater choice of the material they wish to explore. Third, the assessment system helps communicate my teaching philosophy that students are not empty vessels, but rather active participants directing their learning. This paper combines qualitative and empirical data collected from 62 students (67 percent response rate) on the effectiveness of this innovation in terms of student reactions and overall learning in the class.

Keywords: business education, management education, teaching tools

INTRODUCTION

A common complaint by executives and practitioners about management education is that business schools are focused on research and analysis at the expense of execution and application (Schmalensee, 2006). Many of us in the business of teaching management strive to share information with our students in a manner that creates useful knowledge and inspires a desire to use this information. Those of us located in business schools are often reminded of the importance of communicating the relevance of our material to the workplace and lives of the students. It is not clear if assessing learning or performance is or should be the primary output of our teaching efforts. Most management classes rely on a combination of research papers, case analyses and exams to assess student learning. Yet, in my field of human resource management few professionals spend significant time writing formal research papers and taking exams in their careers. Modern learning theory encourages teachers to adopt a learner-centered approach to sharing or co-creating knowledge (McKeachie and Svinicki, 2006). In this spirit I have been experimenting with three teaching tools to increase student engagement in my classes and ultimately increase the learning taking place.

Tools to Increase Engagement

The first tool is to regularly solicit student feedback using in-class recaps, asking students to take two-minutes and write down and then submit the “muddiest point” (Angleo and Cross, 1993) of a lecture, on-line surveys and quizzes and examinations. There is a great deal of literature on these subjects and little of my use is innovative so I will leave this discussion with my observation that diligently using at least the aforementioned assessments has a significant impact on student engagement.

A second tool is to embed a demonstration such as an economics experiment or a management simulation into as many lectures as possible. By their very nature student engagement is increased as an experiment is conducted. At least a portion of the class becomes involved in the demonstration and thus these students become active participants. Even those students in an observer role tend to become more engaged as a result of the fact that their friends and colleagues are involved creating a personal connection. Economics courses have a wealth of simulations and experiments designed to teach aspects of game theory and negotiating strategies which have been used for decades (Hazlett, 1999; Neral, 1993). Several of these can be conducted within the confines of a 75-90 minute class period. Labor Relations courses have several excellent simulations and experiments, such as the Zinnia (Budd, 2007), but to my knowledge the domain of available experiments in management and human resource management in particular is more limited. For those not aware of the website www.econport.org I would also like to share that I have found it to be a very useful repository for economics-based experiments. The website offers a free and easy-to-use web tool for constructing supply and demand curves that I have used with students successfully. In fact, though I have never taught an actual economics course I have found with each management class in which I ran these

experiments it was the first time the students had seen and participated in the derivation of an actual supply or demand curve.

Using Menus—The Activity Point Menu system

A professor is accountable for setting the primary learning objectives, creating a fair and effective assessment system and managing classroom time. Within these three areas I have found the latter two responsibilities can be handled with far more flexibility than I typically experienced as a college student. This flexibility better meet student preferences and learning styles by encouraging student exploration of a variety of methods of demonstrating mastery of a subject. Dropping a primary learning objective advertised in the course description and typically required by the college or department affects not only those in the class, but stakeholders who think they know what a class has covered (e.g. employers, other schools) . While, I do not believe in abandoning the primary learning objectives, secondary learning objectives are more easily incorporated into a class with a menu –style structure.

Many of us adjust the time spent lecturing or facilitating group activities based upon student feedback, inferred or solicited. This can be extended to the work submitted by students to show what they have learned. Students as a group might provide input on the format and timing of exams (e.g. avoiding homecoming, requesting more essay questions). Exams can be a high-stress event for students and are divorced from the real-world experience of many workers. Outside of the PHR exams in the HR field few of students will find test-taking skills an important work skill. However, effective written and verbal communication skills are often part of the daily life of an HR professional (Kluttz & Cohen, 2003; Dooney, Smith & William, 2005). As Bain (2004) warns us exams can tell us little of the intellectual or personal achievements of students, if they emphasize reproduction of lecture notes rather than the ability to reason with concepts. Using assignments that assesses written and/or verbal communication may be perceived as more in-line with real-world skills with value outside the classroom.

This leads to some of the beliefs shaping my experimentation with an Activity Point Menu system. First, I believe that students have different preferred learning styles therefore my assessment of learning should provide flexibility to allow students to benefit from their strengths. Second, many of today’s students have significant responsibilities and time demands outside of class and might benefit from having more freedom in managing their time in meeting my course requirements. The Activity Point Menu system was conceived with three goals in mind. The system should allow students to use their preferred learning style. Second the assessment system should allow student greater choice of the material they wish to explore and the depth to which they explore. Third, the assessment system should help to communicate my teaching philosophy that students are not empty vessels, but must take responsibility for directing their learning.

Bain (2004, p. 152) asks a crucial question for teachers: “What kind of intellectual and personal development do I want my students to enjoy in this class, and what evidence might I collect about the nature and progress of their development?” Therefore, I decided to list a menu of activities that could demonstrate some mastery of knowledge relevant to the two courses I was teaching. I then challenged myself to assign a weight to each activity that I could conceive of having value and being easy to communicate to students. The final step was to attempt to categorize them and note any activities that seemed likely to help me with my research or my teaching to truly demonstrating my belief that learning is a two-way process when things are going well. Finally, I thought it would be useful to collect feedback on this assessment system from students during the implementation and after they had completed the assignment. See Figure 1 for an example of the Activity Point Menu used in an introductory HR management class.

Figure 1: Activity Point Menu for Intro to HR Management

Possible Activities	Points	Due Date	Details
In-class Short Reflection Feedback Exercises	10-50		
Pre-class Survey	10		
Mid-term feedback survey	10		
Reflection Paper: How is HRM Important?	10		Read article(s) posted on Blackboard website. Respond to posted question.
Submit an Actual Job Description with a short reflection	10		Limit 1

Reward from Class Experiment	varies		
<i>More to come</i>	10-50		As I find new articles I will post additional options.
Individual Learning Activity	50		
Attend Resume Clinic and submit revised resume	50		Reflect on what you learned related to selection by getting professional feedback.
Attend Job Fair and submit 2 page reflection paper	50		Describe which companies you spoke with and which you are considering, if any.
Write a 3-5 page paper on a topic covered in class	50		Limit 2. Examples: Staffing at Google, Training in Mexico, Executive Pay
Other individual learning activity	10-50		Get approval from me in ADVANCE.
Contribution to teaching	10-50		
Submit a video clip w/ instructions	50		Limit 1. Instructions must be 1 page describing how it relates to a class topic.
Submit an reading assignment (e.g. article) w/instructions	50		Limit 1. Instructions must be 1 page describing how it relates to a class topic.
Submit a unique teaching activity unique assignment	25-50		Limit 1. Instructions must be 1 page describing how it relates to a class topic.
Other teaching contribution			Get approval from me in ADVANCE.
Contribution to research	10-50		
HR Organizational Survey	50		Limit 1 Questions must be completed by an actual organization
HR Professional Survey	50		Limit 1 Questions must be completed by an actual HR professional
Other research contribution	10-50		Get approval from me in ADVANCE.

Note the maximum points you can earn for these activities is 200. You may not do additional activities for extra credit.

Grading policies that deduct work for tardiness might or might not have time-management as a course objective. As Bain (2004) notes often due dates are performance-based so I tried to exclude them for activities that didn't have a clear time requirement, such as attending a career-fair or resume clinic to assess its utility in selection of talent. I also attempted to find ways to encourage students to add their own ideas to the list, but was not as successful as I would have liked. What follows is a report on student reaction to the first implementation of this approach toward student assessment using a menu of activities.

A nine-item on-line survey was sent via email to each of the 92 students enrolled in my undergraduate Human Resource Management and Labor and Industrial Relations classes at California State University- Dominguez Hills in Southern California during the Fall Semester of 2007. Each class had approximately 35 students and was about 74 percent female. The classes were very mixed in terms of ethnicity with Hispanic students comprising the largest group, followed by African-American students, Asian-American and Caucasian students. The one day class was comprised mostly of students in their twenties. The two evening classes were mostly comprised of students who worked full-time. More than half of the students in these classes were over 27 years old. While some students had experience with the Activity Points Menu in both the HRM and Labor and Industrial Relations classes only on survey invitation was sent to each student. The survey tool used (Survey Monkey) only permitted one response per email to prevent "ballot stuffing". The students were provided a two-week window to complete the survey at the end of the semester. The overall response rate was 67 percent; while 73 percent of the survey responses were from female students.

The first five items invited students to respond to questions about the Activity Point Menu system used in class. A large majority agree that this assessment method allowed them to capitalize on their preferred learning style, with 57 percent strongly agreeing with this statement in item one. Students also greatly appreciated the flexibility of selecting activities with 78 percent strongly agreeing with item three. My greatest concern is that the system would be too confusing or create anxiety and 25 percent of students agreed that this was a concern in item four.

With respect to perceived student learning in comparison to a possible alternative- writing a seven-page research paper most students felt they learned more from the Activity Point Menu in item two. It seemed prudent to collect a measure of overall student learning so the results from item six suggest that nearly 90 percent believed they

learned a great deal about human resource management in these classes. Any value of these results would be suspect in a class in which little learning occurred. The full results are summarized in table one.

Table 1: Student Reaction to Activity Point Menu

Item	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I found the ability to select activities allowed me to capitalize on my preferred learning style.	6.3%	3.2%	7.9%	25.4%	57.1%
2. I learned more from my selected activities than I expect to have learned from writing a 7 page research paper.	4.8%	11.1%	7.9%	20.6%	55.6%
3. I appreciated the flexibility of selecting activities to meet the requirement.	6.3%	1.6%	3.2%	11.1%	77.8%
4. The number of possible activities was intimidating and made me uncomfortable about performing well in this class.	55.6%	9.5%	9.5%	23.8%	1.6%
5. I would recommend the professor continue using the Activity Point framework in future classes.	6.3%	3.2%	7.9%	14.3%	68.3%
6. I have learned a great deal about human resource management in this class.	1.6%	1.6%	9.5%	44.4%	42.9%

Item seven asked students what percent of the total course grade should be derived from the Activity Point Menu. Of the 62 students responding the average was that 33.5% of the final course grade be based on Activity Point Menu and the median response was 20 percent. As the range was from five to 100 percent table two reports the frequencies.

Table 2: Student Recommended Weighting of Activity Point Menu

Recommended Percent of Final Grade	Percent of Students Responding
5-10	12.9%
15	6.5%
20	25.8%
25	3.2%
30-35	14.5%
40	14.5%
50	11.3%
60-80	6.5%
100	4.8%

Finally, using the survey I wanted to solicit feedback on the strengths and weaknesses of the approach. The final two items were open-ended and provided some helpful guidance. One student chose not to answer item eight "What did you like best about the Activity Point system?" so there were 61 open-ended responses. It is possible that a previous item sensitized students to some of the advantages such as flexibility and learning styles. In retrospect, I would ask these questions first and follow-up with the specific items. However, it is interesting to note that flexibility and ability to balance workload were mentioned most frequently. Below are some representative excerpts.

"I liked the flexibility to select assignments that were of interest to me and fit into my schedule. For example, I work during the day, so I wasn't able to earn points by attending a job fair, but I was able to earn points in other ways."

"It was a form of interacting with the subject. The activity allowed the student to step outside the classroom setting and obtain on hand experience."

"The fact that I was given a chance to learn more on an additional assignment of my choice."

"There is a broad range of activities that can be completed and the student can choose which assignments they feel comfortable with completing. While doing this the student is still applying what is learned in class."

"The flexibility and choices for the activities they were all necessary and interesting, not just reading the book and doing case studies. They were real world activities that helped us evaluate our knowledge of HR"

The final question sought information on the drawback of the Activity Point Menu. Only 55 students answered the open-ended item "What suggestions do you have for improving the Activity Point system?" The feedback received largely reflects my observations of what didn't work well with this assessment approach. Weighting of activities is always likely to be contentious and the system requires a higher degree of student initiative than many alternatives, such as a research paper, case analysis or presentation. Again here are some excerpts.

"[Use] a better way of tracking completed activities."

"The number of points possible for each activity should be more consistent. Some activities are much easier to do than others, yet they were worth the same amount of points."

"Offer more options with online activities."

"Possibly have the students give you a 'proposal' by the third week of class of how they are considering accumulating their points. You could have a checklist and they could check what they think they are going to do."

Meaning making is a core concept of deep learning; if one can attach a personal significance to the topics discussed or create meaning via an "a-ha" moment during an experiment, the topic covered will remain with a student long after the last exam. The Activity Point Menu described above seeks to encourage students to take control of their learning and communicate that this is a shared undertaking of creating and exchanging knowledge and information. Ideally use of a menu combined with regular feedback on how teaching and learning are progressing will enhance student/learner engagement and result in deeper learning.

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WHEN TEACHING AND LEARNING CONFLICT: WHAT WE CAN DO FROM THERE?**Ying Wang***Mississippi Valley State University***ABSTRACT**

The best way to improve students' learning outcomes is to improve teachers' effectiveness in teaching. This session presents outcomes from the 2007 No Child Left Behind Summer Reading Institute supported by Mississippi Institutes of Higher Learning with a grant funded by USDE. The objectives of this session are (a) to present the major features and outcomes of the MVSU NCLB 2007 Summer Reading Program, (b) to depict a group of teachers' experiences in teaching Mississippi Delta young readers, and (c) to provide informative tips to training programs.

In alignment with the NCLB Act (2001) that every child should be taught by a highly qualified teacher in core academic areas such as reading, MVSU provided a summer reading program through a series of professional development activities designed to improve Delta reading teachers' effectiveness in teaching reading. Seventeen elementary and middle school reading teachers from five school districts in the central of MSD participated a four-week intensive program. Major activities include effective teaching strategies, cooperative learning, invited speakers, discussion topics on MS writers and their work, Blues music and reading, poverty and reading achievement, time on task, and individual lesson plans.

An examination of Pre and Post-tests shows the consistency of improvement in the areas of knowledge and skills. Each participant was interviewed on the learning experiences at the end of the program. Teacher observations were made of a purposive sample of the 17 teacher participants during the school year of 2007-2008. Evidence suggests that the goals and objectives of the program were met.

AN INVESTIGATION OF CHARACTERISTICS OF AN EFFECTIVE PROFESSOR

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ABSTRACT

This study empirically investigates the characteristics of an effective professor using 328 responses collected from various undergraduate classes in a northeastern university. Six dimensions (Academic Standards, Class Presentation, Class Involvement, Rapport, Charisma and Professionalism) are identified through a factor analysis as determinative of the efficacy of a professor's teaching. The results show that students consider Class Presentation, Rapport and Charisma as the three most important characteristics of an effective professor. Professionalism was rated as the least important one. In addition, the findings also show that a student's status (freshman, sophomore, junior and senior) and major does not impact his/her perception on the characteristics of an effective professor. However, gender and GPA do impact a student's perception on those characteristics. The implications of this research are also discussed.

INTRODUCTION

The role of a college professor comprises a variety of duties that are typically gathered under the rubric of teaching, service, and research. This three-pronged approach to faculty evaluation has been used for many years and was noted in earlier research by Subkoviak and Levin (1974). Service to one's institution and academic discipline are readily measurable. Teaching remains as the central role for college professors. Effective teaching is not only difficult to achieve it is far more difficult to measure than service and research (Wood and Harding, 2007). It is difficult to assess because it involves a complex dynamic that occurs between the student and the professor. Surveys of students' perception of teaching effectiveness are widely used and research indicates that student feedback can provide a useful way to assess the quality of teaching and professors should use the feedback as a positive contribution to improve their teaching (Wood and Harding, 2007).

Another approach to understand effective teaching is by surveying students and asking them to identify the characteristics of an effective professor. This approach goes beyond a specific course and captures a broad spectrum of attributes related to an effective professor. For example, a qualitative study by Faranda and Clark (2004) used in-depth interviews to explore student's perspectives of an effective professor. In their study, five themes emerged: Rapport, Delivery, Fairness, Knowledge and Credibility, and Organization and Preparation. Rapport and Delivery accounted for approximately 66% of the responses, indicating the importance that students place on these areas. Martinazzi and Samples (2000) identify three major areas (Character, Competence, and Connection) to gauge the effectiveness of a professor. Anderson and Shao (2002) found that a professor's preparation and communication skills are the most important characteristics of an effective professor in the eyes of students. MacDonald and Behling (1990) found that currency of subject matter knowledge, the ability to stimulate student interest, and the ability to present well prepared and well organized lectures to be critical traits of the effective professor.

Extending the previous literature on teaching effectiveness, the purpose of this study is to deepen our understanding on the characteristics of an effective professor from the perspective of students. First, a set of characteristics for evaluating the effectiveness of a professor will be identified through an extensive literature review, second, factor analysis will be conducted to reveal underlying dimensions of all characteristics, finally, the impact of status, major, gender and GAP on students' perceptions of teaching effectiveness will be investigated.

RESEARCH METHODOLOGY

A survey form was developed by the researchers in order to determine student perceptions of the characteristics of an effective professor. In developing the survey questions, the researchers began with the criteria used to evaluate faculty at a northeastern university and refined the instrument based on a review of the literature. Reference work included Martinazzi and Samples (2000), Anderson and Shao (2002), Lowman (1995) and MacDonald and Behling (1990). The initial survey instrument was pilot tested using 32 undergraduate students enrolled in a summer student exchange program. The focus was to check the relevance of each question and clarity of wordings of sample questionnaire items. Based on the feedback from the students, redundant and ambiguous items were either modified or eliminated. New items were added whenever deemed necessary. Following the pilot test the survey questionnaire was refined to its final form.

The survey was administered to students at a northeastern university in a variety of undergraduate classes from freshmen to seniors. The students completed the survey voluntarily and no personal identifying information was collected to ensure complete anonymity and privacy for the respondents. A total of 328 usable responses were received. The profile of the respondents is summarized in Table 1.

Table 1: Demographic Profile of the Respondents

		Respondents	Percentage
Status	Freshman	60	18.3
	Sophomore	116	35.4
	Junior	59	18.0
	Senior	93	28.4
Major	Marketing	90	27.4
	Accounting	29	8.8
	CIS/IT	10	3.0
	Communication	9	2.7
	Finance	38	11.6
	International Business	59	18.0
	Management	33	10.1
	Undecided	38	11.6
Gender	Others	21	6.7
	Male	176	53.7
GPA	Female	152	46.3
	Between 3.75 and 4	30	9.1
	Between 2.75 and 3.75	233	71.0
	Between 1.75 and 2.75	40	12.2

DATA ANALYSIS

This section will use Factor Analysis to reveal the factors underlying all characteristics of an effective professor, followed by the ANOVA or t-test to investigate the impact of status, major, gender, and GPA on the students' perceptions of an effective professor.

Factor Analysis

Student perceptions of the characteristics of an effective professor were originally represented by 25 items in the questionnaire. Exploratory factor analysis, using the VariMax rotation method, was performed to identify possible factors underlying these 25 items. During this phase, items which had cross-loading on more than one item, or had a low loading on certain factor were dropped. Twenty items were retained and six factors emerged as shown in Table 2. For simplicity, only loadings above .40 are displayed. Based on the underlying meaning of the items loaded on each factor, it was decided to classify these six factors as Class Involvement, Academic Standards, Class Presentation, Rapport, Charisma, and Professionalism. The items for measuring each factor are listed in the

Appendix. These six factors will be used in the following analysis by taking the average of all the items in each factor.

Class Involvement includes those items which address the instructor interaction with the class. Academic Standards reflect the professor's ability to effectively accomplish course objectives and to go beyond the textbook to incorporate other materials and the latest development in the subject. Class Presentation refers to the professor's ability to present material in the course clearly, handle students' questions with ease, be fair, and clearly state the grading requirements. Rapport examines the professor's interpersonal skills. Charisma refers to characteristics of a professor that influence a professor's presentation, such as enthusiasm about teaching, a good sense of humor, and an ability to stimulate student interest in the subject. Finally, Professionalism demonstrates a professor's ability to attain professional recognition, publish quality publications, and have a professional appearance and demeanor.

Table 2: Factor Analysis of Characteristics of Effective Professors

Item	Class Involvement	Academic Standards	Class Presentation	Rapport	Charisma	Professionalism	α
Q09	.756						$\alpha = .70$
Q10	.742						
Q11	.716						
Q01		.660					$\alpha = .60$
Q02		.623					
Q04		.566					
Q03		.470					
Q05			.719				$\alpha = .60$
Q07			.631				
Q08			.625				
Q06			.578				
Q14				.741			$\alpha = .61$
Q13				.690			
Q12				.659			
Q14					.718		$\alpha = .55$
Q17					.695		
Q16					.609		
Q19						.693	$\alpha = .54$
Q18						.663	
Q20						.441	
Eigenvalue	4.11	1.77	1.62	1.34	1.20	1.11	
% of Variance	11.26	9.58	9.35	9.12	8.30	8.15	
Cumulative % of variance	11.26	20.84	30.19	39.31	47.61	55.76	

Mean Comparison of Characteristics of an Effective Professor

Table 3 shows the mean and standard deviation of each dimension of the perception of an effective professor. Using mean scores, it can be seen that the top three dimensions are Class Presentation (4.57), Charisma (4.46), and Rapport (4.42), while Professionalism is rated the least important characteristic, with the lowest mean score of 3.45.

Table 3: Descriptive Statistics for the Characteristics of an Effective Professor

Dimension	Mean	Std. Deviation
Class Involvement	4.14	0.58
Academic Standards	3.83	0.54
Class Presentation	4.57	0.40
Rapport	4.42	0.47
Charisma	4.46	0.48
Professionalism	3.45	0.68

Impact of Status on Students' Perception of an Effective Professor

ANOVAs were conducted to test the mean difference of each dimension using student's class status (freshman, sophomore, junior and senior). Only Academic Standards is significant at the 0.05 level and no other characteristics are significant.

Furthermore, six t-tests were used to see whether Academic Standards differ between each pair of subgroups (between freshmen / sophomore, between freshman / junior and so on). The results show that the freshmen responses differ significantly from sophomores, juniors, and seniors. Freshmen perceived Academic Standards as a more important dimension of an effective professor than other groups.

Impact of Gender on Students' perception of an Effective Professor

A series of t-tests were conducted to see whether students' perception of effective professors differs by gender. The result shows that Rapport and Professionalism are significant at the 0.05 level. Female students rated those two dimensions as more important than male students. The results show that female students are more concerned about a professor's professional appearance and a professor's interpersonal skills and respect for students. This is consistent with research that suggests that women are more sensitive than men to interpersonal relationships and interactions with instructors (Buttner, 2004). Interestingly, except for Charisma, female students place a higher value on the other five dimensions than male students.

Impact of Major on Students' Perception of an Effective Professor

ANOVAs were used to investigate whether students' perception of an effective professor differs by major. The majors with the highest response rates were considered including marketing, accounting, finance, international business, and management. The test showed that there is no significant difference between majors for each dimension. This indicates that a student's major does not impact their perception about the characteristics of an effective professor. Students in all majors have a consistent view of teaching effectiveness.

Impact of GPA on Students' Perception of an Effective Professor

The respondents were asked to report their GPA in the survey, and this was used to classify the students into three groups. Group 1 includes the respondents having a GPA between 3.75 and 4 (A students), group 2 includes the respondents having a GPA between 2.75 and 3.74 (B students), and group 3 are the respondents with a GPA between 1.75 and 2.74 (C students). None of the respondents had a GPA below 1.75.

ANOVA was used to test the difference of each dimension among these three groups. The result shows that Class Involvement and Professionalism are significant at the 0.05 level. The students with a GPA above 3.75 consider Class Involvement as a more important characteristic of an effective professor than the other two groups; while the students with a GPA below 2.75 put higher scores for Professionalism than those with a higher GPA.

CONCLUSIONS AND IMPLICATIONS

This study shows that students consider Class Presentation, Rapport, and Charisma as the three most important characteristics of an effective professor. Professionalism was rated as the least important characteristic. In addition, the findings also show that a student's class status (freshman, sophomore, junior and senior) and major does not impact his/her perception of the characteristics of an effective professor. However, gender and GPA do impact a

student's perception on those characteristics. It is found that female students rated Rapport and Professionalism as more important characteristics than male students. Students with a GPA above 3.75 consider Class Involvement as more critical than other students; while students with a GPA below 1.75 tend to rate Professionalism as more important in evaluating the effectiveness of teaching that students with a higher GPA.

The results show that Professionalism is considered as the least important characteristic by students. It is known that Professionalism, including publishing quality papers and receiving professional recognition, is a very important criterion for a professor's tenure and promotion by most schools. However, this characteristic is not rated highly by students. This may reflect an indirect relationship between professionalism and students' perception of effective teaching. Students do not see the contribution of a professor's research to their classroom performance. A way to fill this perception gap may be the integration of a professor's teaching and research so that students can see the value of a professor's research to their learning.

The results also show that female students are more concerned about interpersonal skills, and expect more professional demeanor from a professor than male students. Therefore, a slightly different approach may be needed to engage female students in learning. For example, a professor may need to incorporate more person to person interaction within the classroom to engage female students.

The results also show that students with a higher GPA value Class Involvement more than other students. This finding is not surprising since good students are usually more active in class participation and likely to answer questions raised by teachers. A more important question here may be how to raise the interest and confidence level of other students in the classroom so that they are more comfortable in class participation.

It is found that Rapport and Charisma are very important characteristics of an effective professor in the eyes of students. Apparently, those two attributes are not captured in student perception form. It will be interesting to see how Rapport and Charisma are related to scores of student evaluation forms. Future research can explore those relationships.

It should be noted that the respondents in this study are undergraduate students and the majority of them are in business majors. Therefore, the results of this study can best be applied to undergraduate professors teaching business students. Future studies can investigate teaching effectiveness using graduate students or a more general population of undergraduate students.

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APPENDIX

Characteristics of an Effective Professor

Academic Standards

Q01: Effectively accomplishes course objectives

Q02: Maintains rigorous academic standards

Q03: Includes material which is not readily accessible in textbooks

Q04: Refers to the latest development in the subject

Class Presentation

Q05: Clearly states the grading requirements

Q06: Handles students' questions with ease and does not consider as threatening

Q07: Explains things clearly

Q08: Is fair

Class Involvement

Q09: Encourages questions from students

Q10: Encourages involvement in class activities

Q11: Demonstrates excellent communication skills

Rapport

Q12: Is able to counsel students effectively

Q13: Is available and helpful to students

Q14: Shows respect and is courteous to students

Charisma

Q15: Is able to stimulate student interest in the subject

Q16: Is enthusiastic about teaching

Q17: Has a good sense of humor

Professionalism

Q18: Has attained professional recognition in the academic community

Q19: Demonstrates originality and quality of research and scholarly publications

Q20: Has a professional appearance and demeanor

THE EFFICACY OF TEST PRACTICE AS A READING INTERVENTION FOR 'AT-RISK' READERS**Brynne Romano***Charlotte-Mecklenburg School District***Oliver W. Edwards***University of Central Florida***ABSTRACT**

Educators have focused substantial energies and resources to ensure all students acquire good reading skills. Yet, many students continue to struggle to learn to read. This action research project evaluated the reading gains of struggling readers when they were provided systematic, explicit reading intervention five days a week, compared to the reading gains of the same group of struggling readers when they were provided the same reading intervention four days a week with the fifth day used to practice for a state-wide standardized accountability reading assessment. The findings indicate that five days per week of systematic, explicit instruction in reading improved the students' reading achievement more than four days of such instruction plus one day of test practice.

INTRODUCTION

Spoken language is instinctive, takes place at the preconscious level and is typically effortless (Shaywitz, 2003). Unless a medical condition such as profound deafness at birth precludes it, humans learn to speak fluently when exposed to language. Our brains are wired at birth, the neural circuitry already in place, to enable us to produce and understand spoken language (Shaywitz, 2003; Rasinski, 2003). Conversely, humans are not as readily predisposed to acquire reading skills. Humans do not have existing neural circuitry present at birth to acquire reading skills (Shaywitz, 2003; Rasinski, 2003). Individuals must use neural circuitry that exists naturally for the purposes of spoken language to convert the print on a page into the phonetic code to learn to read (Shaywitz & Shaywitz, 2005). While phonemes are the units of spoken language that have an inherent linguistic connotation, written symbols do not. The challenge for the reader is to convert those written symbols into sounds for speech (Shaywitz & Shaywitz, 2005). The 26 letters of the English alphabet are the code of our written system and beginning readers must break the code in order to learn to read.

Breaking this code is not instinctive and therefore learning to read is not easy for many children. Statistics regarding reading reveal approximately 5% of children learn to read effortlessly, 20-30% of children learn to read without much difficulty when they are given reading instruction, but 60% of children will encounter some degree of difficulty learning to read (National Reading Panel, 2000). For approximately 20-30% of children, learning to read is one of the most difficult tasks they will ever attempt and 5% of children will continue to struggle with reading even with explicit and systematic instruction (National Reading Panel, 2000).

Reading: A National Concern

The majority of referrals for psychoeducational evaluations initiated due to learning difficulties are initiated as a result of problems with reading (Howell & Nolet, 2000). Approximately 80% of children who are labeled with a learning disability are given the label as a result of a reading problem (Aaron, 1997). Approximately, 86% of prisoners in the United States have serious literacy problems (The Scope of Reading Problems in America, n.d.). Reading problems are considered an important national concern and the issue has been addressed by the National Institute of Child Health and Human Development (National Institute of Child Health and Human Development [NICHD], 2006). Indeed, reading is also considered a public health issue in light of its long-term effect on physical and psychological well-being (National Reading Panel, 2000).

Educators have focused substantial energies and resources to ensure all children learn to read and to provide appropriate interventions to children who have difficulty acquiring this essential life skill. Yet, many children continue to struggle to learn to read. The purpose of this action research project is to evaluate the reading gains of struggling readers who were provided a progress monitoring reading intervention five days a week (Treatment A),

compared to reading gains of struggling readers who received a progress monitoring reading intervention four days a week plus a fifth day used to practice for a state-wide high-stakes reading assessment (Treatment B).

Assumptions Guiding the Study

The implementation of Treatment A is based on the assumption that more instruction will lead to greater gains in achievement, provided the instruction is effective. Previous research findings suggest five days of effective instruction per week improves achievement more than fewer days of instruction (Frazier & Morrison, 1998). Increasing the number of instructional days for elementary age students can lead to gains in academic achievement in the areas of math and reading (Armistead & Armistead, 2004; Foorman & Torgesen, 2001; White, 2005).

Support for Treatment B is related to findings of practice effects boosting scores on intelligence, achievement, and other standardized tests. For instance, research findings reveal neurologically normal adult men experienced a significant improvement in scores from the first administration of a test of executive functions to the second administration of the same test (Basso, Bornstein, & Lang, 1999). The researchers attributed the increase in scores to the fact that participants had acquired procedural knowledge of test demands and effective test taking strategies from the first administration. A similar practice effect was found when cognitively normal examinees were administered an intelligence test either three or six months after the initial administration (Basso, Carona, Lowery, & Axelrod, 2002). Whether the time elapsed was three or six months from the first administration, significant improvement in IQ and other scores were found (Basso et al., 2002). The authors attributed the significant difference in scores across administrations to the fact that participants recalled some test demands, as well as effective test taking strategies.

LEARNING TO READ

Five Components of Reading

During the mid 1990s, Congress directed NICHD and the Secretary of Education to assemble a national reading panel to assess the current state of research-based knowledge in the area of reading (NICHD, 2006). In 1997, the National Reading Panel was created. Three years later, the panel released the *Report of the National Reading Panel, Teaching Children to Read: An Evidence-Based Assessment of the Scientific Research Literature on Reading and Its Implication for Reading Instruction* (National Reading Panel, 2000). This report is considered by some scholars as the most thorough report in the history of American education (Shaywitz, 2003).

Major findings of the report included identification of five central components of reading development: phonemic awareness, phonics, fluency, vocabulary development, and comprehension (Shaywitz, 2003). What is notable is that these five elements are invariant; that is, those who struggle learning to reading, and those who do not, must be instructed in these five areas of reading to be successful readers. However, struggling readers require instruction that is more explicit, intensive, and comprehensive (Armistead & Armistead, 2004; Foorman & Torgesen, 2001). Approximately 90 % of struggling readers can increase their reading skills to average reading levels when provided early, intensive, and comprehensive reading education by well-trained teachers that combine instruction in phonemic awareness, phonics, spelling, reading fluency, and reading comprehension strategies (Lyon, 1997).

Determining the Effectiveness of Reading Interventions

Goals of reading instruction and intervention include developing proficient readers and helping students pass high-stakes state-mandated achievement tests. An oral reading fluency (ORF) measure is one indicator of reading proficiency and is also a strong predictor of performance on high-stakes tests (Buck & Torgeson, 2003). In a study conducted in Florida, researchers found a significant correlation between ORF scores and reading proficiency scores for third-grade students. In the noted study, 91% of students who were reading 110 words per minute (the benchmark for third grade) achieved a passing level on Florida's state-wide required reading achievement test (Buck & Torgeson, 2003). Similar results were obtained in North Carolina where a correlation of .73 was found between ORF scores and the North Carolina End of Grade reading scores (Barger, 2003). In Colorado, a correlation of .80 was found between ORF scores and the Colorado State Assessment program (Shaw & Shaw, 2002). Further, a correlation of .67 was found between ORF scores and the Oregon Statewide Assessment (Good, Simmons, &

Kame'enui, 2001). In light of this, ORF is not only considered a strong indicator of a student's reading proficiency, but it should also predict students' success on state-mandated high-stakes reading tests.

Florida Comprehensive Achievement Test

The Florida Comprehensive Assessment Test (FCAT) is used in Florida to assess student achievement of high-order cognitive skills that are outlined in the Sunshine State Standards (SSS) in Reading, Writing, Math, and Science (Florida Department of Education, n.d.) The Reading portion of the FCAT-SSS is administered to most third grade students in the state. Scores are reported using a 5-level achievement system (1-Low to 5-High). In the third grade, all questions on the FCAT use a multiple choice format and principally measure students' reading comprehension. A student must earn a Level 3 or higher to earn a passing score (Florida Department of Education, n.d.) The FCAT is an important accountability measure in Florida because it helps determine whether schools are educating students appropriately.

Hypothesis

Based on the assumptions guiding Treatment A, it is hypothesized that the average gain in words read correct per minute will be significantly higher for students receiving five days of corrective reading intervention (Treatment A) than for students receiving four days of corrective reading and one day of FCAT practice (Treatment B) per week. The noted hypothesis is based on the belief that advantageous test practice effects will not be robust for struggling readers because they are still learning the requisite skills necessary to demonstrate fluency in decoding and comprehension. As noted previously, the FCAT administered during the third-grade year measures comprehension primarily. When a student is not reading fluently, comprehension will be impaired. Practicing for a test for which they do not yet have the skills needed to succeed will offer very limited benefits.

METHOD

Participants

Forty-eight third-grade students from five classrooms at a Florida public elementary school participated in this action research project. The students were selected because they had been identified at the end of the previous school year as struggling readers. They were all administered a placement test from the Corrective Reading Curriculum, to determine their appropriate placement in the curriculum. Twelve students in the study were instructed via the Level A1 curriculum and 25 students received Level B1 and B2. Eleven students were not placed in the Corrective Reading curriculum and received the school district's standard reading curriculum, the Houghton-Mifflin series. These 11 students were placed in classrooms where Corrective Reading was not taught, but they received the same number of days of instruction as students receiving the Corrective Reading curriculum under both treatments. All students were present in the school from collection of the first dataset through collection of the last dataset.

In all classrooms, a 90-minute reading block was employed. The educators involved in providing instruction and the interventions comprise an interdisciplinary team. In every classroom, a general education teacher delivered the majority of the instruction. A special education teacher was present in two different classrooms where the Corrective Reading curriculum was employed. The special education teacher assisted in providing small group instruction. In one classroom in which the Corrective Reading curriculum was used, the first author assisted the general education teacher in the both the delivery of the curriculum as well as in small group instruction. The teachers were not aware of the purpose and hypotheses of the study. The same number of educators provided instruction in both treatments. The only meaningful difference between the treatments is the removal of one day of the intervention in Treatment B to allow students to practice for the FCAT.

Instruments

To assess students' reading gains the ORF portion of Dynamic Indicators of Basic Early Literacy Skills (cf. DIBELS, 2006) was used. Scores on this instrument were used to provide an indication of a student's overall reading proficiency and to predict likely success on the FCAT.

To monitor students' progress during the intervention, the DIBELS progress monitoring tool was utilized. DIBELS is an assessment tool that measures three of the five areas of reading: phonological awareness, alphabetic principle, and fluency with connected text. In this action research project, the fluency measure was utilized. The ORF portion of DIBELS (Measure of Fluency with Connected Text) measures the student's fluency with connected text. Students are presented grade-level material and they orally read the passage for one minute. If a student omits a word, substitutes a printed word for another, or hesitates for more than three seconds, the word is counted as an error. If a child self-corrects an error within three seconds, the word is counted as read accurately. The score on this measure is the number of words read correct per minute (cf. DIBELS, 2006).

Procedure

The reading gains of struggling readers (i.e., those identified as 'At-Risk' or 'Moderate-Risk' by DIBELS benchmark criteria) when given instruction five days a week (Treatment A) were compared to gains the same group of students earned when they received instruction (using the same curriculum which was used in the first semester) four days a week plus a fifth day taking FCAT practice tests (Treatment B). Thirty-seven students were delivered the Corrective Reading curriculum using direct instruction and 11 students were delivered the Houghton-Mifflin curriculum. Participants received reading instruction for ninety minutes a day. They were administered the ORF portion of the DIBELS in September and their progress was monitored with the ORF DIBELS progress monitoring passages approximately twice a month throughout the academic school-year. The ORF score was used to measure students' progress in reading.

A non-counterbalanced design was used; that is, the same participants completed Treatment A and then Treatment B. As measured by the DIBELS ORF, the average gain made in words read correct per minute for participants in Treatment A was compared to the average gain made in words in words read correct per minute for participants in Treatment B. During each treatment, students' reading gains were measured and compared across two units of time, at the beginning and at the end of the treatments. Actual instructional days during Treatment A and Treatment B were calculated and divided by five (number of school days per week) to obtain the true number of weeks of instruction for Treatments A and B. Given that the time intervals for the two treatments were not exactly equal, the mean increase in words read correct per minute per week (gains in learning) was used as the basis for comparison of the two treatments. The aforementioned methodology was utilized because simply comparing the average gains made in words read correctly per minute between Treatment A and Treatment B would introduce a confounding variable, as the treatment times were not equal. The treatment time frames were a result of administrative decision at the school, not a part of the research design. A paired-samples t-test was used to analyze these data.

RESULTS

The findings of this action research support the hypothesis that the average gain in words read correct per minute for participants is significantly higher in Treatment A than in Treatment B. The mean number of increase in words read correct per minute (gains in learning) at the conclusion of Treatment A is 2.111 per week (Treatment A lasted approximately thirteen weeks), whereas the participants increased their words read correct per minute per week by .940 during Treatment B. (Treatment B lasted approximately eight weeks). The increases were determined at the end of both treatments. The mean difference is 1.171, $t(47) = 4.03$, $p < .0002$. The difference between the two treatments is statistically significant and the eta squared statistic (.26) indicates a large effect size.

DISCUSSION

In this action research project, the school's administration made a decision regarding the instructional approach they believed would influence student performance on the FCAT positively. Initially, struggling readers received five days of reading instruction. The school's administration subsequently decided to replace one day of reading instruction with one day of taking FCAT practice tests. They believed the four plus one instructional module would improve the students' performance on the high-stakes test. However, results of this action research project demonstrate that when struggling readers are given four days of instruction plus one day of FCAT practice, their rate of learning (used here to describe how many words per day, on average, the students increased in their fluency score) is significantly lower than their rate of learning when provided with five days of reading instruction. As

mentioned previously, performance on the DIBELS ORF measure is a strong predictor of FCAT success. Thus, these results suggest that replacing a day of reading instruction with a day of FCAT practice testing will not influence performance on the FCAT positively for struggling readers. Therefore, FCAT practice should not supplant reading instruction.

Practice for high-stakes achievement tests may be beneficial, but it should be provided *in addition* to reading instruction, not in place of reading instruction for struggling readers. In order for students to successfully learn to read, all five components of reading must be taught. This requires intensive and comprehensive reading intervention for struggling readers. Research from the present findings indicate that, at-least for struggling third-grade readers, five days per week of systematic, explicit instruction in reading will improve the students' reading achievement more than four days of such instruction plus one day of test practice.

Limitations

Three important limitations moderate the finding of this action research. First, there is natural variability in the efficacy of instruction delivered by different teachers to different groups of students. This extraneous variable cannot be controlled and may influence student progress and achievement in undeterminable ways. Second, it is usually ideal to utilize a counterbalanced design in this type of study. As in any study where participants are exposed to different treatments, one treatment at a time, the problem of possible carryover effect is possible. Counterbalancing reduces the aforementioned problem. This was not feasible in this action research project because the different treatments were implemented as a function of administrative fiat, not experimental design. Future studies of instructional time versus instructional time plus test practice should use counterbalancing methodology.

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INTERSECTION OF HIGHER ED AND PROFESSIONAL ORGANIZATIONS: COLLISION OR COOPERATION?

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ABSTRACT

In most organizations Human Resource professionals collect and manage key human capital information and as a result, they are well positioned to provide the knowledge leadership in the form of analyzing, synthesizing and evaluating human capital knowledge to assist in creating and/or maintaining the sustained competitive advantage of the organization through their human capital. However, as indicated by this study, university curricula have not necessarily provided the education in critical thinking skills (cognitive challenge) that would support HR professionalism. Professional organizations such as the Society of Human Resource Management (SHRM) have responded proactively by collaborating with universities to develop suggested curricula and by promulgating certifications including the new Global Professional in Human Resource Management (GPHR). We conclude that more of this type of collaboration will increase the appropriate academic cognitive challenges presented to students resulting in increased critical thinking skills thus benefitting tomorrows' professionals. We suggest a follow-up study to confirm that the predicted benefits are realized.

INTRODUCTION

The knowledge economy has driven the new Human Resource professional to acquire and maintain quantitatively based business skills in order to build sustainable competitive advantage in the workplace. Recent articles written by Hammonds (2005) write about the lack of knowledge leadership within the field. Williams (2005) established that within the 20th century the Human Resource professional was established as a strategic partner within the business environment and this lead to multiple challenges. These challenges surround the creditability of characterizing Human Resource professionals as Strategic Partners (20th century) or Organizational Leaders (21 century), because in many cases the Human Resource professionals possess limited business knowledge and/or experience.

It is questionable that Human Resource professionals have attained the Strategic Partner status sought by the professional association as research data tracking Human Resource professional career advancement, professional achievement and employment longevity suggest that the majority of Human Resource professional have not in fact attained this.(Williams, 2005) This data suggests that many Human Resource professionals inhibit their career advancement by not possessing the requisite business knowledge, business acumen, and business judgment necessary to achieve this status. Meisinger (2005) wrote that in a knowledge economy, business acumen is the single biggest factor the Human Resource professional in the United States lack today.

Given this environment, what should be the role of higher education in preparing students to become professions in HR who can comfortably sit at the executive level table in organizations in the 21st Century?

This study reviews recent performance levels in higher education relative to cognitive challenge and explores future collaborative efforts to align education curricula with societal needs.

The Study

In examining the root cause of the failure of HR Professionals to gain seats in the boardroom, the researchers reviewed the undergraduate and graduate catalogs listed as offering either specializations in or degrees in Human Resource Management. The research consisted of two elements. First, the research examined the cognitive

challenge associated with each of the programs. Cognitive challenge was assessed through content analysis utilizing Blooms Taxonomy (Bloom et al, 1971). Second, the research examined the quantitative requirements for the undergraduate and graduate programs.

Cognitive Challenge

Benjamin Bloom headed a team of educational psychologists who, in 1956, developed a taxonomy of intellectual behavior. (Bloom et. al, 1956). There were three domains, the Cognitive, the Psychomotor and the Affective. We are here concerned only with the Cognitive domain. Within the Cognitive domain the group identified six categories or levels of intellectual skills, starting with the lower level of simply being able to recall facts and progressing to the most advanced, evaluation, the ability to judge the value of information for a given purpose. Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation. Each higher level of course subsumes the lower levels that precede it. That is, the taxonomy is a hierarchical outline of cognitive complexity. Therefore the level of cognitive challenge as defined by the taxonomy may be assessed using content analysis of the objectives in a program (Kottke and Schuster, 2000; Rushing et al, 2005).

Elements of Bloom's Taxonomy

Knowledge—Refers to familiarity with facts

Comprehension—refers to perception and understanding of ideas related to facts

Application—Refers to the ability to use information in relevant ways

Analysis—Refers to identifying essential features of ideas and relations of components

Synthesis—Refers to the process of combining elements or abstractions into unified wholes.

Evaluation—Refers to classifying concepts by determining value and relative standing

Methodology

A content analysis of the learning objectives for the courses from four Florida universities was conducted. The learning objectives for each syllabus were examined. Using a chart of verbs associated with each of the categories in the taxonomy developed by a review of the literature, a word count by objective was taken. The occurrence of each of the categories was recorded in an Excel Spreadsheet and a Chart produced. Because the "N" for the four universities was significantly different it was determined that standardized scoring would be used. The combined results are presented.

Results

Undergraduate programs tended to place more emphasis upon lower levels of cognitive challenge. Content analysis of syllabi from four Florida universities standardized scores revealed the following relative emphasis. Evaluation .5, Synthesis .3, Analysis .7, Application 1.7, Comprehension 1.2 and Knowledge .6. Clearly lower levels of cognitive skills were emphasized more than critical thinking skills of Analysis, Synthesis and Evaluation.

Graduate programs emphasized higher cognitive challenge slightly more than undergraduate programs. Standardized scores were: Evaluation .4, Synthesis.6, Analysis 1.4, Application .8, Comprehension .75, and Knowledge 1.1. The total emphasis upon Evaluation, Synthesis and Analysis was 2.4 for graduate classes compared to 1.5 for undergraduate classes. But undergraduate syllabi emphasized Understanding slightly more than graduate syllabi and most surprising graduate syllabi emphasized Knowledge more than did the undergraduate syllabi.

Table 1: Cognitive Challenge
Graduate Undergraduate

Evaluation	0.4	0.5
Synthesis	0.6	0.3
Analysis	1.4	0.7
Application	0.8	1.7
Understanding	.7	1.2
Knowledge	1.1	0.6

Quantitative Requirements

The research next examined the quantitative requirements for the undergraduate and graduate programs. Surprisingly the undergraduate programs require quantitatively based courses as accounting, finance, economics, statistics and strategy at the majority of institutions; however, this requirement drops dramatically for Graduate degrees and specializations. A correlation can be inferred that the Universities are not preparing the students for the demand of the positions required in the current business environment.

Results

The percentage of Undergraduate programs requirements by institutions for quantitative courses included the following: Statistics required by 94.58% of institutions; Economics required by 94.95% of institutions; HR Strategy required by 96.39% of institutions; Finance required by 94.95% of institutions; Accounting required by 95.30% of institutions. For an undergraduate education in HR this would appear to be a substantial foundation.

The percentage of Graduate programs requirements by institutions for quantitative courses included the following: Statistics required by 17% of institutions; Economics required by 11% of institutions; HR Strategy required by 73% of institutions; Finance required by 49% of institutions and Accounting required by 48% of institutions.

Table 2: Program Requirements

	Graduate	Undergraduate
Statistics	17	95
Economics	11	95
Strategy	73	96
Finance	49	95
Accounting	48	95

CONCLUSION AND RECOMMENDATIONS

This study investigated the cognitive challenge presented to graduate and undergraduate students in four Florida Universities. Results support the belief that there is less than desirable emphasis in higher education upon higher level cognitive challenge conducive to critical thinking skills needed by HR professionals. Both at the graduate and undergraduate levels the emphasis is upon Knowledge, Understanding and Application rather than Analysis, Synthesis and Evaluation. This needs to change so that graduates are better prepared to move into seats at the executive levels in organizations.

The second finding is that preparation for HR professionalism as reflected by curricular program requirements at the graduate level does not include quantitative skill development as much as much as does the undergraduate

program curricula. This suggests that schools may want to reflect upon the linkage between their program requirements and the professional development needs of their students.

The Society for Human Resource Development (SHRM) has worked with academics to develop suggested curricula for HR programs. SHRM has also developed advanced certification programs including the new Global Professional in Human Resources (GPHR) to facilitate professional development of members thus enhancing their opportunities to have strategic impact in their organizations. The research suggests that the professional association work more closely with universities to establish guidelines for requirements that meet the effective demand of the current business demand particularly in Graduate education.

Future research should be conducted with a larger and more geographically diverse sample to measure progress in increasing cognitive challenge to develop critical thinking skills in graduates. This research could benefit from collaboration between academia and professional organizations.

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A QUANTITATIVE ANALYSIS OF THE QUALITY OF HUMAN PERFORMANCE AMONG UNIVERSITY STUDENTS

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ABSTRACT

This study examines the quality of human performance among university students in their quest for academic success. The authors used a questionnaire survey and defined an index to measure student self regulation in their effort to achieve desired academic outcomes. The study found that while university students are knowledgeable of behavior that leads to academic success, a majority of the students do not self-regulate their behaviors to achieve success. To compensate, students often attempt to negotiate with faculty to alter and, sometimes, compromise academic performance standards. Significantly, these students may be entering the workplace to continue such behaviors. Failure of individuals to self-regulate in order to meet the standards to which they have been trained and educated has been, and continues to be, an issue of concern across a wide spectrum of public and private organizations.

INTRODUCTION

Failure of members of the workforce to perform to expectation or established standards for success may be eroding America's global competitiveness. Poor competitiveness may be the result of a breakdown in the quality of the performance of the human element in all sectors of our society. Selby-Lucas, 2002; Swart, Kaufman, Lacontora, & Tricamo, 1997 point out that limited effectiveness and major gaps between the standards to which some members of the workforce have been trained and their actual performance remain a major problem. The problem seems to permeate work habits, reflecting a substantial change in work ethic leading to a culture of problematic productivity.

Colleges and universities serve as a significant link in the supply chain of human resources for all sectors of our economy. The purpose of this study is to examine university students' self-regulation and the discrepancies between what students (future employees) know they should be doing in order to achieve academic success and what they are actually doing. The objective of the study is to develop insight into whether university students are accustomed to engaging in a pattern of counter-productive behaviors as they join the workforce.

LITERATURE REVIEW

Swart and Duncan (2005) state that "Quality human performance refers to the overall level of human performance excellence. The expected performance of humans is generally dictated by a set of valid and appropriate expectations (a model), and attained through quality education and training. When actual performance consistently adheres to the model, then "quality human performance" is achieved. When human performance deviates from model performance, then the "performance discrepancy" must be investigated, causes identified, and appropriate corrective action taken (pp. 487-488)". It is important to distinguish between situations where an individual may not be performing adequately due to a lack of knowledge/skill and when there is a lack of adequate performance due to inadequate compliance with known procedures (Karoly, 1993).

According to Hoyle (2006), self-regulation involves a complex process with many interrelating factors. Karoly (1993) defined self-regulation as processes, both internal and transactional, that serve to guide goal activities. He also noted that these activities were seen as occurring over time and across changing conditions and "...involved

thought, affect, behavior, or attention via deliberate or automated use of specific mechanisms and supportive meta-skills” (p. 25). Karoly goes on to note that parts of this process of self-regulation include discrepancy detection and implementation, self-evaluation, self-efficacy, meta-skills, boundary conditions, and self-regulation failure.

A number of studies found that metacognitive strategies applied to learning at the college level have positive results on student grade point averages (Chia, Hall, & Smith, 1999; Chia, Hall, & Smith, 2001; Hall, 2002; Hall, Bolen, Gupton, & Juhl, 1995; Rose, Hall, Bolen, & Webster, 1996; Smith, Hall, & Chia, 2003). Metacognition involves the knowledge of learning strategies and the use of this personal knowledge in an effective and efficient manner (Chia et al., 2001).

METHOD

Hall, Smith and Chia (2006a) identify the following as metacognitive behavioral strategies which, when used in learning by university level students, have a positive result on student grade point average:

Attending class regularly

Meeting class deadlines

Talking to the professor when experiencing difficulties

Reading assignments before class

Reviewing lecture materials after class

Completing assignments before exams

Setting up specific study times and adhering to them

Studying in advance for exams (as opposed to last minute ramming”

Restating lecture materials in own words to help in understanding material

Looking for how material presented in class applies to major

Self-regulation refers to people doing what they know they should be doing. A questionnaire, referred to as the Actual vs. Intent Survey (AIS), was developed in the format of a needs assessment (Kaufman, 2006). The questions included in the AIS addressed the ten metacognitive strategies listed above. For each strategy, students were asked to respond to what they were doing in their classes and what they felt they should be doing in order to achieve academic success. The results were expected to answer the following questions: 1) do students understand the academic behaviors it takes to be successful and do they know the academic standards of performance? 2) Do they adjust their behaviors to meet these standards of performance?

The AIS was administered in three courses offered by the departments of business, communications and psychology at a southeastern university in the United States. One hundred and sixty-seven upper level undergraduate students (juniors and seniors) received the AIS. The response rate was 79% (thirty-five students failed to complete the survey accurately). In the remaining data set of 132 responses, 39% were from business, 16% were from communication, and 45% were from psychology. Participation was voluntary, and responses were provided anonymously. IRB approval was obtained, and the study complied with APA ethical standards for the treatment of human subjects.

RESULTS

The AIS responses were analyzed with a mixed model ANOVA. The between subject factor was “course (business, communication, and psychology).” The within-subject factor was “academic behaviors (actual vs. intent).” The dependent factor was the student response on the AIS (students gave two responses on each of the questions (strategies) on the AIS; 1) how they perceived their actual academic behaviors (what behaviors they actually engaged in); and, 2) what they perceived they should be doing in order to be academically successful in regard to these strategies).

Results of the analysis did not indicate a significant effect for course, but the results did indicate a significant within-subject effect for AIS scores as well as a significant between-within interaction for course and AIS scores.

Post-hoc measures indicated a significant difference between communication and psychology student responses in regard to their actual behaviors. Communication students reported actual engagement in academic self-regulatory behaviors significantly more often than psychology students. The student responses from business fell between these two courses and were not significantly different from either communication or psychology students. While differences emerged based on course for student academic self-regulatory behaviors, no significant differences were found for course when students responded in terms of what behaviors they should be engaging in to be academically successful. Respondents in all three majors rated the strategies addressed on the AIS as being important for academic success. Even though the students rated these strategies as important in terms of doing well academically, there were significant within-subject differences between students' rating on the AIS of what they were actually doing and what they should be. Students reported engaging in significantly fewer behaviors than they felt they should in order to achieve academic success.

To further explore the issue of self-regulation, a self-regulation, index (SRI) was defined as the ratio of what students reported they were actually doing to what they reported they should be doing, expressed as a percentage. Thus, students who achieve an SRI of 100% are doing exactly what they think they should be doing and hence are completely self-regulated according to their standards. As the SRI decreases, it reflects an increasing gap between what a student thinks he or she should be doing and what is actually occurring. On average, the business students received a SRI of 71.49%, psychology students 71.59%, and communication students 81.70%. These results support the findings of the mixed model ANOVA indicating that communication students exhibited a narrower gap between what they thought they should be doing and what they were actually doing – e.g. stronger self regulation.

An interesting dimension of the data analysis results was that the highest SRI's were reported for those behaviors that were directly observable by the professors. Attending class regularly (strategy/question 1) had an SRI of 88.19% for the business students, 88.54% for psychology students, and 91.82% for communications students. Similarly, meeting class deadlines (strategy/question 2) had an SRI of 91.34% for the business students, 95.24% for psychology students, and 98.19% for communications students.

Behaviors that are equally important to success, but where adherence is not clearly visible, include reading assignments before class (strategy/question 4), reviewing lecture materials after class (strategy/question 5), setting up specific study times (strategy/question 7), avoiding cramming for exams (strategy/question 8), restating reading and lecture material (strategy/question 9), and looking for ways the courses apply to the major (strategy/question 10). For these behaviors the business students received an average SRI of 64.94%, psychology students 62.31% and communications students 74.79%.

Three important factors for class preparation (reading assignments before class, reviewing lecture materials after class, and completing homework assignments before the exam) had an average SRI of 65.83 for the business students, 66.82 for psychology students, and 77.48% for the communication students.

In order to determine if statistically significant differences existed between student engagement in behaviors that were either observable or non-observable by professors, the authors used the average responses to strategies/questions 1 and 2 to a measure observable academic behaviors and the average responses to strategies/questions 4, 5, 7, 8 and 9 to measure unobservable academic behaviors. A mixed model ANOVA was conducted with course as the between subject factor and scores on observable vs. unobservable factors as the within subject factor. The study found that there was no significant interaction between observable vs. unobservable academic behaviors and course. Overall, students were significantly more likely to engage in observable course behaviors than those that were unobservable. In addition, communication students were more likely to engage in academically focused behaviors, observable and unobservable, than students in either the psychology or business courses.

Another interesting finding was that, while it could be assumed that academically conscientious students would seek out professors when difficulties are encountered, on this item alone the SRI of the business students was 65.32%, psychology students 62.27%, and communication students 77.45%. It could be argued that today's students feel attending class regularly, and meeting class deadlines is about all they should have to do to pass their subjects.

DISCUSSION

Results of the current study indicates that students are cognizant of the necessary behaviors to be academically successful. Their ratings of strategies that they should be employing (intent) were consistently high across all categories and courses. They demonstrated full awareness of the strategies that would enable them to be successful in their academic careers. They consistently rated these strategies high in terms of being important variables in

achieving academic success. Thus, students are very much aware of the behaviors that will likely lead to academic success. They, as a whole, do not need to be taught the behaviors that will lead to academic success. There is not a skill or knowledge deficit; there is, however, a very significant performance deficit.

Although the students were fully aware of the behaviors that could be instrumental in achieving academic success, they consistently rated their own engagement in these behaviors significantly lower. Responses to the AIS were indicative that students were not conforming their behaviors to meet the standards they felt would lead to academic success.

One of the issues emanating from the student responses was the difference in engagement in behaviors that were observable versus those that were unobservable. When this was analyzed, significant differences emerged in students' reported conformity. They were significantly more likely to engage in those behaviors that could be directly scrutinized than those behaviors that were not possible to observe. The results from the analyses and SRI's for visible performances raised the interesting issue about whether professors should collect more papers, give more pop quizzes, and discuss class readings in order to move certain behaviors to the visible and accountable realm so that students would feel someone was checking and thus possibly caring about their performance.

IMPACT AND ISSUES

This finding brings up several questions about the role of instructors and universities in setting standards for student quality human performance. A disconnect not only seems to exist between what students are doing and what they know they should be doing in order to be academically successful, but there is also a disconnect between what instructors expect versus what they will accept in terms of student performance. Students may hold the "trump" card of filing a poor evaluation on the instructor, an evaluation used by university administrators in decisions of promotion, tenure, and merit pay increases. These evaluations can also be used by administrators in less obvious ways including assigning courses the instructor will teach, scheduling decisions, and academic support. It is little wonder that instructors may feel compelled to find ways to negotiate course standards especially if he/she is non-tenured. This is an area that needs to be addressed in future research on university self-regulation. More research is also needed on the perceptions of business and industry on how well universities are preparing students to meet the challenges of their professional careers.

Limitations of the current study should be noted. The students were from a large, state university in the southeast and this may limit generalization of the findings. Students participated in the study on a voluntary basis so questions may arise as to participant pool. Would different results have been obtained if those who chose not to participate had responded? Students surveyed were from three undergraduate courses and did not cover all possible courses or majors.

Another limitation concerns the differences among specific disciplines. This was not one of the questions posited in the initial research questions, but analyses of the data indicated there were significant distinctions among courses in different disciplines. However, in all cases, regardless of discipline, there were significant differences in students' actual engagement in behaviors they felt would lead to academic success and their ratings of the importance of these behaviors in obtaining academic success. Further research is needed with more specific focus on student perceptions of disciplines to understand better the differences that emerged and why.

If one views the graduates of colleges and universities as the supply side of future managers and employees, the findings of this study can be somewhat alarming. We may well be facing a potential crisis of underperformance. This crisis is not the result of poor quality equipment, poor training and education or poor facilities but seems rooted in something far more elusive. That elusive issue is the failure of people to regulate their behaviors in order to perform to the standards for which they were educated and/or trained.

If our graduating seniors leave their respective colleges and universities with the feeling that performance standards are always negotiable, it can be assumed that this attitude will soon show up in sectors of the work place. When this happens, we can expect to continue to read troubling cases of people taking the easy route versus taking the time and trouble to do a job to standards. The results are demonstrated by recent newspaper headlines of medical errors, aviation accidents, salmonella and e-coli contamination in the food industry. The occurrences described by those headlines may well be at least partly due to what appears to be an emerging culture of poor self-regulation in our society that may be aided and abetted by our colleges and universities.

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ASSESSING TEACHING EFFECTIVENESS

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ABSTRACT

The quality of teaching has been subject to much discussion. There have been several sets of recommendations to improve faculty teaching. Cashin (1989) argued that there are five perspectives from which teaching and learning should be assessed; these are: (a) the instructor, himself or herself; (b) students; (c) peers, persons who are knowledgeable about teaching and the subject matter; (d) colleagues, persons who are knowledgeable about teaching but not the specific subject matter; and (e) the supervisor (e.g., principal, dean, department head, etc.). Cashin also suggests that an instructional consultant be available to support teaching improvement efforts. The assessment instruments provided in the appendices and those referenced are suitable for organizational implementation if so desired. However, their present purpose is to enable an educator to view his or her professional teaching practice from multiple lens, i.e., to answer the question, "If a student, colleague, or peer, were to assess the effectiveness of my teaching what would he or she be looking for?" The determination of effective teaching is neither exclusively a quantitative or qualitative decision. It is a blended decision based on the preponderance of evidence from each of the seven dimensions of teaching.

COMPARISON OF LOGISTIC REGRESSION AND LATENT VARIABLE MODELING TECHNIQUES FOR COLLEGE STUDENT PERSISTENCE USING LONGITUDINAL DATA

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ABSTRACT

Event history analysis is the predominant statistical technique used to model event occurrence with longitudinal data, and student persistence presents an ideal circumstance to examine the longitudinal modeling of change. Most persistence studies use enrollment as the outcome measure. The measure used in this study was student perseverance, which is defined as earned hours (student completed coursework) for a given semester. Two event history techniques, logistic regression and latent variable modeling, were compared using the same data. Data was analyzed for the first five semesters for two cohorts of freshmen. While no one method outperformed the other in predicting correct classification, latent variable modeling provided insightful information on the differential effects of predictors at each time period.

SUMMARY

Singer and Willett (2003) point out that researchers make leaps from cross-sectional data that describe differences among individuals at a given point in time to generalizations about changes in individuals over time. The interesting question is not, what are the predictors of whether or not the student is enrolled at a given point in time, but rather what are the predictors of whether or not students are enrolled over time? Most studies on whether or not a student remains in college have used enrollment at the beginning of a given semester as the dependent variable, which is the traditional definition of student persistence. Perseverance was operationally defined as a student who has earned hours for a given semester, which indicates whether the student successfully completed course work, i.e., persevered through the semester. Using earned hours more appropriately matched event occurrence with the semester the student did not remain in college.

The population for the study was 2001 and 2002 cohorts of first-time, full-time freshmen at a large mid-Atlantic urban research university. 446 students who re-enrolled in a semester after their first dropout (called stopouts) and 578 students who dropped out but were enrolled in another institution of higher education within the state (these data were available from the governing education agency) were excluded, which left 4,665 students for the analysis. Variables included in the study were limited to those that were already available in the data set. Event history analysis was conducted using a discrete-time hazard model estimated by logistic regression as suggested by Singer and Willett (2003) and also latent variable modeling using maximum likelihood with residual variance, called the survival model (L. K. Muthen & Muthen, 2006).

While there was no meaningful difference between the logistic and survival models with regard to percent classified correctly, it was noted that parameter estimates for the time-varying predictors are uniquely estimated for each time period in the survival model. One of the advantages that the structural equation modeling framework had over the logistic regression model involved the nature of the person-period versus person-level data structure. With the person-period data structure, only one estimate was available even for the time-varying predictors. With the person-level structure in SEM, estimates were uniquely calculated for each time period.

While generalizations of the findings in the current study were restricted by the single sample and variables available for inclusion, there are several implications for future research. The study demonstrated that obtaining time period specific estimates for both time-invariant and time-varying predictors are readily accessible through the latent variable framework for longitudinal studies. In addition, the latent framework offers a host of additional capabilities that could be explored, including modeling latent constructs and structural relationships, multi-sample tests to analyze the differences in parameter estimate for different samples, and monte carlo simulations to propose true population coefficients. These methods could also be applied to similar issues such as teacher retention or high school drop out rates.



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ARE ALL TYPES OF ELECTRONIC MARKETPLACES THE SAME FROM BUYERS' PERCEPTION?**Dothang Truong***Fayetteville State University***Thuong T. Le***University of Toledo***Sylvain Senecal***HEC Montreal***S. Subba Rao***University of Toledo***ABSTRACT**

This study tests if buyers' perceive conceptually different electronic marketplaces as distinct types of procurement platforms. Data from a Web-based survey of 359 purchasing professionals in the United States shows buyers' expectations of benefits differ significantly between public EMs (i.e., third-party exchanges and industry sponsored marketplaces) and private EMs (i.e., private trading networks), and between neutral EMs (i.e., third-party exchanges) and biased EMs (i.e., private trading networks and industry sponsored marketplaces). Likewise, their perception of risks differs significantly between public and private EMs.

Keywords: B2B, electronic commerce, electronic marketplace, e-procurement, supply chain management.

INTRODUCTION

Academic interest in the proliferation of business-to-business (B2B) electronic marketplaces¹ (hereafter EMs) is rising, but the literature is still long on conceptual discussions and short on empirical studies. Empirical studies currently available generally make no distinction between different EM types, implicitly treating EMs as constituting a single homogenous marketplace. However, conceptually different types of EMs are proposed (Barratt and Rosdahl, 2002; Brandtweiner and Scharl, 1999). These authors distinguish between major EM types on the premise that individual EMs are formed in response to various market opportunities and business needs (Le, 2004). Hence, we suggest that EMs differ from one another in terms of their value propositions to prospective users and consequently that each EM type represents a distinct platform for B2B procurement. The main objective of this study is to empirically investigate if professional buyers expect different benefits and perceive different risks from different EM types.

A better understanding of how buyers perceive the different types of EMs is important for two major reasons. First, empirical data showing that conceptually different EMs are indeed perceived as different would validate what has been proposed so far in the literature. Second, if buyers do perceive differences between EMs, it is important for EM managers to know these differences since buyers' perceptions have an impact on their EM usage. Thus, a better understanding of buyers' perceptions would help EM managers better address buyers' concerns, and potentially increase their adoption and usage of their EMs.

ELECTRONIC MARKETPLACE USAGE DECISION

An EM refers to an Internet-based e-commerce platform that matches multiple buyers and suppliers in transactions or as an interorganizational information system that allows the participating buyers and sellers to exchange information about prices and product offerings (Brandtweiner and Scharl, 1999; Bakos, 1991). EMs provide an electronic method to facilitate transactions between buyers and sellers that potentially provide support for

¹ By mid-2000, there were 1900 public EMs. Since their creation only a limited number of EMs had sufficient trading volume to sustain their activities. About 400 have closed and further consolidation is expected

all of the steps in the entire order fulfillment process. Three typical types of EMs are: Third-party exchanges (3PXs), Industry-sponsored marketplaces (ISM), and Private trading networks (PTNs).

In classical decision theory, risk is viewed as reflecting the variation in the distribution of the possible outcomes, their likelihood, and their subjective values (Gewald et al., 2006). However, several studies suggest that people depart from classical decision theory principles when making decisions (March and Shapira, 1987). For instance, many managers: 1) do not view uncertainty about positive outcomes (as opposed to negative outcomes) as an important aspect of risk, 2) do not use precise probability estimates when dealing with risky situations, and 3) do not use quantifiable constructs when assessing risky choices. In order to bridge the gap between risk as conceptualized in the classical decision theory and what managers actually do when making decisions under uncertainty, it has been suggested that the Perceived Risk Theory might be useful (Eng, 2004). This theory suggests that perceived risk has two dimensions: the perceived probability of negative consequences and the perceived importance of these negative consequences. Based on this theory, it is suggested that managers will have a positive attitude towards a decision as long as the expected benefits are greater than the perceived risks. In support of this view of decision-making under uncertainty in the context of electronic commerce, it has been shown that perceived risks and expected benefits do influence buyers' decision to adopt EMs (Sawhney and Acer, 2000).

Expected Benefits

When exchanging products and services, buyers and sellers face many costs associated with pre-transaction discoveries such as identifying prospective trading partners, ascertaining product features and availability, and gathering quality and price information. These costs are also known as search costs. In fragmented markets, the search is complex and costly, leading to information asymmetry and resulting in limited product choice and non-optimal prices for buyers. EMs reduce search costs in several ways: providing information on sellers and their product availability and prices, thus facilitating comparison (Bakos, 1991), expanding the supplier base, hence buyers' options, allowing buyers to optimize their selection within the constraints of service availability through near-perfect market information, and providing real-time inventory listing. In addition, with low asset specificity and low coordination costs, EMs are suggested to enable lower transaction costs for buyers (Daniel and Klimis, 1999). By joining an EM, buyers are able to reduce communication costs, significantly reduce paper work, thereby reducing transaction costs. Overall, using information technology and Internet technology, EMs have been shown to be able to reduce search costs, facilitate transactions, offer trust to prevent opportunistic behavior and "maverick" purchase, and broaden the supply and demand base so that buyers have more choices and suppliers have access to more buyers. Hence, economic theory suggests that the main benefit of EMs is market efficiency through market aggregation. Market aggregation refers to usefulness of EM in overcoming market fragmentation, thus offering buyers more choices, more readily available information about product and suppliers, transparent prices, and lower transaction costs.

More recently EMs have also been suggested to have another type of benefit: inter-firm collaboration (Brunn et al., 2001). It can be defined as the extent to which all activities within an organization, and the activities of its suppliers, customers, and other supply chain members, are integrated together. It is suggested that EMs facilitate inter-firm collaboration by automating transactions and increasing process transparency (Bloch and Catfolis, 2001). It involves electronic documents routing through order request, approval and replacement of costly manual processing. Properly constructed to support specific access hierarchies, information filtering criteria, business rule and workflow, EMs help buyers effectively manage their transactions, track their market activities, prevent unauthorized activities, and protect confidential information. Beside automation, inter-firm collaboration is the driving force of effective supply chain with open and low-cost connectivity, very large, flexible, and multimedia data storage capabilities, systems and channel integration, and higher-level self service capabilities. In addition, it is suggested that EMs create the most benefit when buyer-supplier relationships are well established and the supply chain is multi-tiered and complex (Dai and Kauffman, 2002). These outcomes may increase benefits associated with inter-firm collaboration (e.g., inventory management) and also decrease perceived risks (e.g., dealing with unknown suppliers) associated with joining EMs. By providing participants with collaborative tools such as demand forecasting, inventory management and production planning, EMs help provide increased visibility across several tiers of supply chain. Finally, EMs also provide value to buyers through collaborative commerce, i.e., the use of an online business-to-business exchange to facilitate the flow of business processes in addition to transactions.

Whereas market aggregation creates value for sellers and buyers by overcoming market inefficiencies associated with market fragmentation, inter-firm collaboration seeks improvements in business processes throughout

the supply chain. Thus, it is suggested that buyers may expect two different types of benefits when using EMs: market efficiency and supply chain efficiency.

Perceived Risks

Although most studies on EMs emphasize their advantages, the fact that only a small number of firms currently use EMs for purchases suggests the importance of investigating perceived risks associated with EM usage. As suggested by Davila et al. (2003), it is crucial that those risks need to be addressed before EMs are widely adopted. Authors have identified four major barriers for e-procurement: 1) Internet security (e.g., security of payment systems), 2) Investment in material and human resources (e.g., investment in broadband connections), 3) Absence of or nascent law and regulations governing e-commerce, and 4) Inefficiencies in information search. In another study about e-procurement usage, four perceived risks of e-procurement have also been identified: 1) *Internal business risks* refer to the requirement to invest in internal information infrastructure, 2) *External business risks* are related to the communication with suppliers, 3) *Technology risks* refer to the lack of a widely accepted standard and a clear understanding of which e-procurement technologies best suit the needs of each company; and 4) *E-procurement process risks* refer to the security and control of the e-procurement process itself. Finally, focusing on electronic transportation marketplaces, some potential inhibitors to EM usage decision including information sensitivity and weak capabilities in verifying information about processes and partners have been proposed.

Taken together, these studies suggest that buyers may perceive two general types of risks when dealing with EMs: financial risk and trust barriers. Financial risks represent the initial development costs and recurring operating expenses associated with the usage of EMs. Moving B2B activities to EMs may require buyers to commit resources to deploy information technology applications and infrastructure that link their internal business processes and enterprise systems to EMs (Kheng and Al-Hawamdeh, 2002). Trust barriers refer to the constraints due to the uncertainties in safeguarding sensitive business information and in dealing with unknown suppliers. It is suggested that information transparency is one major benefit of EMs. Buyers are able to access the supplier base, seek information about price and product availability. However, information transparency also has a negative side. The lack of Internet security may lead to the leakage of sensitive business information to competitors. The information that buyers only wish to share with suppliers may not be kept confidential. In addition, this insecurity also affects the operation of electronic payment systems that need significant amount of sensitive information from both buyers and sellers. Trust barriers also come from working with unknown suppliers. First, it would be difficult for buyers to ensure that suppliers meet or exceed recognizable and industry enforced standards relating to supplier quality, service, and delivery capabilities. Second, there are also uncertainties related to verification of the terms and conditions of the contract. Working with unknown suppliers limits the capability of suppliers to participate in the purchasing process and may cause the incompatibility between processes of suppliers and buyers. This could be very risky for buyers since it may lead to misunderstanding or ineffectiveness in their transactions.

HYPOTHESES

The preceding literature review suggests that the three EM types – 3PX, ISM and PTN – should differ from one another regarding their value propositions. Differences between the three types of EMs should be reflected in buyers' expected benefits and perceived risks. The main question for this study is whether buyers actually find these EM types distinguishable in terms of their expected benefits and perceived risks.

Generally, one should expect 3PXs to lean toward market aggregation for greater product cost savings and PTNs toward inter-firm collaboration for improved supply chain performance; ISMs, thanks to their ready access to the large trading volume of their co-founders and their pivotal position in the supply chain, should be comparable to both 3PXs and PTNs in offering both benefits. Thus, the following hypothesis is posited.

H1a: Buyers perceive 3PX and ISM as providing greater market aggregation benefits than PTN.

H1b: Buyers perceive PTN and ISM as providing greater inter-firm collaboration benefits than 3PX.

Seeking market aggregation benefits entails greater risk related to trust barriers (for trading with unknown entities). Pursuing inter-firm collaboration may require relationship-specific investments. One should therefore expect 3PXs and ISMs, as vehicles for market aggregation, expose users to greater trust barriers, and ISMs and

PTNs, as platforms for inter-firm collaboration, place greater financial risks on them. Hence, the following hypothesis is posited.

H2a: Buyers perceive PTN and ISM as more financially risky than 3PX.

H2b: Buyers perceive 3PX and ISM as posing more trust barriers than PTN.

METHODOLOGY

Data Collection and Sample

The data for this study was collected through a Web-based survey of purchasing professionals in the United States. The Institute of Supply Management provided their names and addresses from its membership database. From 8,000 names initially, the list was filtered down to 4,095 names for the survey mailing, after removing names that were duplicated, did not have an e-mail address, or contained other obvious errors. Eventually, only 3,026 names could be reached by e-mail. Participants had three options to complete and return the questionnaire: 1) to complete and submit it online, 3) print and submit it by mail, 4) request a paper copy and submit it by mail. Respondents were invited to answer questions assessing their perceived risks and expected benefits for each EM type. In order to help participants have a clear mental picture of the three different EM types investigated, a short definition of each EM type was provided (See Appendix). The first wave of e-mailing was followed by another three weeks afterward to invite non-respondents to participate in the survey. The two waves produced 370 responses; all but 11 responses were usable, for a response rate of $(359/3026 \Rightarrow) 12$ percent. This low response rate was expected since only a small portion of firms currently use EMs for procurement.

Survey respondents include purchasing managers (74 percent), directors of procurement (13 percent), vice presidents for materials (6 percent), and “others” (7 percent) (figure 1). Nearly sixty percent of them have been with their organizations for six years or longer, only 4 percent for less than two years. Their organizations range widely in size, as measured by annual sales, number of employees or purchasing budget. However, respondents from larger organizations were proportionally better represented: 37 percent from organizations with \$1 billion or more in annual sales versus 6 percent with less than \$10 million, 20 percent from organizations with more than ten thousand employees compared to 11 percent with fewer than 100, and 43 percent from organizations with over \$100 million in purchasing budget versus 17 percent below \$10 million. This is consistent with survey data from the Institute of Supply Management that shows 46.2 percent of larger firms (over \$100 million in annual purchasing spending) have purchased materials through EMs, compared to 26.9 percent of smaller firms.

Expected Benefits and Perceived Risks Measurement

In order to assess expected benefits and perceived risks, two measurement scales were developed. The proposed measurement scales were then used in the large scale survey instrument. Items of both measurement scales used a Likert-type format from 1 (“strongly disagree”) to 5 (“strongly agree”). For each multi-dimensional construct under study (perceived risks and expected benefits) two second order confirmatory factor analyses (CFA) were performed. A first CFA was performed using a test sample ($n=180$). If necessary, items were deleted to improve the model fit. A second CFA using a holdout sample ($n=170$) was performed to validate the measurement scales (See appendix for measurement scale items).

The chi-square (χ^2) statistics indicated that there were significant differences between the actual and predicted matrices. However, since this test is sensitive to sample size, additional goodness-of-fit measures were used to assess the overall fit of the model. All additional absolute fit measures and incremental fit measures used were above the 0.90 threshold and thus indicated a satisfactory fit of the models. The goodness-of-fit indexes (GFI), the adjusted goodness of fit indexes, the normed fit indexes (NFI), and the comparative fit indexes (CFI) were above 0.90. Finally, a parsimonious fit measure was computed. The normed chi-squares (χ^2/df) also indicated good model fit. Overall, the various goodness-of-fit measures indicated good model fit. The reliability coefficients for all measurement scales were above 0.80 (Table 2). This table also shows that the extracted variance values ranged from 0.575 to 0.759, suggesting that the indicators used were representative of the latent constructs they assessed.

These results confirmed that market aggregation and inter-firm collaboration were underlying dimensions of the expected benefits construct and that the perceived risks construct was composed of financial risks and trust barriers

as proposed in the literature. In light of these results, an index for each underlying dimension (e.g., market aggregation) of each construct under study (e.g., expected benefits) was computed using average scale scores.

RESULTS

To determine if there are significant differences between EM types with respect to expected benefits (market aggregation and inter-firm collaboration) and perceived risks (financial risks and trust barriers), a multivariate analysis of variance was performed. Expected benefits and perceived risk dimensions were used as dependent variables and the type of EM was used as the independent variable in the analysis. Results suggest that EM types have an impact on the set of dependent variables (Wilk's lambda = 13.568, $p < 0.001$). Next, the main effect of EM types on each dependent variable was tested using F ratio. The results show significant differences among EM types regarding market aggregation, inter-firm collaboration benefits, and trust barriers. In order to test the hypotheses, contrast tests were performed.

Table 1. Descriptive Statistics – Expected Benefits and Perceived Risks per EM type

	Market Aggregation	Inter-firm Collaboration	Financial Risks	Trust Barriers
3PX	3.3271	2.9055	3.2355	3.3055
ISM	3.3114	3.0364	3.1375	3.1768
PTN	3.1547	3.1657	3.2369	2.8230

As suggested by H1a, contrast tests showed that both 3PX and ISM were perceived as providing more market aggregation benefits than PTN. H1b posited that PTN and ISM should be perceived as providing greater inter-firm collaboration than 3PX. The results also supported this hypothesis.

Table 2. MANOVA Results – Differences of Expected Benefits and Perceived Risks between EM types

	Expected Benefits		Perceived Risks	
	Market Aggregation	Inter-firm Collaboration	Financial risks	Trust barriers
Test of main effect (F statistic)	11.989**	4.471*	0.010	16.769**
Contrast tests				
ISMs vs. 3PXs	0.011	0.151*	0.000	- 0.113
3PXs vs. PTNs	0.287**	- 0.210**	0.010	0.148**
ISMs vs. PTNs	0.298**	- 0.059	0.010	0.305**

** Significant at $p < 0.01$; * Significant at $p < 0.05$

H2a suggested that PTN and ISM would be perceived as more financially risky than 3PX, results did not support this hypothesis; no differences were found between three types of EMs. Perhaps, in light of their limited usage of EMs of any types, those buyers' who use EMs may have not utilized them for inter-firm collaboration to the extent that would demand sizable investments in costly, relationship-specific assets. Finally, results showed that 3PX and ISM were perceived as posing more trust barriers than PTN, supporting H2b.

DISCUSSION

The data from a survey of purchasing professionals supported most of our hypotheses. It shows a clear distinction between public EMs (3PXs and ISMs) and private EMs (PTNs) with respect to market aggregation benefits and trust barriers, and between neutral EMs (3PXs) and biased EMs (ISMs and PTNs) with respect to inter-firm collaboration.

This study fills a void in academic literature on EMs that currently contains few empirical studies. Its main contribution is in establishing *empirically* that EMs do not constitute a single, homogeneous marketplace but are instead comprised of distinct types that offer users specific benefits and expose them to certain risks. It draws from traditional, economics-based literature on EMs that focuses on their role as an intermediary aggregating fragmented

demand and supply for greater market discovery and product cost savings. It also incorporates recent Supply Chain Management-related works that highlight the role of EMs in supporting long-term buyer-supplier relationships and fostering inter-firm collaboration. This multidimensional treatment offers a fuller understanding of EMs, specifically regarding buyers' expectation of benefits and perception of risks.

In addition, by providing insights into buyers' perceptions, our findings can help managers focus their promotional efforts aimed at potential firms that would like to use EM for procurement by emphasizing specific benefits or addressing specific risk perceptions based on the type of EM they manage. For instance, based on our results ISMs are perceived as providing a large range of benefits to buyers but, they have to address buyers' trust related issues in order to gain more members. Overall, our findings corroborate a proposition that ISMs are well positioned to pursue market aggregation and inter-firm collaboration simultaneously while 3PXs may find the former value proposition and PTNs the latter as their advantageous pathways to market leadership.

It takes two sides – buyers and suppliers – to create a market, physical or electronic. By examining EMs from business buyers' perspective, this study necessarily limits itself to purchasing-related issues. These can differ considerably from marketing-related issues that are relevant to suppliers. Furthermore, EMs are still in an early phase of development. Relatively few firms currently use EMs for B2B procurement. Their EM expectation of benefits and perception of risks are yet to be firmly set. The findings from this study should therefore be taken with a note of caution that they provide only a snapshot picture of EM usage that is unlikely to remain constant as the EM phenomenon continues to evolve. In addition, the sampling frame used (Institute of Supply Management's list of members), although encompassing a large number of buyers, does not guarantee that the sample obtained is representative of US buyers. Thus, additional studies using different samples would help ensure the generalizability of the results obtained.

These limitations point to possible opportunities for future research. First, a similar study from suppliers' perspective should help provide a fuller picture of EM usage. Second, studies drawing data from several other countries should offer insights into EM usage at different levels of EM proliferation.

References are available upon request. Please contact Dr. Dothang Truong at dtruong@uncfsu.edu

RFID TECHNOLOGIES: THE EMERGING LEGAL AND SOCIAL CONTEXT

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ABSTRACT

The ease with which RFID technologies could be extended to the monitoring of individuals—as opposed to the tracking of merchandise—has disquieted numerous consumer-privacy and civil-liberties organizations. RFID systems' capacity to assemble data about customers' purchases could result in a dossier-like collection of information about their preferences and, in turn, could lead to targeted marketing. The data collected also could disclose many personal demographics that consumers (wrongly) view as nonpublic. The present dearth of legal protections for consumer privacy in the context of RFID applications underscores the need for technology-specific legislation and public education about these increasingly pervasive systems. In this paper, we argue that such initiatives will help to dispel the conceptual murk that currently surrounds the deployment of RFID technologies.

INTRODUCTION

Radio frequency identification (RFID) applications differ markedly from those of other current technologies. For example, while magnetic stripe cards are as commonplace as RFID tags, the owners of magnetic stripe cards take on the responsibility of preventing unauthorized users from physically accessing the cards. Magnetic stripe cards employ a contact-based solution and require a line of sight, whereas their RFID counterparts have overcome such constraints. Although RFID technologies offer many benefits, these systems also bring up numerous threats to privacy. In particular, the potential extension of RFID from identifying and tracking products to the commensurate identifying and tracking of persons challenges existing privacy models, since “fair-information practices today are designed for centralized data control and personal verification, ...but what's emerging now is ‘surveillance without conscious action’...There are no obvious monitoring cues” (Yoshida 2005, p.1). Accordingly, privacy that depends on security systems involves complex social issues pertaining to consumers' right to know what information is collected, who might access such information, and how such information might be used (C. Karat, Brodie, & J. Karat 2006). Moreover, new data-aggregation techniques can turn even minimal amounts of information perceived as wholly anonymous by the target into personally identifiable information (Malin & Sweeney 2004). The U.S. government's lawful purchase of personally identifiable information—details the Privacy Act of 1974 prohibits the government from obtaining—poses a similarly significant affront to traditional U.S. privacy doctrines. The same is true of the post-9/11 modifications of laws (for example, the USA PATRIOT Act) that facilitate the warrantless surveillance (both physical and electronic) of domestic citizens, residents, and foreign individuals owing to national security concerns; the reduction in the legal thresholds previously designed to protect electronic records; and the upswing in the sharing of personally identifiable information among domestic agencies and with other governments (Cockfield 2004). Likewise, civil-libertarians' apprehensions about the impact of these developments on privacy have become even more pronounced given the interplay between the private sector's embracing of technological developments that promote the ability of firms to collect detailed information on customers or employees. “Businesses have always tracked their customers' behavior (e.g., through credit card purchases) and sold this information to third parties, so it is not so much a question of novelty, but more a question of scale and context. Information technological developments now permit an enormous quantity of detailed transactional information to be gathered and stored and for relationships to be drawn between formerly discrete identities” (Cockfield 2004, pp. 396-397). The almost-omnipresent surveillance systems that pervade private and public spaces “tend to shape our social structures once this embedding takes place” and may “heighten the risk of unanticipated adverse social consequences” (Cockfield 2004, pp. 397-398). Hence, “[t]he biggest long-term concern for individuals may be retaining their subjective expectation of privacy in the face of [this] emerging surveillance technology” (Dalal 2006, p. 514). Simply put, RFID systems raise a myriad of legal and social questions concerning privacy. In this paper, we identify the potentially unfavorable societal outcomes associated with RFID technologies and provide concrete

suggestions for ameliorating the “conceptual murk” that presently surrounds their various applications (Marx 2005, p. 366).

THE THREATS TO CIVIL LIBERTIES POSED BY RFID TECHNOLOGIES

RFID systems’ ability to identify, track, and monitor—through databases of information—when applied to pallets of merchandise is one thing; the use of such systems for targeting individuals for marketing initiatives and other purposes becomes a much more problematic proposition. This has led one commentator to suggest that “...in the twenty-first century[,] the enemy in the privacy war may no longer be the government but instead may be Corporate America” (Edmundson 2005, p. 212). Consequently, several consumer-privacy and civil-liberties groups have highlighted the ease with which RFID applications could be extended to the tracking—or surveillance—of persons. Privacy-rights advocates emphasize that the consumer and other economic benefits that derive from, say, linking an RFID tag’s serial number back to the individual purchaser vanish on the prospect of vendors’ using RFID technologies for the direct monitoring of customers. In such circumstances, the data assembled about a customer’s purchases could lead to a dossier-like collection of information about the consumer’s preferences that in turn could form the basis for such commercial applications as targeted marketing.

These misgivings are not unfounded. For example, the upscale merchandiser Prada in its New York City boutique actually used dressing rooms that had “RFID-reader-equipped racks [that] knew which garments had been selected and [thereafter] displayed interactive information about [the garments] on the dressing room’s touch screen” (Brito 2004, p. 8). Although Prada abandoned this marketing approach after two years, other retailers—including Abercrombie & Fitch—plan to implement RFID systems in their stores (Brito 2004). For four months in 2003, Wal-Mart used RFID technologies to monitor consumer behavior as customers removed Max Factor Lipfinity lipsticks from shelves at Wal-Mart’s Broken Arrow, Oklahoma, store. RFID tags in the lipstick containers triggered a video monitor, which allowed Procter & Gamble researchers to watch the customers who had stopped at the Max Factor display (Hildner, 2006). According to consumer-privacy advocates, once personal identity becomes connected with such unique RFID tag numbers, the profiling or tracking of individuals without the knowledge or consent of the targeted individuals emerges as a genuine possibility. “For example, a tag embedded in a shoe could serve as a *de facto* identifier for the person wearing it. Even if line-item information remains generic, identifying [the] items people wear or carry could associate them with, for example, particular events like political [or labor union] rallies” (U.S. House 2004, p. 4).

Another set of scholars appreciably downplays these privacy concerns, since these commentators view RFID as but one of several consumer-information data-gathering techniques that are merely akin to, for instance, drugstore or supermarket loyalty programs. Yet this argument overly minimizes the surreptitious nature of RFID systems; the consumer often does not know that the technology is gathering data on him or her. “The argument that RFID is not distinct [from other like technologies] also ignores how fine-grained a level of data collection RFID permits. An RFID reader can not only determine that a person bought a book, but also can distinguish that copy of the book from all other copies in the world” (Hildner 2006, pp. 140-141). The data collected using RFID could moreover disclose many personal demographics that the consumer (wrongly) believes are nonpublic. To illustrate, seemingly innocuous purchases such as over-the-counter medicines may reveal health conditions; purchases of kosher products may suggest religious affiliations; purchases of certain hair products may suggest race or gender; and purchases of books may indicate political allegiances and lifestyle choices (Hildner 2006). RFID readers, in tracking an individual’s movements, additionally can set the stage for differential treatment. “IBM, for example, has developed a product that relies [on] doorway RFID readers to identify high net-worth individuals as they enter financial institutions so that [these persons] can be [singled] out for personal service” (Hildner 2006, p. 142). The potential for discrimination beyond economics in such circumstances seems plausible.

Scholars who dismiss the claims forwarded by consumer-privacy and other groups furthermore maintain that “consumer demand and preferences will greatly influence the deployment of RFID systems...and the use of RFID-derived information...Consumers will be the ultimate arbiter of RFID proliferation and use” (Harper 2004, p. 9). These experts reason that consumers might well welcome RFID theft-prevention tags on expensive items that would be costly to replace if mislaid or stolen but presumably would not want such tags on shoes. This camp moreover points out that, even in the absence of built-in tag deactivation or easy-removal regimes, those consumers who wish to disable the effects of RFID technologies have at their disposal a variety of techniques. These countermeasures span the gamut from scissors- and razor blade-excisions and mylar bags to blocker tags and RFID-reader detectors (Harper 2004). Even the staunchest skeptics of the privacy-based arguments, however, concede that the provision of

notice may “have a role” in mediating the resolution of these issues (Harper 2004, p. 8). Finally, this body of scholars sees existing law—in particular, property rights and common-law privacy torts—as sufficient safeguards against misuses of RFID systems. Noting that consumers can decide what comes into their homes, these experts dismiss the prospect of, say, third-party, non-vendors using RFID readers to inventory the contents of homes, especially given the current technological limitations of such readers. Similarly, these experts point out that state-law privacy torts and various statutes already prohibit many information-based civil harms and crimes (Harper 2004). Still, consumer-privacy and other civil-liberties organizations disagree with these sanguine conclusions. They submit that the common-law privacy tort of unreasonable intrusion upon the seclusion of others—a tenable legal basis for challenging monitoring involving RFID systems, owing to the existence of the elements of intentionality and conduct that would be highly offensive to a reasonable person—ordinarily does not apply to activities in public places. This potential remedy also merely provides redress for violations *ex post*; it does not prevent the harm altogether. Accordingly, one commentator has concluded that “the reality is that there are few existing legal protections of consumer privacy against RFID [applications], and tort law is no exception” (Hildner 2006, p. 146).

THE CURRENT REGULATORY ENVIRONMENT—DOMESTIC AND INTERNATIONAL

In the landmark privacy decision *Griswold v. Connecticut*, 381 U.S. 479 (1965), Justice Black observed that privacy is “a broad, abstract and ambiguous concept” (p. 509). In the 40 years since that decision, a tangled skein of judicial interpretations has emerged. While the U.S. Constitution does not expressly mention the word privacy, the Supreme Court in *Griswold* construed the right of privacy as emanating from liberties and freedoms granted by the Constitution to the citizenry. Hence, among other things, the right of privacy includes freedom from unreasonable searches and seizures, and the right to protect one’s own personal information, as well as the right to anonymity and to be left alone (Hildner 2006). RFID technologies clearly implicate several of these aspects of privacy. The lack of any coherent legal scheme covering such systems derives primarily from U.S. law’s distinction between the public and private spheres. State action is required as a threshold matter for triggering the constitutional protection of the right of privacy. However, the doctrinal underpinnings of privacy law consider the marketplace as part of the private sector, thereby leaving those subject to commercial applications such as RFID systems “under-protected” (Hildner 2006, p. 144). Consumer-privacy activists therefore have lobbied for the passage of technology-specific federal laws. RFID opponents premise the need for such statutes on the proposition that existing privacy law is inadequate to eliminate the potential abuses RFID technologies could effectuate. The Privacy Act of 1974, the most comprehensive federal privacy-related law, among other things, allows persons to review any private information collected by governmental agencies and to correct such information; but it applies only to governmental agencies or governmentally controlled corporations, not private entities (Eden 2005). Hence, the fair-information practices, open-access rules, and data-ownership principles set out in the act’s provisions are inapplicable to private firms that choose to utilize RFID systems. Moreover, the act “does not *in principle* proscribe data collection but merely proscribes a narrow subset of data *misuse*” (Dempsey & Flint 2004, p. 1474). Even the Government Accounting Office (GAO) has observed that “the Privacy Act is likely to have a limited application to the implementation of RFID technologies because the act only applies to the information once it is collected, not to whether or how to collect it” (U.S. Government Accountability Office 2005, p. 23). Other federal privacy-protection laws—the Electronic Communications Privacy Act of 1986 (ECPA), the Fair Credit Reporting Act of 1970 (FCRA), the Health Insurance Portability and Accountability Act of 1996 (HIPPA), and the Graham-Leach-Bliley Act of 1999, for instance—in this context fare no better.

Although the ECPA in general prohibits the sale of personal information that has been culled from electronic communications, “information” in this context refers “only to the contents of communications; transactional records can lawfully be disclosed, even sold, so long as the purchaser is not the federal government” (Eden 2005, p. 25). Similarly, Section 2703 of FCRA allows the exchange of consumer information among third-party payment providers as long as a “legitimate business interest” underlies the transactions. HIPPA, though a potent protector of privacy rights, does so only in the context of healthcare information. Scholars furthermore have directly challenged the efficacy of the Graham-Leach-Bliley Act, for example, on the rationale that the act’s opt-out provisions that allow financial institutions to share personally identifiable information with other companies represent a decidedly anemic protection of consumer-privacy rights. Practically speaking, the act permits the distribution of most consumer information, since “consumers either do not understand what is at stake or do not have the will to navigate densely written release forms...This is typical of a privacy framework in which ‘the limitation of constitutional analysis, the vagaries of statutory coverage, and the frailty of individual vigilance, taken together, expose personal

privacy to massive challenge by corporate and market activities” (Galison & Minow 2005, p. 276). In particular, critics of HIPPA and Graham-Leach-Bliley submit that, in passing such statutes, Congress “has taken a stop-gap, industry-focused approach that has left substantial holes” (Hildner 2006, p. 144). This state of affairs has led one commentator to suggest that “privacy in the non-government sector has been treated primarily as a commercial policy problem rather than one of ensuring fundamental rights or civil liberties” (Nehf 2005, pp. 4-5). Accordingly, owing to their lack of specificity and their failure to embrace the notion of the “right to informational privacy, which RFID technologies concern most” (Lorenc 2007, p. 609), these federal statutes presently offer scant protection against the deployment of RFID technologies.

Owing to the stalled legislative efforts in several jurisdictions, state statutory law similarly provides no privacy-related panaceas. Still, at the behest of such advocacy groups as the Consumers against Supermarket Privacy Invasion and Numbering (CASPIAN), the American Civil Liberties Union (ACLU), and the Electronic Privacy Information Center (EPIC), several states have introduced bills that attempt to respond to the increasing proliferation of RFID systems. The proposed legislation in Maryland, Utah, and Virginia seeks to ensure a more in-depth analysis of RFID technologies, with recommendations as to future legislation to follow. Missouri and Utah’s bills require the appropriate labeling of all products that contain RFID tags. Utah has a companion bill that mandates the provision of instructions on how to disable RFID tags or notice that the tag will remain active post purchase. New York, Virginia, and Washington in addition have introduced bills that make personally identifiable information collected by automated toll systems (e.g., EZ Pass) confidential. California’s RFID legislation obligates firms using RFID technologies 1) to inform customers that technologies that can track and collect information are in use; 2) to obtain express consent as a precondition of the firms’ collecting information; and 3) to detach or destroy RFID tags before consumers leave the store with such tagged products. A more recent California bill seeks to prohibit state-issued drivers’ licenses and other identification documents from containing RFID tags (Department of Commerce 2005). Furthermore, Illinois, Maryland, Massachusetts, New Hampshire, New Mexico, Nevada, Rhode Island, South Dakota, Tennessee, Washington, and Wisconsin have introduced RFID-related legislation as well (National Conference of State Legislatures 2008).

While none of these bills has been enacted into law, they indicate the potential political clout of CASPIAN, the ACLU, and EPIC. In 2003, these three groups jointly published the *RFID Position Statement of Consumer Privacy and Civil Liberties Organizations*, which outlines various consumer concerns that arguably arise from the retail industry’s utilization of RFID systems. These issues include the technologies’ use of tags that can remain hidden in objects and used without the knowledge of the consumers who obtain the items; the ability of those who use RFID to hide the readers; the unique numbering of individual items generated by RFID systems; the creation of massive databases containing personally identifiable information and the possible linking of individuals with RFID-tagged items; and the potentiality for the non-consensual tracking or profiling of individuals (Privacy Rights Clearinghouse 2005). In 2003, CASPIAN also promulgated the “RFID Right to Know Act,” a model act later used in the proposed Utah bill. This model act, which amends Title 15 of the United States Code, mandates for each consumer package a conspicuous (in terms of type font and placement location) warning label that states that the package has an RFID tag with the capability of transmitting unique identifying information to an independent reader both before and after the purchase. To comply with the model act, businesses must not combine or link an individual’s nonpublic personal information beyond that needed for inventory management (Levary, Thompson, Kot, & Brothers 2005).

Despite these drafting efforts by various privacy-rights activists and owing to the current political climate, little hope for passage of an RFID-related federal statute exists, either. A bill introduced in the House of Representatives in 2004 died in committee. Continuing the anti-regulatory sentiments of the Bush Administration’s second term, “the Senate Republican High Tech Task Force [in March 2005] announced that one of its policy goals was to protect RFID from ‘premature regulation or legislation in search of a problem’” (Hildner 2006, p. 151). In this *laissez-faire* milieu, it comes as no surprise that a March 2005 Federal Trade Commission (FTC) workshop titled “Radio Frequency Identification: Applications and Implications for Consumers” concluded that self-regulation, as opposed to administrative rule-making, represents the best option presently for handling the privacy concerns raised by RFID. According to the FTC, the key elements of such an industry-initiated approach include transparency (notice of tags, for example), easily implementable removal procedures should firms elect to give consumers such options, database security, meaningful accountability provisions so as to ensure compliance, and effective consumer education (Federal Trade Commission 2005).

Given that self-regulation represents the default—and thus far the sole—means of protecting consumers’ privacy interests, it comes as no surprise that EPCglobal, a global, not-for-profit, standards organization has proposed a set of privacy guidelines that it deems fundamental to the realization of the full potential of RFID

technologies. The guidelines emphasize the industry's responsibility to provide accurate information to consumers and to ensure consumer choice. Consumer education and policies concerning the use of data, the retention of records, and database security represent other noteworthy aspects of the proposed guidelines (Department of Commerce 2005). Significantly, the guidelines "do not address the creation of personally identifying information, leaving its collection and mining to 'all applicable laws'" (Hildner 2006, p. 147).

The feebleness of such guidelines in meaningfully protecting consumer interests arises in large part from the fact that such private-sector groups' self-interest may inure them to the possible adverse consequences of the technologies they have embraced. For instance, a May 22, 2006, news release by the Smart Card Alliance, a multi-industry association, took issue with a Department of Homeland Security subcommittee report that concluded that all RFID applications involving human identification should be "disfavored" (Government Technology 2006, p.1). This industry group blithely assumed that the new Department of State e-passport would be used only for personal identity, not the tracking of individuals. Yet a United Nations-affiliated group known as the International Civil Aviation Organization (ICAO), in developing global standards that will incorporate tamper-resistant features (including biometric and document-authentication identifiers) in passports, opted to include RFID chips in such passports—a decision reached without any input from civil-liberties organizations (U.S. House 2004). Function- and technology-creep could lead to such e-passports being used as global identity documents (thereby making moot recent debates about a U.S. national identity card). In this sense, the ICAO-developed e-passport could morph from "a simple identity document [into] a de facto monitoring device" (U.S. House 2004, p. 4)—consequences largely ignored by both industry groups and unelected international bodies such as ICAO alike.

A further disquieting dimension of such RFID-related developments stems from the fact that the American public to a great extent remains ignorant of such policy decisions and their ramifications. Statistics concerning the public's awareness of the technologies are especially bleak. According to the Department of Commerce, a study in 2004 found that a whopping 72 percent of those surveyed had never heard of RFID. Of the remaining 28 percent, most had become aware of the technology not from the mass media but from the Internet. Yet another 2004 study found that, of the 23 percent of consumers who were cognizant of RFID, 69 percent of this number expressed uneasiness about how retailers would use the data collected by tags, with 65 percent feeling apprehensions about being tracked based on their purchases (Department of Commerce 2005).

These statistics underscore the need for public discourse about RFID—not only out of concern for domestic privacy protections but also to ensure that U.S. policy makers will keep abreast of international efforts relating to privacy. In contrast to the U.S.'s "wait-and-see" attitude, the European Commission recently has devoted a number of workshops to the privacy ramifications of RFID technologies (Department of Commerce 2005). Indeed, the European Union now requires firms that use RFID technologies to notify customers that RFID tags are present. Canada and Portugal also have issued privacy-related RFID guidelines (Delaney 2005). The Asia-Pacific Economic Cooperation forum (APEC) is studying RFID systems in the context of the organization's recently promulgated privacy guidelines as well. Japan in 2004 promulgated RFID-related privacy guidelines, and South Korea is considering the issue (Department of Commerce 2005). Simply put, "while the United States remains substantially unregulated, foreign countries have taken a stricter stance on privacy issues" (Delaney 2005, p. 566). This more proactive approach by other nations may derive from the fact that they apparently believe the challenges implicated by RFID technologies are "better addressed up front than after the fact" (Yoshida 2005, p. 1). Accordingly, entities such as the Organization for Economic Cooperation and Development (OECD)—a pioneer in the area of privacy and security—have waded in on the RFID debate. The OECD especially can help to mediate the international trade issues that surround the use of RFID technologies, specifically the international interoperability of the tags and readers and the international spectrum allocations that will either facilitate or impede the spread of RFID systems globally. Harmonization of the operational frequencies and the allowable band-width and power for RFID systems will require the development of sound, technical standards appropriate for the infrastructures available in a particular country, a process that will rely heavily on cooperation and collaboration aimed at ensuring global interconnectivity and technical merit (Department of Commerce 2005). The economic potential of RFID applications means that global entities like the OECD will increasingly involve themselves in mediating "the polarizing forces tugging at the technology: [governments] and industry groups advocating RFID's adoption, and the civil libertarians concerned about its potential for abuse" (Yoshida 2005, p. 1).

CONCLUSION

As one commentator has noted, “[L]aws, technologies, self-regulation and consumer initiatives must work together to balance and to substitute for the limitations of each other. The privacy invasions threatened by RFID systems are stealthy and multifarious[,] and they require calibrated responses. There is no single solution. [Rather,] protecting consumer privacy requires an amalgam of legal and social responses” (Hildner 2006, pp. 174-175). Education is the first step toward blunting the threats posed by what MIT researchers predict will “become the most pervasive computer technology in history—RFID” (Kobeleff 2005, p. 326). Even though federal legislation seems a less realistic possibility at the present time, the states should draft RFID-specific legislation that ensures what the FTC calls principles of Fair Information Practices (notice; consent; access to aggregated information and the ability to contest the accuracy of information; data integrity and security; and the enforcement of these principles) and that provides consumers with user-friendly and easy-to-use technical solutions for protecting their privacy (Levary et al. 2005). The states must link these legislative efforts to widespread consumer education as well. Without education, the public will remain ignorant of the ease with which public-sector actors can gather information through the deployment of private-sector RFID systems. In particular, consumers’ awareness “that the Justice Department has an eight million dollar contract with Choicepoint, a data collection company, for access to [its] database of personal information” (Karim 2004, p.502) presumably will be cause for concern for most Americans, as should the presence of RFID tags in library books (Delaney 2005). Education in addition will highlight the fact that “in the current climate, these public-private changes are a strand of a broader tapestry of blurred borders involving distinctions between national and international authority, foreign and domestic police, [the] military and [the] police, and intelligence gathering and criminal prosecution. This expanding empirical haze raises vital issues with respect to accountability, legitimacy, public goals, and democratic decision making. Within this conceptual murk there is clearly a major need to elucidate new meanings for many of our traditional concepts and to study the consequences of these changes and how they are negotiated. The blurring of previously distinct borders and the new access to previously unavailable and/or compartmentalized information involve factors that enhance liberty as well as monkey business, and conclusions about the social consequences of these changes must be careful and qualified” (Marx 2005, p. 366). Accordingly, legal and information systems academicians, the business community, and public policymakers must join forces to ensure that meaningful solutions evolve out of the present doctrinal disarray.

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EVALUATION OF THE ANNUAL GROWTH OF MEDICAID SERVICES USED BY HISPANICS IN SOUTH CAROLINA OVER A FOUR-YEAR PERIOD (2000-2003)

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ABSTRACT

Research was conducted to test the annual growth of Medicaid services used by Hispanics during the period of 2000-2003. Secondary data source on Hispanics who received Medicaid services from 23 selected counties in South Carolina during this period was used; these counties were grouped into four regions: Piedmont, Midland, Pee-Dee, and Coastal. The Friedman test was used to perform the repeated measures analysis over four years, and the results were significant for all regions except for Pee-Dee. Post-hoc tests were performed to test if Hispanic participation in the Medicaid program in each year was significantly different compared to previous years, thus having six comparisons for each region. Results showed a significant growth in Medicaid services for Hispanics in all comparisons for Piedmont and Midland regions. These results will be useful to state agencies in order to take necessary steps to improve Medicaid services for Hispanic communities in South Carolina.

INTRODUCTION

The Medicaid program became law in 1965 as a jointly funded cooperative venture between the Federal and State governments to assist States furnishing medical assistance to eligible needy persons. Medicaid is the largest source of funding for medical and health-related services for America's poorest people. In fiscal year 2001, it provided health care assistance to more than 46 million people. In fiscal year 2003, direct payments to providers were \$197.3 billion, and total expenses for the program (Federal and State) were \$278.3 billion ("Medicaid - Overview," 2006).

Based on the broad national guidelines established by Federal laws, each State establishes its own eligibility standards; determines the type, amount, duration, and scope of services; sets the rate of payment for services; and administers its own program. States are required to cover mandatory groups with the choice of covering optional groups. Individuals who meet financial and categorical requirements may qualify for Medicaid. South Carolina began participation in the Medicaid Program in 1968. The South Carolina Medicaid Program also sponsors payment of long-term care for those individuals who reside in the licensed and certified nursing facilities as well as pays for special services for those individuals who participate in Home and Community Based Waiver services. The Department of Health and Human Services (DHHS) of South Carolina State determines eligibility for all Medicaid programs except Supplemental Security Income (SSI) ("Medicaid Program Overview - South Carolina," 2006).

JUSTIFICATION

The population of the Hispanic immigrants in the United States (U.S.) has grown rapidly over the last decade, increasing from 22.3 million (9% of the U.S. population) in year 1990 to over 35.3 million (13.2% of the U.S. population) in year 2000 (U.S. Bureau of Census 2000). Farmers of Hispanic origin are also become a significant and growing part of the U.S. agricultural industry, according to data from the 2002 Census of Agriculture. Hispanic farmers and ranchers are the largest group of minority farm operators in the United States (Dougherty & Young 2008). Furthermore, forty percent of uninsured Medicaid-eligible children are Hispanic, and children potentially eligible for Children's Health Insurance Program are twice as likely to be Hispanic as the general population of children (Reschovsky & Cunningham 1998). South Carolina's Hispanic population has increased by 211% between 1990 and 2000, and about 25 percent population of Hispanic origin in South Carolina was below the poverty level (Kochhar, Suro & Tafoya 2005; U.S. Bureau of Census 2000). Because of rapid growth of such Hispanic population, the state agencies need to be updated about the health care services available to Hispanics in order to develop the appropriate strategies. Hence, the research was done to evaluate the Medicaid services provided to

Hispanics in South Carolina, and will help these agencies to benchmark their efforts in health care management in order to accomplish their goals.

PURPOSE

The purpose of this research paper is to evaluate the annual growth of the Medicaid services used by Hispanics in four regional groups of the State of South Carolina over a period of four years from 2000 to 2003. This evaluation is based on the analysis of the quantitative measures developed for the Medicaid services during this period, which is explained in the next section.

METHODOLOGY

This research study consisted of 23 counties in South Carolina, which had a total population of more than 1000 Hispanic residents according to the Census 2000 data. These 23 counties were grouped into four regions: **Piedmont**: Anderson, Cherokee, Greenville, Laurens, Oconee, Spartanburg, Pickens, and York; **Midland**: Aiken, Greenwood, Lexington, Newberry, Orangeburg, Richland, and Saluda; **Pee-Dee**: Florence, Horry, and Sumter; and **Coastal**: Beaufort, Berkeley, Charleston, Dorchester, and Jasper. Secondary data source on the total Hispanic population and the number of Hispanic people within age of 12-65 years in each county, who participated in Medicaid program during the period of four years from 2000 to 2003, was made available through the Office of Research and Statistics of South Carolina State (Office of Research and Statistics, 2005). New standard scales were generated from the raw data by developing the application systems to perform further analysis (Borland Software Corp 2006; SAS Institute Inc 2007).

Several statistical tests were performed on four regions in the study to evaluate the annual growth of the Medicaid services for Hispanics over the period of four years from 2000 to 2003. Nonparametric tests (alternative to the parametric tests) were used because the sample sizes of the regional groups were small. Besides, nonparametric tests are most appropriate when the sample sizes are small, and make no assumptions about the distribution of the data. Statistical analysis was performed using Friedman and Wilcoxon Signed Ranks tests on the data (SPSS Inc 2003).

The Friedman test was performed on each of four regions with dependent variable as a percentage of Hispanics receiving Medicaid services measured across four years of the period 2000-2003. The statistic for the Friedman's test is a Chi-square with $a-1$ degrees of freedom, where " a " is the number of repeated measures. Wilcoxon Signed Rank test was performed as a post-hoc test to test if the percentages of Hispanics who received Medicaid services in any two years of the period 2000-2003 were significantly different. When the p-value for this test is small (usually <0.05 for 5% level of significance), the results are significant (Levin, 1987; Weiss, 1997).

RESULTS AND DISCUSSION

The Friedman test was used to perform repeated measures analysis on the percentages of the Hispanics within age of 12-65 years, who received Medicaid services during the period of four years from 2000 to 2003. This test was performed for each of the four regions in the study, and the results were found significant for three regions at 5 percent level, which are provided in Table (1). So, the distribution of the percentages of the Hispanics within age of 12-65 years receiving Medicaid services was significantly different for three regions, Piedmont, Midland, and Coastal, over the period of four years from 2000 to 2003.

Table 1: Statistics on Distribution of the Hispanic Participants in Medicaid Program across Repeated Measures over a Period of Four Years (2000-2003)

Region	N	Chi-Square	Df	P
Piedmont	8	24.0	3	.000*
Midland	7	18.771	3	.000*
Pee-Dee	3	7.0	3	.072
Coastal	5	12.840	3	.005*

* 5% level of significance (p)

Further post hoc testing was done on these three regions to test which years significantly differed from each other regarding the Hispanic participation in the Medicaid program, and the Wilcoxon-Sign test was used on these three regions. Consequently, the percentage of the Hispanics within age of 12-65 years who received Medicaid services in each year was compared with such percentages in its previous years for the period of 2000-2003, thus resulting into six paired comparisons for each region. Tables (2-4) show the results of the Wilcoxon test for the Medicaid program for three regions (Piedmont, Midland, and Coastal) for the period of 2000 - 2003. The value of “p” indicates whether the result was significant or not when the results were tested at 5 percent level of significance. Whereas the value of positive ranks indicates the number of counties with an increase in Hispanic participation in the Medicaid program, the value of negative ranks indicates decrease in participation, and the value of ties indicates number of counties with no change in participation.

Table (2) presents the results for the Piedmont region showing the significant difference in percentages of Hispanics (within age of 12-65 years) who received Medicaid services in years 2001, 2002, and 2003 compared to year 2000. Positive ranks for all counties in these comparisons indicate that all counties had increase in the Hispanic participation in the Medicaid program in years ahead of 2000 during the period of 2000-2003. Percentages of the Hispanic participants in years 2002 and 2003 were also significantly different from the percentage of the Hispanic participants in year 2001, and all counties in this region showed increase in participation in years 2002 and 2003 over 2001. In addition, the Piedmont region showed a significant growth in Medicaid service for Hispanics in year 2003 compared to year 2002, and all counties in this region showed increase in participation in year 2003 compared to year 2002.

Table 2: Statistics on Comparison of the Hispanic Participation in Medicaid Program between Years for the Period of 2000-2003 in Piedmont Region

Pairs of Years	Test Statistics	Ranks			
Compared	Z	P	Negative	Positive	Ties
Year01 – Year00	-2.521(a)	.012*	0	8	0
Year02 – Year00	-2.521(a)	.012*	0	8	0
Year03 – Year00	-2.521(a)	.012*	0	8	0
Year02 -Year01	-2.521(a)	.012*	0	8	0
Year03 -Year01	-2.521(a)	.012*	0	8	0
Year03 -Year02	-2.521 (a)	.012*	0	8	0

a Based on negative ranks

* 5% level of significance

From the results on the Midland region provided in Table (3), one can notice that the Midland regional group showed the significant difference in percentages of Hispanics within age of 12-65 years, who received Medicaid services, in years 2001, 2002, and 2003 compared to year 2000. The positives ranks for all counties except one indicate that those counties showed annual growth in Medicaid services for Hispanic for these years compared to year 2000. Furthermore, percentages of Hispanics who received *Medicaid* services in years 2002 and 2003 were significantly different from such percentage in year 2001. All counties in Midland region showed growth in participation for year 2003 over 2001 while all counties except one showed growth in participation for year 2002 over 2001. Furthermore, Midland region showed a significant increase in year 2003 compared to year 2002, with all counties (having positive ranks) showing increase in the Hispanic participation in the Medicaid program in year 2003 compared to year 2002.

Table 3: Statistics on Comparison of the Hispanic Participation in Medicaid Program between Years for the Period of 2000-2003 in Midland Region

Pairs of Years	Test Statistics	Ranks			
Compared	Z	P	Negative	Positive	Ties
Year01 – Year00	-2.197(a)	.028*	1	6	0
Year02 – Year00	-2.366(a)	.018*	0	7	0
Year03 – Year00	-2.366(a)	.018*	0	7	0
Year02 -Year01	-2.028(a)	.043*	1	6	0
Year03 -Year01	-2.366(a)	.018*	0	7	0
Year03 -Year02	-2.366(a)	.018*	0	7	0

a Based on negative ranks

* 5% level of significance

Results for the Coastal region in Table (4) indicate a significant growth of Medicaid services for Hispanics in the Coastal region for years 2001, 2002 and 2003 when compared with year 2000, and positive ranks for all five counties showed a growth in Hispanic participation in Medicaid program in these paired comparisons. The percentage of Hispanics who used Medicaid services in year 2003 was also significantly different from such percentage in year 2001, and all counties showed an increase in participation of Hispanics in year 2003 compared to 2001. However, year 2002 did not show a significant growth compared to year 2001, and same pattern was repeated in year 2003 compared to year 2002.

Table 4: Statistics on Comparison of the Hispanic Participation in Medicaid Program between Years for the Period of 2000-2003 in Coastal Region

Pairs of Years	Test Statistics	Ranks			
Compared	Z	P	Negative	Positive	Ties
Year01 – Year00	-2.023 (a)	.043*	0	5	0
Year02 – Year00	-2.023 (a)	.043*	0	5	0
Year03 – Year00	-2.023 (a)	.043*	0	5	0
Year02 -Year01	-1.753 (a)	.080	1	4	0
Year03 -Year01	-2.023 (a)	.043*	0	5	0
Year03 -Year02	-1.753 (a)	.080	1	4	0

a Based on negative ranks

* 5% level of significance

CONCLUSIONS

Since the Hispanic population is the fastest growing minority in America and a large number of them are in need of Medicaid, the research was conducted on evaluating the annual growth of Medicaid services provided to Hispanics, between ages 12 and 65, from 23 selected counties in South Carolina, grouped into four distinct regions for the period of 2000-2003. Quantitative measures of the Medicaid services for each year were tested with such measures for its previous years. As a result, the Piedmont and Midland regions showed a significant increase in Medicaid services for Hispanics in all three years 2001, 2002, and 2003 compared to their previous years. The Coastal region also showed a significant growth in Medicaid services for Hispanics in all three years compared to year 2000, and in year 2003 compared to year 2001.

IMPACT

The results on the annual growth of Hispanic participation in the *Medicaid* program will be useful to the state agencies to evaluate the progress done every year with respect to its previous years regarding the *Medicaid* program over the period of 2000-2003 in order to take necessary steps to improve the Medicaid services for Hispanic communities in South Carolina. The research can be extended to check if the growth of Hispanic participants in Medicaid program was increased in proportion to the growth of Hispanic population. In addition, the research also assists 1890 Extension personnel to connect to the Hispanic communities in the selected counties of South Carolina through *Expanded Food and Nutrition Education Program (EFNEP)*.

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IDENTIFICATION, EVALUATION AND COMPARISON OF CRITICAL SUCCESS FACTORS FOR PROFITABILITY IN TWO ALASKAN SKILLED NURSING FACILITIES

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ABSTRACT

The Centers for Medicare and Medicaid Services (CMS) state that there are about 16,500 nursing homes certified to provide Medicare and/or Medicaid services in the United States, totaling approximately 1.8 million beds. This study investigated the critical success factors needed in order for a skilled nursing facility to be profitable by comparing the operating margins of two Alaskan skilled nursing facilities, Facility Alpha and Facility Bravo, and the factors that influence them. Thirteen independent variables were tested using multiple regression analysis to determine whether their effect on the operating margin was statistically significant at the 0.05 level and, if so, how much of the variation in operating margin could be attributed to that variable. A major finding of the study was that in a cost-based reimbursement system, such as in Alaska, it is extremely difficult for skilled nursing facilities to affect their operating margins as reducing costs simply reduces reimbursement.

INTRODUCTION

With health care spending growing to 16% of the gross domestic product in 2004, the United States spent \$1.9 trillion on health care, or \$6,280 per person (National health expenditure data, n.d.). Since 6% of those health dollars were spent on nursing homes, long-term care spending represents a significant expense to the American taxpayer (Nation's health dollar, n.d.). Graber and Ward (1999) state, "Nursing facilities are clearly a significant component of long-term care in the United States. Not only do many elderly depend on them, but the financial resources devoted to them also prove their significance to the overall system" (p. 347).

Somers (1987) defines long-term care as "the provision of diagnostic, preventive, therapeutic, and supportive services to patients of all ages with a severe chronic disease or disability involving substantial functional impairment" (p. 23). Richardson (1995) states that "long-term care is a range of health, personal care, social and housing services provided to people who have lost or have never developed the capacity to care for themselves independently as a result of chronic illness or mental or physical disability" (p. 194). In the vast spectrum of long-term care, with facilities such as nursing homes, skilled and intermediate care facilities, assisted living homes, adult foster care homes and homes for the aged, it is nursing homes that are usually the key supplier of long-term care services (Graber & Ward, 1999).

Currently the Centers for Medicare and Medicaid Services defines a skilled nursing facility as "a facility (which meets specific regulatory certification requirements) which primarily provides inpatient skilled nursing care and related services to patients who require medical, nursing, or rehabilitative services but does not provide the level of care or treatment available in a hospital" (Glossary entry listing, n.d.). This important distinction is noted by Raffel (1980), who writes that the definitions for "home for the aged" and "nursing home" were no longer synonymous, and if any home wanted to be paid by Medicare or Medicaid for care provided to eligible patients it had to meet certain standards.

Purpose of the Study

The purpose of this study is to describe what critical success factors might influence the profitability of two skilled nursing facilities in Alaska, one with a positive operating margin and one with a negative operating margin. The facilities in the study are owned and operated by the same not-for-profit-organization, located in the same city, and subject to the same market base. Facility Alpha had a 98% occupancy rate in 2005; had a zero deficiency state survey, indicating high quality of care; and has mostly private rooms, which helps to make it the facility of choice in the area; however, it consistently has a negative operating margin. Facility Bravo had a 92% occupancy rate in 2005, 10 deficiencies on its state survey, and has all semi-private rooms, which means that residents have a roommate. In spite of these shortcomings, Facility Bravo had a positive operating margin for 2005. Because they

are owned by the same organization, both facilities are subject to the same corporate-level policies and leadership, yet one consistently makes money and the other does not. Is the difference in their operating margins statistically significant?

Investigative questions:

Which independent variable has the most significant impact on the dependent variable, operating margin?

What are the key factors influencing each of the independent variables?

How might each independent variable be favorably influenced in terms of operating margin?

Critical Success Factors

Rockart (1979) states, "critical success factors thus are, for any business, the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organization. They are the few key areas where 'things must go right' for the business to flourish" (p. 85). However, almost 20 years before Rockart wrote about "critical success factors" (CSF), Daniel (1961) spoke of success factors in regard to a company's information system. He stated that there are usually three to

Daniel's work focused mostly on the information flow and the management of that information to executives. Rockart (1979) expanded on this work, noting that critical success factors are areas that should receive constant and careful attention from management, that they should be continually measured, and that the information gleaned should be shared. He states that critical success factors should support the organizational goals of the company. Boynton and Zmud (1984) define critical success factors as "those few things that must go well to ensure success for a manager or an organization, and, therefore, they represent those managerial or enterprise areas that must be given special and continual attention to bring about high performance. CSFs include issues vital to an organization's current operating activities and to its future success" (p. 17). In the case of this study the critical success factors are going to be those variables that are vital to ensuring the financial success of the nursing homes. They will be the variables that must be continually monitored and measured to ensure that the nursing home has a positive operating margin at the end of the month.

While Rockart (1979) originally intended for critical success factors to be used as a planning tool, they have developed into a versatile management tool that can be used in an organization's strategic planning process (Friesen & Johnson, 1995). As stated by Friesen and Johnson, critical success factors help key decision-makers focus on areas that need attention by identifying strengths, weaknesses, opportunities and threats (SWOT). This involves a specific six-step method beginning with understanding the mission of the organization.

Boynton and Zmud (1984) state, "the CSF methodology is a procedure that attempts to make explicit those few key areas that dictate managerial or organizational success" (p. 17). However, each industry and different companies within the same industry may have their own critical factors that lead to success. Friesen and Johnson (1995) state that it is important to remember that CSFs can and do differ for different industries. The airline industry is an excellent example. There is not much difference in the products offered between the airlines, and therefore people will go where they can get the best deal making pricing a critical success factor. However, there are other industries such as restaurants or hotels where consumers are willing to pay more for quality. Therefore, these industries have a completely different set of critical success factors, and making them profitable requires paying attention to different variables.

METHODOLOGY

This study used a Mann Whitney U test to determine whether a significant difference exists between the operating margins of two Alaskan skilled nursing facilities. A multiple regression analysis was then used to measure the effect of various independent variables on the dependent variable, operating margin, of the two skilled nursing facilities in order to answer the investigative questions noted in the introduction.

DESIGN

This study was explanatory in nature, as defined by Shi (1997), in that the primary focus will be to determine the causal effect of the independent variables on the dependent variable and examine the relationships among them. Initially each independent variable was examined individually to determine its effect on the dependent variable. The independent variables were then combined to examine the influence of multiple independent variables on the dependent variable. The study design was a secondary analysis, as the data being used had already been collected by the organizations in the form of profit and loss statements, balance sheets, statements of operations, and statements of cash flow.

SAMPLE

The sample included the financial data of two skilled nursing facilities in Anchorage, Alaska, for 2003, 2004, and 2005. The data will be collected using the monthly income statements, detailed statements of operations, performance metrics, balance sheets, and statements of cash flow.

PROCEDURE

The procedure for collecting the data included obtaining the financial reports for the previous three years of operation, 2003, 2004, and 2005. The financial reports collected include detailed statements of operations, performance metrics, balance sheets, statements of cash flow, and income statements from both facilities. The monthly operating margins from each facility were then analyzed using the Mann Whitney U test to determine whether or not there was a significant difference between them. After determining whether a significant difference existed between the facilities, the data was entered into the previously described formulas to determine the influence of each independent variable on the dependent variable, operating margin. An assessment of each variable was accomplished using a simple linear regression analysis to determine the influence, if any, of each independent variable on the dependent variable. The data was then further analyzed using multiple regression to determine the influence.

The results show that there is a statistically significant difference in the operating margins of Facility Alpha and Facility Bravo. The median operating margin for Facility Alpha is -7.050% over the three calendar-year period of 2003, 2004 and 2005, while the median operating margin for Facility Bravo is 4.930% over the same three-year period. Because the p-value is below the required level of 0.05 these results are statistically significant at 0.0254.

Regression analysis was used to determine the effect of different independent variables on the profitability of the two skilled nursing facilities in Anchorage based on differences in the operating margins.

Table 2: Regression Results for Determinants of Nursing Home Profitability Facility Alpha

Independent Variables	R-Squared	P-Value
Average Length of Stay	0.030	0.312
Average Wage of Ancillary Emps	0.151	0.019*
Average Wage of Management Emps	0.032	0.297
Average Wage of Nursing Emps	0.146	0.021*
Average Wage of Therapy Emps	0.067	0.126
Charity Days	0.034	0.280
Days in A.R.	0.014	0.496
Fixed Costs	0.081	0.093
Medicaid Days	0.012	0.533
Medicare Days	0.028	0.333
Occupancy Rate	0.061	0.148
Staffing Ratio	0.074	0.110
Turnover Rate	0.012	0.518

* indicates statistical significance at the 0.05 level

Table 1 shows the regression results for the determinants of nursing home profitability for Facility Alpha. The R-squared value noted in the table demonstrates the amount of variation in the dependent variable, operating margin, which is explained by the corresponding independent variable. The p-value indicates whether the association between the independent and dependent variable is statistically significant. Table 2 illustrates that there are two independent variables for Facility Alpha that affect the dependent variable at a statistically significant level. They are average wage of ancillary employees at 0.019 and average wage of nursing employees at 0.021.

Table 2: Regression Results for Determinants of Nursing Home Profitability Facility Bravo

Independent Variable	R-Squared	P-value
Average Length of Stay	0.074	0.108
Average Wage of Employees	0.037	0.260
Average Wage of Management Emps	0.359	0.000*
Average Wage of Nursing Emps	0.488	0.000
Average Wage of Therapy Emps	0.088	0.079
Charity Days	0.233	0.003*
Days in A.R.	0.131	0.030*
Fixed Costs	0.236	0.003*
Medicaid Days	0.034	0.281
Medicare Days	0.020	0.415
Occupancy Rate	0.006	0.658
Staffing Ratio	0.018	0.436
Turnover Rate	0.029	0.325

Table 2 shows the regression results for the determinants of nursing home profitability for Facility Bravo. Table 2 illustrates that there are five independent variables for Facility Bravo that affect the dependent variable at a statistically significant level. They are average wage of nursing employees at 0.000, fixed costs at 0.003, average wage of management employees at 0.000, number of charity days at 0.003 and number of days in accounts receivable at 0.030. These variables are all statistically significant below the required level of 0.05.

CONCLUSIONS AND RECOMMENDATIONS

One major conclusion that can be drawn from this study is that in a cost-based reimbursement system it is difficult to affect the operating margin of skilled nursing facilities, negatively or positively, as there is no incentive to reduce costs or operate more efficiently. If a facility operating in a cost-based system reduces expenses in order to help boost the operating margin, and the Medicaid reimbursement rate is reduced to reflect the reduction in costs, the operating margin is not affected. Likewise, if a facility increases costs and there is an increase in the Medicaid rate, again, the operating margin is not affected. Consequently, when facilities in a Medicaid cost-based system find themselves with a consistently negative operating margin, they must find ways other than reducing expenses to reverse that trend. One way to do that is to increase revenue from other payer sources such as Medicare, private insurance, or residents with adequate financial resources to pay cash for services. Two variables, average wage of ancillary employees and ancillary wage of nursing employees, had a statistically significant impact on the operating margin of Facility Alpha. There were also five variables that had a statistically significant impact on the operating margin for Facility Bravo: fixed costs, average wage of management employees, average wage of nursing employees, number of charity days, and days in accounts receivable. The first variable that significantly affected the operating margin at Facility Bravo was fixed costs. Key factors influencing fixed costs were rent or lease of the building; depreciation of the building; and major equipment and region allocation of costs from corporate expenses, such as information technology, human resources, and corporate operations. This variable may be favorably influenced by renegotiating the costs of the lease or reducing regional allocation of costs; however, this is an expense that is included in the cost report submitted to Medicaid, and, therefore, a reduction of fixed costs will eventually reduce the facility's Medicaid reimbursement rate.

Additionally, there were two other variables that were statistically significant in influencing the operating margin of Facility Bravo that were not statistically significant for Facility Alpha. One variable was the number of days of charity care provided to residents. The regression analysis indicates that there is a very slight positive

correlation between charity days and operating margin; however it unreasonable to believe that increasing the amount of care that is given but not paid for will improve operating margin. Obviously, decreasing the amount of unpaid services will improve the operating margin. This variable is especially important because it is not one that will affect the Medicaid reimbursement rate. In other words, the cost of providing charity care to long-term care residents is not included in the Medicaid rate as a reportable cost, and, therefore, reducing it will not have a negative effect on the Medicaid reimbursement. Facility Bravo could reduce this cost without sacrificing Medicaid reimbursement. The major factor influencing this variable is the number of residents who do not pay their bill. This can be influenced by better communication at the time of admission. It is imperative that new residents and family members have a clear understanding of the Medicare and Medicaid benefits available to them and their responsibilities to apply for such benefits. This is important because charity care is often a result of residents or families not taking advantage of such programs and then not having the ability to pay for their care privately. It is also important that the admissions coordinator or other designee assist in this process, as it can be cumbersome for residents who are unfamiliar with Medicare and Medicaid regulations.

Another variable that had a significant effect on the operating margin for Facility Bravo was the number of days in accounts receivable. Although days in accounts receivable was not found to be statistically significant for Facility Alpha, due to the fact that this variable is a measure of the number of days that it takes the facility to collect money, it is reasonable to believe that reducing that number would lead to an increase in operating margin. In addition, this is not a variable that affects the Medicaid reimbursement rate, so reducing the number of days it takes the organization to receive reimbursement for services would not result in a reduction of the Medicaid rate for either facility. The key factor influencing this variable is the collection process. This can also be improved through better communication with residents and families during the admission process. By managing this process early, both the resident or family members and the facility can make informed decisions about how best to manage the financial aspect of the resident's stay. Furthermore, renegotiating contracts with third party payers and reducing the amount of time that it may take them to reimburse the facility for services rendered will improve this variable.

The average wage of nursing employees was statistically significant for each facility as well as average wage of ancillary employees for Facility Alpha and average wage of management employees for Facility Bravo. Average wage of therapy employees was not significant for either facility. Factors contributing to these independent variables are starting pay, annual raises, and overtime; however, it is counterintuitive to conclude that increasing the average wage of any employees will lead to an increase in operating margin. Therefore, further research must be conducted to determine what is causing this positive correlation as it could be related to other variables such as increased quality of care or more thorough medical charting, which then could lead to increased revenue.

There were no independent variables except for the ones that were related to wages, that significantly affected the operating margin for Facility Alpha at the 0.05 level. This could be because Facility Alpha has less than half of the beds of Facility Bravo and that, therefore, slight decreases in variables such as fixed costs, charity days, and days in accounts receivable, which were significant for Facility Bravo, did not affect the operating margin of Facility Alpha enough to make a significant improvement.

RECOMMENDATIONS OF THE STUDY

Recommendations for further research include a study using a long-term care facility's revenue stream instead of days billed as the independent variable by researching how the amount of Medicare, Medicaid, and private revenue affects the operating margin as opposed to the number of days billed to each payer source. For the most part, private revenue will not vary from resident to resident, but will vary depending on the number of residents currently living in the facility that are paying privately. This is also true for Medicaid revenue. The amount of money received by the facility for each resident will not vary, but the overall revenue will vary depending on the number of residents who are using their Medicaid benefits. However, the revenue received from Medicare residents may vary greatly depending on the acuity of the resident's condition and the corresponding RUG rate. Additionally, the number of days a resident qualifies to use his or her Medicare benefit will significantly affect the amount of revenue a skilled nursing facility receives.

Another possible study could research facilities that are not part of cost-based Medicaid reimbursement systems. This research would determine whether such variables as staffing ratios or occupancy rates have a statistically significant effect on the operating margin from month to month under a different system of payment. Additionally, this study could include quality measures to determine how interventions such as reducing staffing ratios affect the overall quality of care given at facilities by correlating these variables to quality measures reported

by long-term care facilities on the Minimum Data Set assessment, the tool used to determine the specific care needs of each resident.

In any case, there is an imperative to address the growing costs of caring for our elderly and disabled. As the population ages and grows larger and as resources dwindle, creative ways to lower expenses without sacrificing quality will be needed. However, it is important that this solution not come at the expense of the industry providing care to this fragile population and that skilled nursing facilities remain a financially viable option to those willing to provide the services. Further research needs to be undertaken to find the most effective ways to care for our elderly population without taxing an already strained health care profession and further depleting our national treasury.

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AN ECONOMIC EVALUATION OF THE PATIENT'S DECISION-MAKING PROCESS

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ABSTRACT

Much research has been done in the area of health insurance and how it impacts the utilization of medical care. While health insurance plays an important part in each individual's decision not only to utilize medical care, but also the amount of medical care the patient obtains, it is also significant to evaluate whether, and to what extent, other factors influence the patient's decision-making process. Thus, this paper attempts to provide a more complete picture of the patient's decision-making process and factors that influence the patient's decisions regarding the level of medical care he obtains. In determining the importance of health insurance and other factors, such as physician office hours and appointment delays, I make use of the 2002 Behavioral Risk Factor Surveillance System data set.

INTRODUCTION

The cost of healthcare is receiving much attention these days, not only in terms of academic research, but also in terms of the media and public opinion. Healthcare cost is an important issue which is preventing many who need healthcare services from obtaining them. In the next section of this paper, we will examine several landmark papers studying the impact of health insurance and cost-sharing on medical care utilization. We will then take a look at how appointment delays and language could also play a part in utilization. Using the 2002 Behavioral Risk Factor Surveillance System (BRFSS), this paper aims to illustrate that in addition to health insurance there are many factors that prevent patients from utilizing medical care when needed, thus providing a more complete picture of the patient's decision-making process. Evaluating these factors may entail some critical policy implications, which will be discussed along with future research ideas toward the end of the paper.

LITERATURE SURVEY AND THEORETICAL MOTIVATION

In the 1970s, the federal government initiated the Rand Health Insurance Experiment (HIE) aiming to decrease uncertainty about how demand responds to changes in price brought about by health insurance, and how these changes are publicly and privately quantified. Researchers randomly assigned participating families to different fee-for-service insurance plans or a prepaid group practice. The fee-for-service insurance plans varied in coinsurance rates (0, 5, 50, or 95 percent) and upper limits on annual out-of-pocket expenses (5, 10, or 15 percent of family income). The participants' consumption of medical services was recorded for three to five years.

Manning et al. (1987) focus primarily on how the use of medical services is affected by health plans, site, health status, sociodemographic and economic variables. They estimate two types of models; a simple means (ANOVA) and a four-equation model detailed in Duan et al. (1983).

In terms of utilization of medical services, Manning et al. find that increased cost-sharing, reduces the likelihood of any use of medical services, however once the service is used the quantity does not vary much with differences in insurance coverage.

In another study, Dor and Encinosa (2004) investigate the effects of cost-sharing on prescription compliance. They define compliance as "the adherence to refilling of prescriptions of preventive care drugs without interruption." The authors distinguish between fixed copayments and variable coinsurance, and find that patient compliance is lower under coinsurance due to uncertainty in cost sharing.

Dor and Encinosa state that the patient will comply and fill his prescription only if his expected utility from compliance is larger than his expected reservation utility of not complying. The authors use claims data from nine large firms to estimate how an increase in coinsurance from 20% to 75% effects compliance among diabetes patients. They sort individuals into three categories of non-compliers, partially compliant individuals, and fully compliant individuals, and estimate compliance among these three groups as an ordered logit model, with outcomes ranked 0, 1, and 2 respectively. They also run simulations to demonstrate the effect of increases in copayments and coinsurance rates on the distribution of compliance. They find that an increase in the coinsurance rate from 20% to 75% results in a 9.9% increase in non-compliant patients and a 24.6% decrease in the fully compliant patients. In the

copayment model, an increase from \$6 to \$10 (an increase from the 25th to 75th percentile) results in a 6.2% increase in non-compliant patients and a 9% decrease in the share of fully compliant patients.

Now, to shift gears a bit, we can take a look at non-monetary factors. Weech-Maldonado et al. (2003) examine the impact of race/ethnicity and language on consumer reports and ratings of care in Medicaid managed care. With the ever increasing racial and ethnic minority groups, it is becoming increasingly important to pay close attention to the racial/ethnic disparities in access to care and health status.

The authors use the National Consumer Assessment of Health Plans Study (CAHPS®) Benchmarking Database 3.0 Adult Medicaid Surveys, which consists of survey responses from 49,327 adults in 156 Medicaid managed care plans in 2000. The surveys were administered in both Spanish and English; the response rate was 38%.

Weech-Maldonado et al. use an ordinary least squares approach and find that in general, racial/ethnic and linguistic minorities had more negative experiences with care than white-English speakers. Asian-other have worse reports of care in terms of getting needed care, getting care promptly, provider communication, and staff helpfulness; however, Asian-English speakers didn't differ greatly from white-English speakers in these categories. Hispanic-Spanish have more negative reports in terms of timeliness of care, provider communication, and staff helpfulness. Finally, white-other languages have worse experiences in terms of getting needed care, timeliness of care, and staff helpfulness. Based on their results, Weech-Maldonado et al. express the necessity of looking past financial barriers and focusing on resolving existing non-financial problems within the health care system.

Finally, Lourenço and Ferreira (2005) study the impact of time costs on the number of visits to the general practitioners (GPs) in Portuguese health centers. They consider two different time costs: physical waiting and appointment delay. Physical waiting refers to the total time the patient spends in seeing the physician – travel time and time spent in the physician's office – and appointment delay refers to the time spent waiting for an appointment (e.g. time spent in a waiting list), which is common in health systems, such as that of Portugal, that provide free care at the point of delivery.

The Portuguese health system is financed by public and private sources: 1) the National Health Service (NHS), which finances the majority of medical care, 2) public and private occupational health insurance coverage, which covers 20-25% of the population who are mostly individuals considered to be "better-off" and 3) voluntary health insurance. Visits to private GPs require full payment of the visit for individuals who do not have voluntary or occupational health insurance. On the other hand, visits to public GPs have low monetary costs; however, patients must be registered with a GP in their geographical area and should have a visit to their GP for referrals to specialists. There is, however, an uneven distribution of medical resources across Portugal, leaving individuals in poorer and isolated geographic areas with limited access to health care and private alternatives.

The authors use data from the 2003/2004 Europep Survey, which is representative of public health center users. They use a two-component negative binomial II finite mixture model specification for two identified categories of users: low users who comprise 88% of the population, with an average of 4.3 visits to the GP annually, and frequent users, with an average of 11.2 visits. Among their results, Lourenço and Ferreira find that less education is a factor that increases the utilization of health centers for both groups of users, and the elasticity of utilization relative to appointment delay is negative and large in both classes.

Based on this brief survey of existing literature, one can understand the importance of cost-sharing and appointment delays on healthcare utilization. It is also apparent that language weighs in on individuals' perceptions of their healthcare. It would be reasonable to assume that one's perception of the quality of healthcare that he is receiving impacts his decision to seek care, making language an important factor in utilization as well. This survey leads to the importance of considering that when an individual is making the decision to seek treatment there are numerous factors that come into play. As we will see in the data analysis section, nearly 6% of the 2002 BRFSS respondents were unable to get care when it was needed, and of this 6%, only half were due to cost issues. Thus, this paper contributes to existing literature by providing a broad look at factors that enter the patient's decision-making process and influence access to care.

DATA AND ANALYSIS

This paper makes use of the 2002 Behavioral Risk Factor Surveillance System, the largest telephone health survey in the world, which is conducted monthly each year by state health departments with assistance from the Centers for Disease Control and Prevention (CDC) using random digit dialing. This cross-sectional survey interviews one non-institutionalized civilian adult per household to determine the distribution of risk behaviors and healthcare access primarily related to chronic diseases and injury.

The BRFSS questionnaire consists of core questions and optional modules. All states must ask the core questions which include fixed questions that are asked every year, rotating questions that are asked every other year, and emerging questions that typically focus on “late-breaking” health issues. The optional modules cover additional health topics or are more detailed questions on a health topic in the core. Each year states choose the optional modules they will use based on their state’s data needs.

The 2002 BRFSS consists of 247,694 respondents of which 14,477 individuals had responded to the variables of interest (Table 1). The sample has been restricted to the adult population, aged 18 years and older.

Table 1: The Sample

Description	Individuals
2002 BRFSS Respondents	247,964
Respondents to Variables of Interest	14,477

Tables 2 and 3 provide the summary statistics of the sample of adult individuals in the analysis.

Table 2: Summary Statistics – Average Age and Household Members

Variable	Mean	SD	Min	Max
Age	43.84	16	18	98
Household Members	2.72	1.58	1	15

Table 3: Summary Statistics - Additional Demographics

Variable	Frequency	Percentage
Race		
White	9,743	67.30
Black or African American	1,653	11.42
Hispanic	1,601	11.06
Other	1,292	8.92
Gender		
Female	10,061	69.50
Education		
Less than high school degree	2,779	19.20
High school graduate	4,724	32.63
More than high school degree	6,936	47.91
Annual income		
Less than \$15,000	3,612	24.95
\$15,000 - \$35,000	5,444	37.61
Greater than \$35,000	3,577	24.71
Health insurance coverage		
Insured	8,489	58.64
Uninsured	5,948	41.09

Table 4 indicates that within the past 12 months of having been surveyed, nearly 6% of the 2002 BRFSS respondents were unable to get care when it was needed. Of this 6%, only half were due to cost issues. For detailed breakdowns of reasons that individuals were unable to access medical care see Table 5. Appointment delays make for 11.45% of cases in the sample and Conflict with office hours make for 5.54% of the sample.

Table 4 : Original 247,694 BRFSS Respondents’ Access to Medical Care in Past 12 Months

Variable	Frequency	Percentage
Individuals unable to access medical care when needed	14,587	5.94

Table 5: Sample Population's Reasons for Inability to Access Medical Care

Reason	Frequency	Percentage
Cost	8,030	55.47
Distance	233	1.61
Conflict with Office Hours	802	5.54
Too long a wait for an appointment	1,657	11.45
Too long a wait in waiting room	424	2.93
No child care	24	0.17
No transportation	353	2.44
No access for people with disabilities	52	0.36
Language	66	0.46
Other	2,676	18.48

CONCLUSION

Today much emphasis is placed on the cost of healthcare not only in terms of academic research, but also in terms of the media and public opinion. The cost of healthcare is an important issue which is preventing many who need healthcare services from obtaining them. This paper illustrated that there are other factors that also demand consideration. The paper found that patient decisions are not only influenced by the costs associated with obtaining healthcare, but also on time and convenience. Further, there are patients who have difficulty reaching their physician's office to receive the services they need. Perhaps it is time to also consider what needs to be done to prevent such non-monetary issues from becoming a reason why patients do cannot access the care they need. Further, it would be interesting to look at how appointment delays could be reduced, and how perhaps extending office hours could lead to increased utilization. There is much room for research in this area. The author is currently evaluating how different access-to-care variables influence health outcomes, and how such factors alter direct and indirect costs of health care.

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DECISION PROCESSES OF AWARD WINNING ENTREPRENEURS: A STUDY OF WOMEN ENTREPRENEURS IN THE UNITED STATES OF AMERICA AND AFRICA

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ABSTRACT

The important contribution of entrepreneurial ventures to a country's economy has been widely acknowledged. The literature on entrepreneurship is diverse creating unintentional distinct lines of scholarship, that in most cases remain separated, resulting in compartmentalization of the literature. This paper makes a modest but important contribution to entrepreneurship by showing that it is possible to develop unifying concepts of successful entrepreneurship. This study reports on the entrepreneurial decision processes of successful women entrepreneurs. In this exploratory study case studies of fast growing and award winning firms in the service sector in Africa and the United States of America were undertaken. One of the striking findings is that successful female entrepreneurs, are convinced of the possibility of running a successful venture, are passionate about the success of the venture and are highly determined to see the venture succeed, are confident of their managerial capability, and value service quality.

INTRODUCTION

In this period of globalization of world trade, an increasing role is being assigned to the private sector in many countries particularly developing countries (Richardson, et. al., 2004). Much attention has been focused on the potential contribution of entrepreneurial businesses to a country's economy and different nations have put in place various programs to promote entrepreneurial ventures. A question that arises is whether there can be a global approach to entrepreneurship. There have been repeated calls for research concerned with generating a better understanding of the entrepreneurial decision process and results of entrepreneurial initiatives.

The world economy is moving away from a world in which national economies were relatively self contained entities towards a more integrated and interdependent world economy (Hill, 2008). Globalization requires that decision makers and organizational culture view strategic opportunities as global not just domestic. The smaller entrepreneurial ventures face particularly severe competition (Richardson, et. al., 2004). The increased competition brought about by globalization demands that for a business to succeed decision makers develop a global culture. In a true global culture, entrepreneurial owners develop a global mindset for themselves and their ventures. Thinking globally permeates everything that happens in the firm and people believe that national boundaries are less relevant (Cullen and Parboteeah, 2008). Because of the critical role of the owner manager as the key decision maker, the characteristics of the entrepreneur can have a significant influence on the extent to which the firm develops a global culture and global competitiveness.

There are profound and enduring differences among countries (Hill, 2008). Despite world trends of integration of trade, countries still differ in political, economic and legal systems, and culture. In line with this argument it is expected that there are aspects of entrepreneurship in general, and entrepreneurship behavior in particular, that are country specific. Rutashobya (1999) proposes a conceptual framework for African entrepreneurship arguing that knowledge on African entrepreneurship is still at a pragmatic stage, hence the need to intensify research efforts on the subject. The dilemma of Rutashobya (1999) proposition for African entrepreneurship is the difficulty of maintaining a balance between localization and universal competitiveness.

Not everyone will succeed as an entrepreneur, regardless of level of economic development and other contextual differences. This research investigates successful outcomes of women owned entrepreneurial ventures in Africa and the United States of America. By carrying out the research in different environments it will be possible to determine the entrepreneurship variables that transcend across boundaries. This exploratory paper identifies the major entrepreneurship variables associated with success and does not present a detailed discussion of the managerial practices, and is a limitation of this paper.

The importance of women entrepreneurs is interesting and inspirational. The rise of women entrepreneurs over the last few decades across countries with different infrastructures, resources and support for the inception and

continuance is remarkable (Smith-Hunter, 2006; Moore and Buttner, 1997. Across the globe women are starting businesses in record numbers in every field imaginable (Blaunchflower and Meyer, 1994).

Many studies have advocated the importance to continuous economic development of entrepreneurship in general and women's entrepreneurship in particular. Statistically there is no doubt that women entrepreneurs are holding a commanding presence on the national and international level (Haynes and Helms, 2000). On a global level, the data are just as impressive, with women entrepreneurs making significant contributions to their national economies (Smith-Hunter, 2006). The women business owners in this study are, in the purest sense, entrepreneurs. They were involved in the early development of their business. The purpose is to make a contribution to knowledge on entrepreneurship, entrepreneurial processes and results achieved with a view to proposing entrepreneurship programs that would produce globally competitive entrepreneurs.

Women Entrepreneurs In The United States

Information on women entrepreneurs in the US is relatively well documented and available through various organs (Smith-Hunter, 2006). According to Smith-Hunter (2006) the awareness of women entrepreneurs' vital contribution to the economy has led to a number of studies looking at the key element needed to promote and support women's entrepreneurial ventures, level of access to capital. The studies show that while women business owners' access to capital has improved over the years, a void still exists.

Other observations made by Smith-Hunter about Women Entrepreneurs in the US are that the women are clustered in the services and retail industries, the main reasons cited for opting for entrepreneurship include "push" and "pull" factors. The push factors include the glass ceiling, wage gap effects and lack of autonomy, (Buttner and Moore, 1997; Brush et. al., 2004). Pull factors cited are level of independence and the opportunity to earn more money and be involved in substantial decision making, (Buttner and Moore, 1997; Brush et. al., 2004; Brush and Hisrich, 1991). Although some effort has been made to address the issue, access to financial resources remains the main problem for women entrepreneurs in the US, (Smith-Hunter, 2006).

Women Entrepreneurs In Africa

In Africa, entrepreneurship has been heralded as a long overdue but critical component of women's advancement in the income earning sector and in the reduction of poverty. The few reports on African women entrepreneurs highlight the predicament of these entrepreneurs, (Smith-Hunter). In Africa failure of economic structures to provide viable sources of income for women often causes them to embrace the world of entrepreneurship, thus relying on their own initiatives to develop a business enterprise (Radhakishim, C. 2001).

As presented by Smith-Hunter (2006), a report sponsored by the United Nations Conference on Trade and development, published in 2001 highlighted the predicament of women entrepreneurs in Africa. The idea to start a business was generally their own, and the type of business to operate was generally an extension of their own home or work experience. The businesses surveyed were very small and, in general, the women often used their own personal savings and did not rely on any form of institutional support. The women entrepreneurs were not aware of the advantages of networking and rarely implemented networking practices.

Other reports of women entrepreneurs in Africa portray a similar picture. Richardson, et al.(2004) observe that it would seem the term women entrepreneurs in Africa is associated with informal and part-time operations, conjuring up a number of images that include: Women who: are poor, have few if any resources of their own and have problems accessing such resources from others; have low levels of formal education at best, but are more likely to be illiterate and have limited human capital; have limited or no experience of formal employment and business; have limited business related networks; and women who are not positively motivated towards business ownership. These profiles present a lumped and stereotypical perspective of African women entrepreneurs thereby skewing the picture of women as entrepreneurs and leading to only partial insights into how women start-up and develop their businesses as well as the type and scale of businesses that they run (Richardson, et al., 2004).

The problems faced by women entrepreneurs in Africa as identified by studies include limited access to financial capital, land, production inputs, adequate business premises, helpful information on business opportunities and training for enterprise. The women had low education and low skills levels. Strong barriers to women's entrepreneurship development were found in socio-cultural factors that in some countries placed women in a subservient position to men (Takyi-Asiedu, 1993, de Groot, 2001). Lack of confidence and absence of role models and the public's poor image of a woman entrepreneur were also described as problems. Although participation in

Government and other entrepreneurship development schemes existed it was judged to be insufficient (Radhakishim, 2001).

THE ENTREPRENEURIAL DECISION MAKING PROCESS

Kristiansen (1996) identifies three stages in the entrepreneurial process namely: strengthening of attitudes, striving for start-up, and navigating through obstacles to success. This model describes business entrepreneurship as a creative process, where the development of attitudes, mobilizing energy and resources for success and building competence for success are critical elements. These elements are grounded in entrepreneurship theory.

A generally accepted basis for entrepreneurial endeavor is a set of attitudes and spiritual strength described in the contributions by McClelland (1961). Need for achievement is, according to McClelland, a psychological quality, differing among individuals and cultures, and is the core of the entrepreneurial spirit. Proponents of McClelland theory believe that parents and policy makers can promote entrepreneurship and economic growth through raising an achievement oriented ideology. Parents are encouraged to set high standards for their children and governments are encouraged to increase the rights of women both legally and socially, in order to weaken the effect of paternal authoritarianism on achievement motivation. Not everyone has the entrepreneurial disposition, yet entrepreneurship and the entrepreneurial decision have resulted in millions of new businesses being started throughout the world. These ventures are formed despite economic, social and other challenges. Hisrich and Peters (1998), argue that each entrepreneurial venture is formed through a very personal effort that entails a movement from a present lifestyle to forming a new enterprise.

Based on one's motivation the potential entrepreneur strives to establish an innovative combination of knowledge and information, capital and technology, labor and skills, and markets and demands for change. This stage involves identifying possible venture opportunities and creating the business venture. Gartner (1988) defines entrepreneurship as the creation of new ventures and entrepreneurs as the creators of new ventures. After founding the firm the entrepreneur has to maneuver his/her enterprise in the challenges of good management and obstacles in the macro and competitive business environment. Gartner (1985) proposes in his model of venture creation that entrepreneurs succeed because of the resources that they possess and acquire and the strategies that they employ.

It further proposes that entrepreneurship takes place in a context, a remote environment and a competitive environment. Applying this model to case studies of successful women owned businesses will determine the characteristics and competences of entrepreneurs that make them stand out among other players. The intention is to provide an inspiration for ambitious entrepreneurs and a guide for entrepreneur development organizations.

RESEARCH METHODOLOGY

The study utilized a case study method which according to Yin (1994) is a better strategy to use when the study seeks to answer, "when", "how", and "why" questions, and when the researcher has little control over events, and when the focus is on a contemporary phenomenon within some real life context. Arguing for the use of the qualitative approach in investigating female entrepreneurs Carter and Rosa (1998), claim that the entrepreneurial activity of women cannot be separated from other aspects of their lives and it therefore follows that research should be based on a qualitative approach that enables the researcher to ask probing questions thereby influencing the breadth and depth of the content of the interview. Since the focus of this research is on developing meaning and getting explanations and little literature exists on comparative analysis of award winning entrepreneurial ventures this study adopted a case study method.

The distinguishing and important issue is that award winning entrepreneurs be studied. Selection of the cases was guided by the fact that the unit of analysis had won an entrepreneurial award in the United States of America or in Africa. Winning the award is interpreted in this study to mean being outstanding among other players. The actual award is therefore not material for the investigation. The study was mainly explorative and the researcher's intention was not to make a generalization. In studies of this nature sampling is theoretically driven, (Miles And Huberman, 1994).

Entrepreneurship decision making process theory guided formulation of the conceptual questions asked. To generate comparative data a template proposed for the nomination of women in business award by UNCTAD EMPRETEC was used to structure the data gathering process. This is a two part instrument that has firm profile and evaluative criteria. The profile is made up of firm facts like name, age, and address. The evaluation criteria is a five

point item addressing entrepreneur motivation, business challenges faced, future of the business, leadership skills and firm performance.

The award winning entrepreneurs were interviewed using a series of pre-prepared questions to guide the interview. The questions were mainly open-ended. The interviews were recorded. Other relevant materials, such as company brochures, websites, and objective data such as number of employees and turnover, to triangulate findings were collected during the interviews. The overall data analysis procedure was pattern matching, (Yin, 1994).

FINDINGS AND DISCUSSION

In this section the research findings are presented and discussed under the following headings: case overview, characteristics of high-growth women entrepreneurs, and motivations of high-growth women entrepreneurs. As stated earlier, a detailed discussion of the women entrepreneurs' management practices and the challenges they have had to deal with is beyond the scope of this paper

The Cases

Two cases of award winning women entrepreneurs, one in Minnesota, in the United States of America, (US), and one in Zimbabwe, a country in Southern Africa, (Africa). Case A is of a woman entrepreneur operating a trucking business in the US. The entrepreneur has a background that she says destroyed her self esteem and made her very sensitive to situations that she perceived to have a negative influence on an individual's self esteem. Case A is particularly concerned if the people affected are women as she sees women as a vulnerable group. Her philosophy is to make a difference to women she works with and offers an opportunity to those with "bleak backgrounds" to succeed.

Case A assures women who, for example, are victims of sexual assault, have alcoholic and drug abuse backgrounds, that what happened in the past may be bad but "it doesn't matter", and offers them an opportunity to start again. Entrepreneur A says she is from a family of alcoholics (and had been alcoholic), and she believes this had affected her self-esteem and had led her to seek employment in the trucking industry, and to her marrying a trucker. She had been in a marriage where she had abused, making her sensitive to situations she perceived to be unfair.

Frustration with the lack of respect for employees by her employers made her leave formal employment to start her own business. Case A believes her spirituality has kept her going. She says she runs the business in a way different from what a man would do. She said she offers a safe and non-harassing work environment for women, pays well, respects her employees and believes in showing that transportation business is also a woman's world. Her current objective is to have a positive, safe and creative environment for team members. She aims at creating an environment where everyone gets emotional support and thrives.

"Members should feel great about being there", she said. She has observed that women feel guilty about having fun and believes in an environment that allows people to have fun. Entrepreneur A hires people who need that extra attention, victims of sexual assault, people of low esteem, and she assures them that "they are ok", in spite of their background. She is convinced that when people feel productive they can be productive. She is conscious of the importance of cultivating a spirit of forgiveness and engenders accountability. Case A rarely worries about money, she is concerned about the people. She said she used to be private about her life, and did not have much self-esteem until she started sharing. Case A had 14 years experience in the trucking business before starting her own business. Her experience as an employee in the trucking business included driving, clerical, sales and management. She acknowledges that her first husband had taught her a lot about trucking. She said she had used her experience, had read-up, and continues attending business management classes. Case A has an interest in psychology and has a personal goal to get a college degree in psychology, and hopes one day to achieve that.

Case A believes she has succeeded through hard work, and many hours. She values the experience she has gained as an entrepreneur and said she will continue to learn more about people and trucking. She said she recognizes that business is about serving people. "You can own a company and be friends with your team members. Being friends with your team members is not a bad thing, it is a good thing. Be proud of your team and you will secure a place in your industry for many years to come" were Case A words of advice. Case A was awarded the St Cloud Business and Professional Women Employer of the year (2006, and 1998). Other awards up to 2006 include: Minnesota Employer of the year, First place in Safety by the Minnesota Trucking Association, Health award from

Blue Cross/Blue Shield of Minnesota, and being named the Platinum Safety Winners by Great Western Casualty in 2006.

Case B is a female entrepreneur whose firm provides security services and money transfers for commercial and domestic properties and financial institutions. The firm was founded in December 1998 in the founder's cottage with 5 employees. Today the firm is described as being reflective of passion for quality, excellence and hard work. Case B worked as a bookkeeper and insurance sales representative before starting her own business. "I knew from the day I got my first job that I would eventually be on my own", said case B. She chose her type of business because she had seen an opportunity in security business. Her goal was to grow the business to be the largest security services provider in the country and have a significant presence in the region. Case B has won a number of awards which include Empretec Entrepreneur of the year, 2001, Empretec Entrepreneur of the decade (Services) 2003, Zimbabwe National Chamber of Commerce Business Woman of the Year (2005), and Zimbabwe Institute of Management Manager of the Year for the Small to Medium Enterprises (2005).

When asked about her success Case B said, "Vision, creativity, hard work, perseverance, professionalism and financial discipline. I also have had to learn. I knew nothing about security when I started but now I know a lot." She believes in continuous education. "Learn about accessing markets, and when you get a contract, go an extra mile to please the customer, network heavily, plan and keep records", Case B said. Case B said she has a passion for what she does and that "no detail is too small to sweat for, or too large to dream about".

Characteristics of high-growth entrepreneurs

Both entrepreneurs in the study deserved to be studied with a view to understanding entrepreneurial success. They had founded the ventures they were running. They had taken it upon themselves to achieve through their ventures. Both had displayed behaviors characteristic of high growth entrepreneurs. Entrepreneur A was determined to make a difference, and entrepreneur B had founded a venture which has been described as being reflective of passion for quality and excellence as well as hard work. Strong desire to see the venture succeed is an attribute shared by owners of successful entrepreneurial ventures, (Gundry and Welsh, 2001). This finding has policy implications for policy makers whose objective is to assist ventures that can make a significant contribution to a country's economy through job creation.

If the decision to start a business is made by the founder, it may be assumed that the decision to grow the business is made by the same person. Based on the definition of entrepreneurship, it is obvious that the individual, as a focus is the core of, and thus the very essence of what an entrepreneur is. With that focus in mind, a look at entrepreneurship requires a look at the individual as a critical focus of any research in this area, (Gartner 1985). Identifying entrepreneurs with a desire to grow is an important step in development programs. This is particularly so in the case of women entrepreneurs as some studies have shown that success for female entrepreneurs does not necessarily mean business growth (Brush, et. al., 2004; Moore and Buttner, 1997).

Consistent with Chandler and Hanks (1994) observation those entrepreneur characteristics include entrepreneur and managerial competences the case women entrepreneurs had learnt how to manage, through both experience and formal training. Both entrepreneurs believed they had the competence to run their firms and were prepared to continue learning. An integral part of the individualistic focus is to look at the definitions and dimensions of the term human capital. Human capital has been defined as the propensity of a person or group to perform behavior that is valued from an income earning perspective by an organization or society. The consensus among scholars is that human capital is critical to the formation and performance of entrepreneurial ventures. Brush, et. al. (2004) state that for women, there is a perception that women just do not have what it takes; they do not have the know-how, the body of knowledge, the skills, or the capabilities to lead a venture of substantial size.

As found in this study there are capable women who, have what it takes and believe in themselves. Case B has been described as an individual of visionary leadership and business acumen ship that has seen her receiving various business accolades and the company taking a pole position in service delivery in the manned security industry. These capable women entrepreneurs should be recognized and can act as role models in the development of female entrepreneurship across countries.

Motivations of high-growth women entrepreneurs

Frustration with the lack of respect for employees by her employer drove Case A into entrepreneurship. Faced with this frustration she knew she had to quit and said she had two options after quitting, going to college or starting

her own trucking business. She opted for entrepreneurship and continued with part time studies. She decided at the time of going into business that she would provide better than average customer service and “Champions of Customer Service” is the firm’s mission statement. Case B said she knew from an early stage in her life that she would be more comfortable on her own, and was always searching for opportunities. She went into business after identifying “a gap in the market” for a service oriented company. She established a solid business reputation based on personalized service.

The reasons why women have exited the mainstream labor market to enter the field of entrepreneurship have been explored by a number of researchers. Push factors such as insufficient family income, dissatisfaction with salaried jobs, difficulty in finding work, and the need for a flexible work schedule because of family responsibilities have all been identified as key exit reasons for women in the mainstream labor market (Orhan and Scott, 2001). Another prominent reason is the glass ceiling effect which has been defined as an invisible barrier preventing women from advancing into upper management positions in organizations (Moore and Buttner, 1994). The reasons for entrepreneurship found in this study add to the list, the need to be independent for no other reason other than just to be your own boss. Case B said she simply wanted run her own business, and not necessarily to meet family demands as usually proposed in studies carried out in the developed world. Case A was emphatic about wanting to make a difference.

The entrepreneurial decision process entails a movement. The case entrepreneurs made a conscious decision to go into business, they left organizational environments to go into business. The reasons given are not the same. This finding supports Moore and Buttner (1997) that women’s decisions to leave their prior organizations are a complex function of organizational influences and personal aspirations. Reasons that have been given for leaving organizational environments include self determination, autonomy and job freedom, and self-esteem, stifling bureaucracy effects. Entrepreneurs value self-esteem, freedom, a sense of accomplishment, and an exciting life. The challenge that entrepreneurship entails has been found to be an attractiveness of entrepreneurship. The respect and recognition of accomplishments that successful entrepreneurship brings is a cherished reward.

CONCLUSION

The study has shown that women entrepreneurs can aspire for business growth and commit themselves to achieving that objective. A generally accepted view is that one of the distinguishing features of women business owners is that they are not primarily ‘growth oriented’ (Cliff, 1998, Timms, 1997, Moore and Buttner, 1997). In developing countries as a result of unrelenting poverty and deteriorating economic conditions many women have ventured into various economic activities while at the same time continuing to perform their traditional household duties. At the same time, like in the developed world, some women in business in developing countries have also left organizational environments to start their own businesses. Some have established successful businesses. They have had to deal with the hurdles encountered by women entrepreneurs the world over.

Any assistance given to this group of women entrepreneurs should go beyond country specific concerns and welfarism and develop women entrepreneurs ready to grapple with globalization. Across the globe, women from different backgrounds have shown encouraging signs of entrepreneurial spirit. It is to be hoped that governments at all levels will work to provide an environment in which this spirit will prosper (Minniti and Arenius, 2003). Women can choose business as a way of moving from an undesirable situation. While for some women in developing countries, entrepreneurship may be a journey out of poverty and towards equality (Minniti and Arenius, 2003); there are some capable and high growth entrepreneurs that are pulled by business opportunities. Supporting high growth entrepreneurs requires universal understanding of entrepreneur decision processes. Business success depends on managerial competence.

RECOMMENDATIONS

Women entrepreneurship can make a significant contribution to economic development and job creation. From a public policy perspective promoting high growth entrepreneurial ventures should be an integral part of any government’s efforts to boost economic growth. In studying and assisting women in business in developing countries it is important to differentiate between those women who need income- generating, largely informal welfare-type project activities and those women entrepreneurs who have demonstrated potential to grow, and have gone through formal entrepreneurial decision processes leading to business establishment.

Whilst much research evidence suggests that African women entrepreneurs are driven by poverty and have little aspiration to grow their businesses it should be noted that there are exceptions. In Africa there are women entrepreneurs who share the universal success attributes of women entrepreneurs as women in developed countries. It is recommended that if assistance is going to be given it should be the type that helps women clear the hurdles they face in trying to grow their businesses. The assistance growth oriented women entrepreneurs the world over needs is assistance that helps enhance their ability to manage their businesses more competitively, improves their decision making processes, and improves women's access to resources that support business growth. A lot can be learnt from those women who have demonstrated ability to grow their businesses. Women entrepreneur assistance programs need to be examined to ensure that they are not assisting in widening the gap between women in developed and developing countries.

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COMMERCIAL MORTGAGE MARKET OF THE UNITED STATES: FINANCIAL INSTITUTIONS PARTICIPATION. DOES BANK SIZE MATTER? AN ANALYSIS OF COMPARATIVE LENDING

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ABSTRACT

This paper examines the United States commercial banks' commercial mortgage (Nonfarm nonresident) market and the comparative development of the market share of commercial banks with different assets categories during 1990-2004. This paper finds that commercial banks total real estate lending varied widely depending upon bank size. The ten largest banks held only 5.5 percent of their assets in total commercial real estate mortgages compared to 12.45 percent and 27.96 percent for the banks ranked 11-100 by assets and banks ranked 101-1000 by assets respectively. Similarly, there are significant differences in commercial mortgages among banks by assets size. ANOVA and *t-tests* suggest that large commercial banks with assets totaling more than \$1 billion issued far less commercial real estate loans in both volume and percentage than banks with assets of less than \$100 million. This data also includes banks with assets between \$100 million and \$1 billion.

INTRODUCTION

Commercial real estate lending (commercial mortgages) is an important factor in the United States real estate/total mortgages market. There has been phenomenal growth in the commercial real estate market. Commercial real estate lending has flourished since the 1980s. In 1986, the commercial and multifamily mortgage flow was \$112 billion. In 2005, total commercial mortgages (commercial real estate lending) was \$233.3 billion and 18 percent of the total mortgages \$1269.6 billion. They are second only to one-to-four family mortgages (home mortgages).

A study of commercial real estate financing and the character of institutional financiers are important for several reasons, including:

The mortgage market occupies an important position in the U.S. economy. Housing sectors alone contribute approximately 20 percent to the GDP¹.

The housing and commercial real estate market in past decades witnessed an unprecedented expansion. For example, homeownership rate increased from 64 percent in 1994 to 68 percent in 2003 (Liang and McLemore, 2004). At the center of the mortgage market boom the most important contributors are institutional financial investors—savings and life associations, commercial banks, and life insurances.

More recently, improved risk management tools, along with appealing income generation opportunities, have attracted institutional investors into private equity financing in commercial real estates. Institutional investing (financing) in real estate began with mortgages and directly property and then gradually moved into public securities (Conner and Liang, 2003). The institutional real estate financing (mortgage) industry has undergone profound changes since investors made their first commitment to equity financing nearly four decades ago, with the structure and composition of institutional investors in real estate (home) financing experiencing the most changes. Savings and loan associations (S&Ls), once were a dominant player in home mortgage market in the 1960s, but no longer continue to be a dominant player.

Commercial banks among institutional investors have become a significant source of financing real estate (home) mortgages. Within the sphere of real estate financing, the share of small vis-à-vis large commercial banks is not similar. The development of market shares is highly asymmetric and skewed. Large commercial banks with assets of more than \$1 billion significantly dominate home mortgage loans. This difference deserves an examination.

¹. The state of the Nation's Housing, 2002, Cambridge, MA (Joint Center for Housing Studies of the Harvard University).

A look at the character and the changes in the behavior and the composition of institutional investors in real estate (commercial) financing is necessary. Such information is of great interest to academia, banks, and policy makers.

This paper is structured as: Section 1 provides literature surveys. Section 2 describes markets for commercial real estate lending and the major lending participants that provide the kinds of commercial real-estate loans. Section 3 describes the growth of market shares in commercial real estate mortgages by commercial banks of different asset categories. Section 4 reports statistical results of the comparative performance of national and state chartered banks as well as conclusions.

LITERATURE SURVEY

There are many studies conducted on mortgage market. This paper focuses on those studies that are related to the theme of this paper.

Neveloff (1996) observed that banks and insurance companies became active in real estate lending in 1996. He suggested that institutional lenders must learn and act in a timely manner in order to compete with the “new breed of private lenders” (p. 26). He further suggested that “lending officer should bone up on specialized market niches so they can evaluate and react to loan proposals fast” (p.26).

Smith (1990) provided an insight as to what to do when a property gets into trouble. According to Smith, troubled real estate properties can be salvaged in many ways. By giving an analogy of “Making Stone Soup”, he suggested six ingredients. Similar to preparing stone soup, concerted efforts of various parties are needed to rescue troubled real estate properties. In “the mortgage and real estate executives report”, Arnold (1990) provided information on total return by property types (for ten years since 1989) and discussed many issues on apartments and farm property outlook, world competition, environmental concerns, and compliance to flood insurance, etc. Cranmer (1990) believed that the real estate market was in trouble due to declining confidence in the banking industry. Bank stocks already had fallen 40 percent in 1990. He thought that real estate loan problems were already severe and it would likely deteriorate further. According to Cranmer, one of the thorniest problems for bank analysts was to “determine the loss content of non-performing assets—that is, how much will ultimately be written off” (p.27). He listed several factors for the real estate problems in the banking industry. Among those he said was “The most underrated factor is that banks (and real estate developers) were whipsawed by tax legislation related to real estate” (p.28). The second was management behavior. “Management behavior is a second major cause of real estate problems among banks” (p.28).

Corcoran (1987) presented a model of the commercial real estate market that explained the paradox of high and rising vacancy rates (combined with falling rents) and at the same time the increasing prices of existing commercial real estate. The model separates the temporary business cycle from structural factors influencing real estate. The key point in the first section of his paper is that real estate was both a factor of production and assets. So, the price for commercial real estate as a factor of production is the rental income on building space. The price of commercial real estate as an asset is the rate of return which must be consistent with other assets, such as stocks and bonds. McNulty (1995) evaluated the causes of overbuilding and determined whether the economic base multiplier effect was stronger in the long run. He found that the cause of overbuilding was embodied with two lags—“the lag in the transmission mechanism between basic and nonbasic economic activity and the lag between approval and completion of real estate projects” (p.49). Samad (2005) examined the U.S. commercial banks role in real estate financing from a historical perspective.

Commercial Mortgage Market and its Participants

Commercial Mortgage Market

The U.S. real estate mortgage market is classified into four categories—residential, multi-family, commercial real estate, and farm.

Residential/home mortgages are loans secured by one-to-four family properties.

Multifamily real estate lending is a loan secured by multi-family units, including owner occupied condominium units.

The commercial real estate mortgages are income generating properties. They consist of the following four categories:

Construction and land development

*Commercial or non-farm nonresidential**Farmland**Multifamily*

However, in the truest sense, commercial real estate mortgages are loans secured by non-farm nonresidential properties, including properties owned by nonprofit organizations such as universities, hospitals, and churches. Commercial loans involve investments in office buildings, shopping centers, and warehouses.

Commercial real estate loans differ from a residential loan in many respects. Commercial loans are usually much larger in amount than a residential loan. Commercial mortgages are loans which are given on property that generates an income stream throughout the life of the property. The income generated from the property is used to make loan payments, pay expenses, and provides profits.

Among the categories of commercial real estate lending, non-farm nonresident is the largest component. Table 1 which shows the market share of mortgage debt secured by different categories of property. The total mortgage debt totaled \$3762 billion (\$3.7 trillion) in 1990. Out of \$3762, one-four family mortgage lending was \$2647 billion (\$2.6 trillion). This was the largest component of mortgage debt. The rest of the mortgage debt was commercial lending.

Table 1 Mortgage Debt Outstanding by Type of Property in 1990

Secured by property type	\$Billion	Market share %
Nonfarm nonresident	758.3	20
Multifamily residences	309.3	8.2
Farmland	78.9	2

Table 1 shows that among the commercial lending, non-farm nonresidential lending is the largest one. The total mortgage debt for the non-farm nonresidential loans was \$758.3 billion in 1990. They constituted 20% of the total mortgage markets.

Multi-family and farmland share a distant position—8.2 and 2 percent—in the total mortgage markets in the United States.

Mortgage Market Participants

In the primary mortgage² market of the real estate lending, there are six major lending providers. They are:

*Commercial banks**Savings institutions**Life insurance companies**Federal and related agencies**Mortgage pools and trusts**Individuals and others*

In the 1960s, the principal lender in real estate mortgages was Savings and Loan Associations (S&Ls). They were the largest loan providers of one-to-four (1-4) family residential properties. Their market share in the mortgage lending/market drastically declined in the 1980s and 1990s. This was mainly due to a S&Ls crisis in the late 1970s and the early 1980s when the market interest rate increased dramatically. The increase in market interest increased S&Ls cost of payment to depositors and their borrowings, while their mortgage interest remained low.

Table 2 presents a snapshot of the market share of these major players in the total mortgage market during 1990.

Table 2 Mortgage Debt Outstanding by Type of Holder 1990

Holder	\$Billions	Market Share (%)
Commercial banks	884	23
Savings institutions	801	21
Life insurances	267	7
Federal and related Agencies	239	6.8
Mortgage pool and Trusts	1,079	28.3
Individual and others	530	13.9
Total	3,800	100

Source: Federal Reserve Bulletin

Table 2 shows the total value of mortgage debt outstanding and the market share of various loan providers. The value of total mortgage debt outstanding at this time was approximately \$3,800 billion.

It appears from Table 2 that S&Ls were no longer a primary lender in the mortgage market. Their market share was reduced to a third. Their share was only 21 percent of the total mortgage market. Commercial banks became a dominant player, second to mortgage pools and trusts. Commercial banks real estate outstanding mortgage debt and their market shares were \$884 billions and 23 percent respectively. Mortgage pools and trusts occupied 28 percent mortgage loans.

However, the allocation of mortgage funds among various commercial real estate categories shows that commercial banks became dominant players. This is substantiated from Table 3.

Table 3 Mortgage Holdings among Financial Institutions in 1990 (million \$)

	Multifamily	Nonfarm nonresident	Farmland	Total
Commercial Banks	37,015	334,648	17,231	388,894
Savings Institutions	91,806	109,168	500	201,474
Life Insurance Cos	28,979	215,121	10,756	254,856

Source: Federal Reserve Bulletin

Table 3 shows commercial banks, savings institutions, and life insurance company loans outstanding in commercial properties. Commercial banks are the principal lenders in commercial, non-farm nonresidential properties. They supply the highest amount of commercial loans. Commercial banks supplied \$334,648 million loans to nonfarm non-residential properties. S&Ls and life insurance companies supplied \$109,168 million and \$215,121 million respectively. In financing farmland, commercial banks were significantly ahead of S&Ls.

The total loans of commercial banks, and savings institutions were \$388,894 million and \$201,474 million respectively out of total commercial real estate mortgages \$1,146,584 million in 1990. The total commercial real estate mortgages held by life insurance companies were \$254,856 million.

The relative market shares of various mortgage lenders did not remain constant over the years. Table 4 shows the comparative percentage allocation/relative market shares of commercial banks, savings institutions, and life insurance companies in commercial mortgages consisting of non-farm nonresidential, farmland and multifamily properties between 1990 and 2005.

Table 4 Relative Commercial Mortgages held by financial institutions, in 1990 and 2005 (millions of \$).

Category of institutions	Commercial real estate mortgages 1990		Commercial real estate mortgages in 2005	
Commercial banks	388,894	34%	\$1,094,200	42.4%
Savings institutions	201,474	18%	\$191,400	7.4%
Life insurance Cos	254,856	22%	258,700	10%

Source: Federal Reserve Bulletin

Table 4 shows the relative market share of financial institutions in commercial mortgage lending. Commercial banks were the most dominant participants in the commercial real estate market. The market share of commercial banks in commercial mortgages increased from 34 percent in 1990 to 42.4 percent in 2005. Their market shares were the highest in both 1990 and 2005. They held 34 percent and 42.4 percent of commercial mortgages in 1990 and 2005 respectively.

The market share of savings institutions declined from 18 percent in 1990 to 7.4 percent in 2005. Savings institutions no longer occupied the second position. Life insurance companies occupied the second place in commercial real estate lending.

It is clear from the examination of relative market shares of various financial institutions that commercial banks were the most important and number one player in commercial real estate mortgage markets.

Growth of Commercial Real Estate Lending and Commercial Bank

Within the banking industry, the development of commercial mortgage lending is not the same. In 1990, 1995, 2000, and 2004, commercial banks commercial real estate lending was a percent of the consolidated assets. The evidence is shown in Panel A through E in Table 6.

Table 6 Commercial Banks Real Estate Lending as a Percentage of Average Consolidated Assets, Selected Years by Bank Size

Panel A. All Commercial Banks				
Type of loan (Domestic)	1990 (%)	1995 (%)	2000 (%)	2004 (%)
Construction and land development	4.00	1.59	2.51	3.25
Farmland	0.51	0.56	0.56	.54
Multifamily Residential	0.62	0.81	0.99	1.06
Commercial (nonfarm nonresidential)	6.76	6.97	7.48	7.97
Total domestic	11.78	9.93	11.54	12.82
Memo: Domestic volume (\$ billions)	393	412	681.5	1,012
Total assets (\$ billions)	3,338	4,149	5,906	7,879
Panel B. Ten Largest Banks				
Type of loan (Domestic)	1990 (%)	1995 (%)	2000 (%)	2004 (%)
Construction and land development	3.79%	0.58	0.98	1.4
Farmland	0.08%	0.06	0.11	0.10
Multifamily Residential	0.68%	0.38	0.60	0.45
Commercial (nonfarm nonresidential)	3.51%	2.83	3.42	3.55
Total domestic	8.06%	3.85	5.11	5.5
Memo: Domestic volume (\$ billions)	58	40	114	200
Total assets (\$ billions)	725	1,051	2,234	3,654
Panel C. Banks Ranked 11-100 by assets				
Type of loan (Domestic)	1990 (%)	1995 (%)	2000 (%)	2004 (%)
Construction and land development	4.91%	1.50	3.00	3.51
Farmland	0.12%	0.13	0.22	0.19
Multifamily Residential	0.46%	.077	1.11	1.34
Commercial (nonfarm nonresidential)	6.01%	6.54	7.28	7.41
Total domestic	11.50%	8.94	11.61	12.45
Memo: Domestic volume (\$ billions)	114	120	235.7	295.8
Total assets (\$ billions)	995	1,338	2,031	2,376
Panel D. Banks Ranked 101-1,000 by assets				
Type of loan (Domestic)	1990 (%)	1995 (%)	2000 (%)	2004 (%)
Construction and land development	4.37%	2.21	4.15	6.98

Farmland	0.28%	0.40	0.65	0.91
Multifamily Residential	0.74%	1.21	1.58	2.24
Commercial (nonfarm nonresidential)	9.12%	9.47	13.36	17.82
Total domestic	14.51%	13.29	19.74	27.95
Memo: Domestic volume (\$ billions)	136	145	195	302
Total assets (\$ billions)	937	1,094	986	1,080
Panel E. Banks Not Ranked among the 1000 largest by assets				
Type of loan (Domestic)	1990 (%)	1995 (%)	2000 (%)	2004 (%)
Construction and land development	2.37	2.38	3.70	6.00
Farmland	1.86	2.48	3.06	3.22
Multifamily Residential	0.66	0.95	1.04	1.41
Commercial (nonfarm nonresident)	8.09	10.37	13.06	16.93
Total domestic	12.28	16.08	20.86	27.56
Memo: Domestic volume (\$ billions)	84	107	136.6	211.9
Total assets (\$ billions)	681	666	655	769

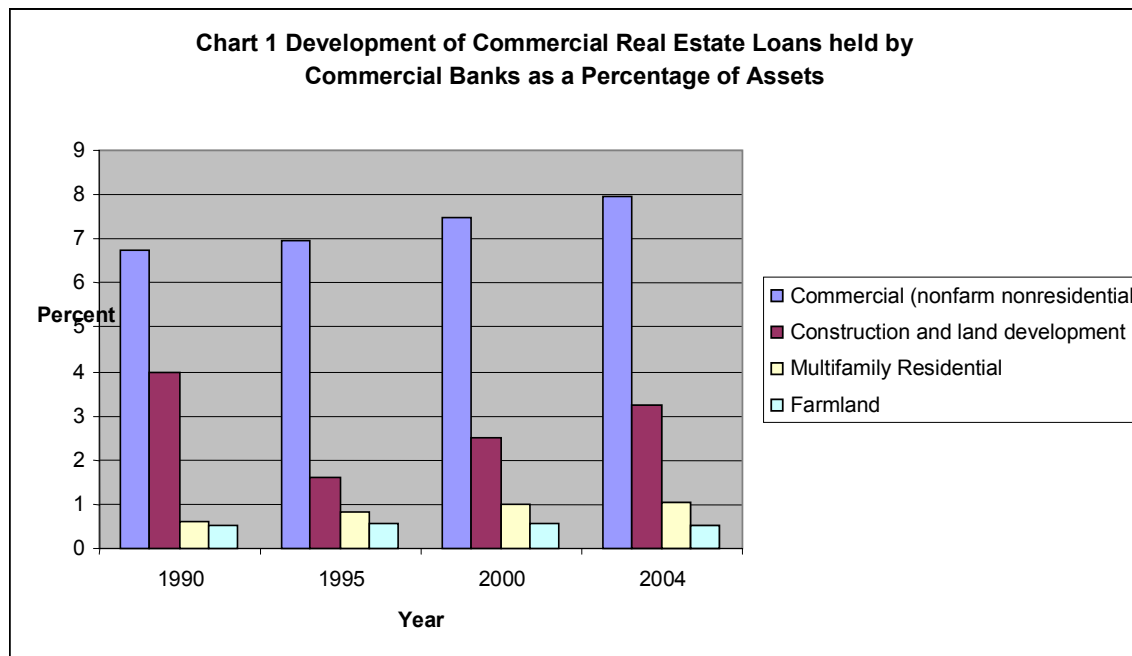
It is clear from Panel A through E that among the commercial real estate loans, commercial loans (non-farm nonresidential) dominated the commercial mortgage market. In terms of percentage, commercial loans (nonfarm nonresident) are the most dominant item in the asset portfolio of commercial banks. In terms of relative percentage, the rankings for 2004, from Panel A are presented in Table 7.

Table 7 Ranking of Commercial banks Real Estate Lending in 2004

Type of loans	Rank	Percent of assets
Commercial (nonfarm nonresidential)	1	7.97
Construction and land development	2	3.25
Multifamily Residential	3	1.06
Farmland	4	0.54

As far as real estate lending is concerned, commercial real estate (non-farm nonresidential) loans were dominant and became number one in the assets of commercial banks. Construction and land development became the second distant source of assets. The third and fourth items in the assets of commercial bank mortgage lending were multifamily and farmland respectively.

Chart 3 presents a snapshot of the development of market shares in the commercial mortgage lending during 1990-2004



Source: Table 6, Panel A.

Table 6 and Chart 3 show that construction and land development loans of commercial banks were most cyclical in nature. It swings from 4 percent of total assets in 1990 to 1.5 percent in 1995 and back to 3.25 percent. These swings of lending were caused by the cyclical fluctuation of total real estate lending from 12 percent of the total assets in 1990 to 10 percent in 1995 and 13 percent in 2004.

Commercial loans were dominant and becoming increasingly popular. The percentage of total assets allocated to non-farm non-residential real estate increased from 6 percent in 1995 to 8 percent in 2004.

Farmland shows the most stable form of commercial lending for commercial banks. Refer to Table 6.

The data for the 10 largest banks presented in Panel B showed that commercial banks commercial real estate business differed from the rest of the banking industry. They provided relatively fewer loans secured by farmland. Only 0.07 percent of the loans of the ten largest banks were secured by farmland in 1990 compared to 1.32 percent for the banks not ranked among the 1,000 largest.

The data for the 90 banks ranked 11-100 by assets size presented in Panel C show lending behavior similar to the 10 largest banks. That is, these super-regional banks were less active in loans secured by farmland. They issued relatively fewer loans secured by farmland.

The data for the 900 banks ranked 101-1,000 by assets presented in Panel D showed that these banks are the largest lending providers of total real estate loans. This group provides the largest percentage of total real estate financing. They provided 32 percent (\$67 billion real estate loans out of \$209 billion total domestic real estate loans) in 1990, 35 percent (\$136 billion out of \$393 billion) in 1995, 29 percent (\$195 billion out of \$681 billion) in 2000, and 30 percent (\$302 billion out of \$1,012 billion) in 2004.

The data for the banks not ranked among the 1,000 largest by assets is presented in Panel E and shows that these banks provided more commercial real estate loans than the 10 largest banks in the U.S. For example, in 1995, these banks provided \$107 billion real estate loans compared to \$40 billion provided by the 10 largest banks. However, the ten largest banks participation increased during the subsequent periods. In 2000 and 2004, banks commercial real estate lending was \$114 billion and \$200 billion respectively. In terms of percentage for total assets, banks commercial real estate loans were 5 percent and 5.4 percent in 2000 and 2004 compared to 4 percent in 1995. This increased activity in commercial real estate loans was mainly due to the robust performance of the U.S. economy.

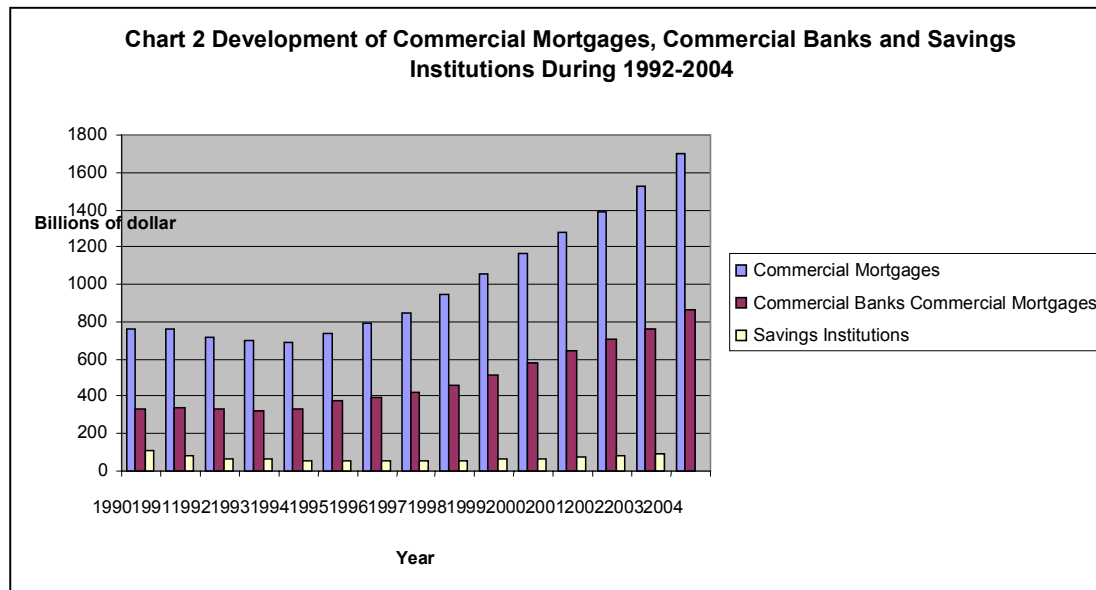
In addition to the above factors, Table 6 provides the following interest points:

The smaller the bank size (by assets) the larger the percentage of banks commercial real estate loans. For example, the top 900 banks ranked 101 through 1,000 by assets had 18 percent of their assets as commercial real estate loans in 2004 compared to 12 percent and 6 percent for the top 90 banks ranked 11 through 100 and the ten largest banks respectively. This is true for other years.

Non-farm Non-resident Mortgage (Commercial Mortgage) and Commercial banks

Within the category of commercial real estate lending, commercial banks lending to non-farm nonresidential property was a phenomenon. It was the most dominant sector among the commercial real estate lending—construction and development, non-farm non-residential, multi-family, and farmland.

The growth of commercial real estate loans (commercial mortgages) held by commercial banks and savings institutions during 1992-2004 is presented in chart 2.



Source: Federal Reserve Bulletin

Chart 2 shows commercial banks as the principal lender in the commercial mortgage market. Savings institutions were least important players. Commercial banks average commercial mortgage loans (Table 4) was \$492.1 billion dollars during 1990-2004. During the same period, savings institutions average loans in commercial mortgages were \$70.2 billion.

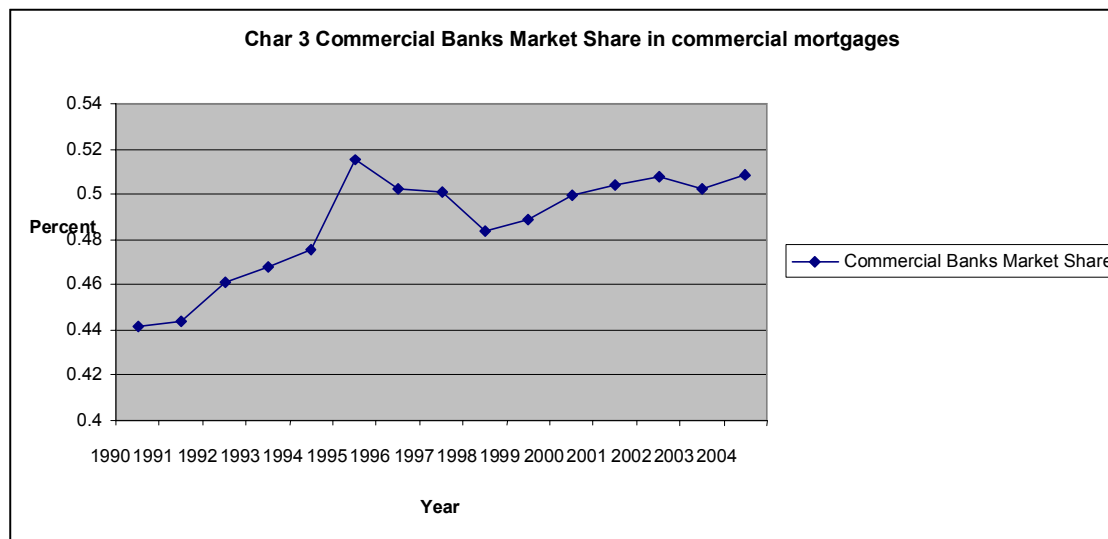
Chart 2 also shows the rapid growth of commercial mortgages, except for the years 1991-1994. During these years the growth of commercial banks, total as well as commercial mortgages, declined significantly. During 1991-1994 the changes of commercial mortgages were -13.6 billion, -43.6 billion, 34.1 billion, and -12.5 billion (Federal Reserve Bulletin Z.1).

The negative growth of commercial mortgage lending was captured by the outflow of funds. In 1992, the total was almost \$57 billion—more than one half of the 1986 inflow (Sinkey, 1998, pp. 513). Savings institutions accounted for the bulk of the outflow—about 61 percent.

Since 1992 the commercial mortgage market began to recover slowly. Until 1995, most of the recovery was mainly a reduction of outflow of funds. The recovery became real during the first quarter of 1995 when \$28.6 billion flowed into commercial mortgages.

Total mortgages as well as commercial mortgage markets witnessed rapid development during 1995-2004 with the exception of 2001. The decline in the mortgage market in 2001 was linked to the loss of confidence caused by the September 11 attack on the World Centers. The rapid growth of the mortgage market during the 1990s and 2000s was mainly due to a record low mortgage interest rate.

Commercial banks were major lending providers for commercial mortgages. The development of the commercial banks market share in commercial mortgages is provided in Chart 3.



Source: Federal Reserve Bulletin

Chart 3 shows commercial banks were the dominant market share in the commercial (non-farm nonresidential) mortgage market in the U.S. commercial banks market share of commercial mortgages during 1990-2004. A descriptive statistics of the commercial mortgage market shares for commercial banks and savings is provided in Table 8.

Table 8 Descriptive Statistics of Commercial Mortgages and Market Shares for Commercial Banks and Savings Institutions During 1990-2004.

	Mean	Standard deviation
Commercial banks	\$492.1 billion 48.7 percent	\$178.8 billion 2 percent
Savings institutions	\$72.2 7.2 percent	\$17.9 billion 2 percent

In the U.S. the commercial real estate mortgage market, commercial banks were dominant lenders. Commercial banks averaged a market share in commercial mortgages of 48.7 percent with standard deviations of 2 percent. On the other hand, savings institutions market share was only 7.2 percent.

The increased market share by commercial banks vis-à-vis the decrease market share of savings institutions in the commercial mortgage market can be explained by several factors.

The innovation of securitization of commercial loans has significantly improved the liquidity position of commercial real estate loans and thus reduced the liquidity risk of commercial banks. This has a tremendous impact on commercial banks increased market share in commercial mortgages.

The decline of the savings institutions market share in commercial as well as home mortgages was mainly due to the S&Ls crisis in the 1980s.

Commercial Mortgages by Bank Size

Within the banking industry, there are different sizes of commercial banks. Bank sizes—small, medium, and large—are measure by assets size. The mortgage lending of the U.S. commercial banks is not the same. The development of market shares of commercial mortgages held by commercial banks with assets less than \$100 million, assets between \$100 million and \$1 billion, and assets more than \$1 billion during 1990-2004 is different. Chart 4 substantiates this fact.

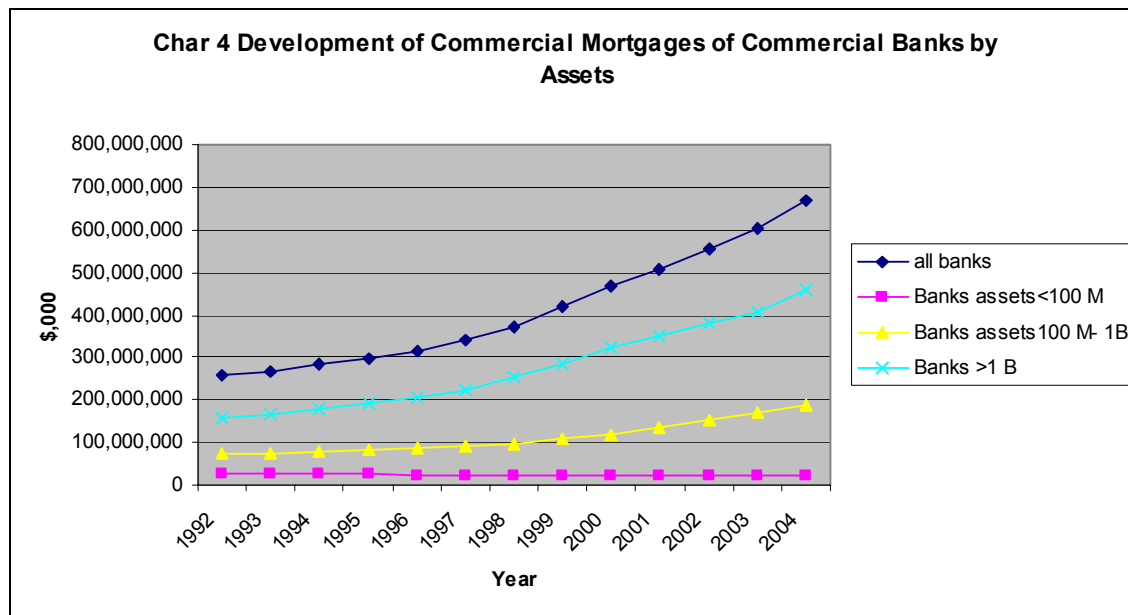


Chart 4 shows that banks with large assets held large volumes of commercial mortgages more than banks with medium and small assets. The average commercial mortgages held by the commercial banks with assets less than \$100 million, assets between \$100 million and 1 billion, and assets more than \$1 billion during 1992-2004 were \$24 billion, \$112 billion, and 274 billion respectively.

Statistical Methods and Results

In order to examine their comparative performance in commercial mortgages, it is appropriate to consider commercial mortgages as a percent of their total assets. Loan volume itself is not a good measure for comparative analysis. Ratio analysis has many benefits (Chen & Shimerda, 1998, O'Connor, 1973) and has been widely used for comparative analysis (samad 1999, 2004, Elyasiani and Mehdiian, 1995, Sabi 1996). Mortgage loans as a percentage of total assets compensates the disparity of bank sizes.

The following variable is used in this study:

CMTA ratio = Commercial mortgages to total assets. The CMTA ratio is estimated as total commercial mortgages of ith bank divided by total assets of ith bank.

ANOVA is applied to the mean ratio of commercial mortgages to total assets (CMTA) for the commercial banks of different assets categories.

The test procedure is: the null hypothesis (H_0) of the equality of mean commercial mortgage ratio, CMTA of banks with different assets category is tested against the alternative hypothesis (H_a).

Where $H_0: \mu_{CMTALBK} = \mu_{CMTAMBK} = \mu_{CMTASBK}$

$H_a: \mu_{CMTALBK} \neq \mu_{CMTAMBK} \neq \mu_{CMTASBK}$

Where H_0 : Null hypothesis

H_a : Alternative hypothesis.

Where CMTALBK= commercial mortgages as a percentage of total assets of large banks with assets more than \$1 billion.

CMTAMBK= commercial mortgages as a percentage of total assets of medium banks with assets between \$100 million and \$1 billion.

CMTASBK= commercial mortgages as a percentage of total assets of large banks with assets less than \$100 million.

The result of comparative performance in commercial mortgages by asset size with a different asset category is presented in Table 9

Table 9.

Variables	μ_{CMTA}	SD	Hypothesis	ANOVA F-statistics	P-value	Decision rule
CMTALBK CMTAMBK CMTASBK	0.06 0.14 0.09	0.002 0.030 0.014	$\mu_{CMTALBK} =$ $\mu_{CMTAMBK} =$ $\mu_{CMTASBK}$	58.66	0.0000	Reject H_0

ANOVA result in Table 9 show that there was a significant difference among the commercial banks of different asset categories. The null hypothesis of the equality of performance among the commercial banks of different assets categories is rejected with a very low level of significance. This is substantiated by high F-statistics, 58 and very low p-value, 0.0000.

The pair-wise t-test results provided in Table 10 suggest that the performance of small and medium banks in issuing commercial mortgage loans as a percentage of their total assets was far better than large banks.

Table 10

Variables	μ_{CMTA}	Hypothesis	t-statistics	P-value	Decision rule
CMTASBK CMTALBK	0.09 0.06	$\mu_{CMTASBK} = \mu_{CMTALBK}$	8.8	0.0000	Reject H_0
CMTASBK CMTAMBK	0.09 0.14	$\mu_{CMTASBK} = \mu_{CMTAMBK}$	5.2	0.0000	Reject H_0
CMTAMBK CMTALBK	0.14 0.06	$\mu_{CMTAMBK} = \mu_{CMTALB}$	9.7	0.0000	Reject H_0

The pair-wise test results in Table 10 suggest that there was a significant differences among the commercial banks with different assets categories. Medium size banks with assets between \$100 million and \$1 billion issued more commercial mortgage loans than large banks with capital more than \$ 1 billion. Banks with capital between \$100 million and \$1 billion held 14 percent of their assets as commercial mortgages compared to only 6 percent of the large banks with assets more than \$1 billion. This difference in mortgage loans performance is statistically significant. The null hypothesis, $H_0: \mu_{CMTAMBK} = \mu_{CMTALB}$, is rejected. The level of significance associated with the t-test is very low. This is substantiated by t-statistics= 9.7 and p-value= 0.0000.

The pair wise t-test between small banks with assets less than \$100 million and large banks with assets more than \$1 billion shows that small banks issued a significantly high percentage of commercial mortgage loans than large commercial banks. Small commercial banks held 9 percent of their total assets in commercial mortgages compared to 6 percent of the large banks. This difference in mortgage loans performance is statistically significant. The null hypothesis, $H_0: \mu_{CMTASBK} = \mu_{CMTALBK}$, is rejected. The level of significance associated with the t-test is very low. This is substantiated by t-statistics= 8.8 and p-value= 0.0000.

Commercial banks regressive behavior in domestic commercial mortgage lending—the larger the bank size the smaller the commercial lending—can be attributed to several factors.

The examination of the balance sheet of commercial banks of different assets categories reveals that large commercial banks with assets more than \$1 billion are more interested in foreign mortgage lending than domestic mortgage lending.

During 1992-2004, the average total foreign real estate lending of small banks with assets less than \$100 million was \$4.4 million, (1.48581E-05 percent of total assets) compared to \$31.6 billion (0.07 percent of total assets) of large banks with assets more than \$1 billion. The difference is statistically significant.

The average total foreign real estate lending of medium banks with assets between \$100 million and \$1 billion was 46.8 million, (6.52E-05 percent of total assets) compared to \$31.6 billion (0.07 percent of total assets) of large banks with assets more than \$1 billion during 1992-2004. This difference is statistically significant.

Similarly, there were significant difference in foreign real estate lending between banks with assets less than \$100 million and assets between \$100 million and \$1 billion. The average lending of banks with assets between \$100 million and \$1 billion held significantly higher foreign mortgages than banks with assets less than \$100 million. The average foreign mortgages held by commercial banks with assets between \$100 and \$1 billion was \$4.4 million, (1.48581E-05 percent of total assets) compared to 46.8 million, (6.52E-05 percent of total assets) during 1992-2004.

The above discussions reveal that the larger the bank sizes the higher the amount and percentage of foreign real estate lending vis-à-vis regressive nature of domestic mortgage lending.

CONCLUSION

The major participants of the total real estate lending are commercial banks, savings institutions, and life insurance companies. Among them commercial banks are the most dominant players in total commercial real estate lending. Commercial banks held 42.4 percent of the total commercial real state mortgages compared to savings institutions with 7.4 percent in 2004.

Within the banking industry, the performance of commercial banks in total (domestic) commercial real estate lending varied widely. Banks behavior in total commercial real estate lending was found to be regressive. Large commercial banks held significantly less total commercial real estate mortgages than medium and small commercial banks. The ten largest banks held only 5.5 percent of their assets in total commercial real estate mortgages compared to 12.45 percent and 27.96 percent for the banks ranked 11-100 by assets and banks ranked 101-1000 by assets respectively.

Within the category of total commercial real estate lending, commercial (non-farm non-residential) mortgage lending was the most important component of the total commercial real estate lending. It constituted for 9 percent of the total commercial real estate lending compared to 1 percent and 0.5 percent for multifamily and farmland in 2004.

The growth of commercial (non-farm non-residential) mortgage lending was spectacular during 1992-2002. Commercial banks average commercial mortgage lending was \$492.1 billion with a standard deviation of \$178.8 billion. Commercial mortgage lending (non-farm non-residential) varied widely among the commercial banks by asset size. There was a significant difference in commercial mortgages among banks with assets less than \$100 million, assets between \$100 million and \$1 billion, and assets more than \$1 billion. The large commercial banks with assets more than \$1 billion issued far less commercial real estate loans in both volume and percentage than banks with assets less than \$100 million and assets between \$100 million and \$1 billion.

End Notes:

- 1 The total flow of home mortgages is \$917.2 billion in 2004 and constitutes 72.2 percent of the total mortgages.
- 2 Primary mortgage market consists of lenders who originate and/or service mortgage loans.

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SOME NEW RESULTS ON THE EXCHANGE RATE EXPECTATIONS USING NEW DATA

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INTRODUCTION

The concept of Rational Expectations was first proposed by John Muth in his 1961 *Econometrica* paper "Rational Expectations and the Theory of Price Movements". The essential idea of the Muth concept of rational expectations is that agents make use of all available relevant information by deriving their expectations of the future values of variables from the underlying true economic model that the variable to be forecast. It follows that agents' subjective probability distribution about the future outcomes will be the same as the actual probability distributions, conditional on the information available to them.

Using a mathematical notation, subjective expectation $= {}_{t-1}X_t^e = E[X_t|I_{t-1}]$ = conditional expectation.

Thus, there is a connection between the beliefs of individual economic actors and the actual stochastic behavior of the system. Expectations are rational if, given the economic model, they will produce actual values of variables that will, on average, equal the expectations. Expectations will diverge from actual values only because of some unpredictable uncertainty in the system. If there were no unpredictable uncertainty, expectations of variables would coincide with the actual values – there would be a perfect foresight. So according to the rational expectation hypothesis, $X_t^e - X_t = \varepsilon_t$ where ε_t is a white noise process.

In the context of the foreign exchange market, the Rational Expectation Hypothesis (REH) says that if economic agents use all available information in forming expectations about future exchange rates, then, the expected exchange rate will be an unbiased predictor of the future spot rate. This is known as the *test of unbiasedness* in the literature. Consider the following equation:

$$S_t = \alpha + \beta S_t^e + \varepsilon_t$$

where S_t is the spot rate, S_t^e is the expected future rate and ε_t is a random error. If the economic agent is rational, then, a regression on the above equation will provide $\alpha = 0$ and $\beta = 1$ so that $S_t = S_t^e + \varepsilon_t$. In other words, the difference between the actual spot rate and the expected rate for that period will be a random error.

Another test of the REH is based on the forecast error $S_t^e - S_t$. This is known as the *test of orthogonality*. If expectations are rational, then the forecast errors will be uncorrelated with the variables in the information set, I_{t-1} , containing all data available as of time $t-1$. In other words, forecast error, $S_t^e - S_t = f(I_{t-1})$. The orthogonality test aims to assess whether economic agents use information that is available to them efficiently in order to forecast future exchange rates. Variables that are used for the *test of orthogonality* are past exchange rates, the forward discount, the inflation rate, money supply and changes in the interest rate, etc.

IMPORTANCE OF THE STUDY

One famous puzzle, in the International Finance literature, is that the forward discount is a biased predictor of the actual exchange rate change. There are a considerable amount of studies that investigated the causes of this bias¹. Fama (1984) argued that the existence of a time-varying risk premium is the cause of the forward discount bias. Another argument of expectational failure comes from Krasker (1980), who attributed the failure to the "peso problem"², Lewis (1989) to learning effect and Bilson (1981) to simple irrationality. Most widely used test equation is as follows:

$$S_{t,t+k} - S_t = \alpha_1 + \alpha_2 (F_{t,t+k} - S_t) + \varepsilon_t$$

¹ See, for example Hodrick (1987), Engel (1996) for a review of literature on this issue.

² The term was coined by a researcher who took as his classic case the behavior of the Mexican Peso which, although notionally on a fixed exchange rate, traded consistently at a forward discount to the US dollar in the mid 1970s, in anticipation of a devaluation that duly materialized in 1976. So a test of REH for this time period will show that the expectations are biased. In this situation, the standard assumption of normality of the distribution of the test statistic will not be appropriate. This problem may arise in other situations as well. For example, when there is a small probability of a large change in the exchange rate each period, a bursting of speculative bubble, or a big change in fundamentals and when the sample size is not large enough to invoke the central limit theorem with confidence.

A test of $\alpha_1 = 0$ and $\alpha_2 = 1$ implies that forward market is efficient. This test assumes that agents' are risk neutral and expectations are formed rationally. The slope coefficient is found to be negative, which implies that there is a risk premia, which may be time-varying.

The absence and presence of a risk premium has been of considerable interest to economists and policymakers because of its far-reaching implications for the substitutability of assets denominated in different currencies and, hence, for the efficacy of sterilized foreign exchange market intervention. Dominguez and Frankel (1993) showed that foreign exchange intervention had a significant impact on the risk premia in currency markets during 1982-88. They also found that when rational expectations are imposed, intervention became ineffective.

Businesses in the foreign exchange areas, like commercial banks, employ a considerable amount of resources to understand future exchange rates changes. An understanding of forecasting dynamics will help them as well.

LITERATURE REVIEW

The papers that exploited the traditional regression methods are Dominguez (1986), Frankel and Froot (1987, 1989), MacDonald and Torrance (1989), MacDonald (1990), Cavaglia et al. (1993a, 1993b), Ito (1990), Sobichewski (1994) and Chin and Frankel (1994). McDonald (2000), Maddala (1994) and Takagi (1991) provide a survey of literature in this area. Takagi (1991) notes three characteristics of survey data on expectations of future exchange rates. First, the dispersion of expectations tends to increase with the forecast horizon. Second, expected exchange rate changes tend to underpredict the actual extent of exchange-rate movements, which means that much of the actual exchange rate movements are unexpected. Third, the long-run expectations tend to reverse the direction of short-run expectations. This phenomenon is referred to as *twist* in the literature. Most recently, Pierdzioch and Stadtmann (2007) use expectation data from Wall Street Journal and found that exchange rate expectations follow a mean reversion process.

Dominguez (1986), Ito (1990), Chinn and Frankel (1994) tested the unbiasedness hypothesis using different data sources, and the results were mixed. Dominguez (1986) used data from the Money Market Services. Her results strongly reject *unbiasedness* hypothesis with one-week, one-month, and three-month data. Cavaglia, et al. (1993a) found similar results using EMS exchange rates published by Business International Corporation at the three, six and twelve month horizon. Beng and Siong (1993) also reject the unbiasedness hypothesis for the Singapore currency against the US Dollar for 1984-91 for all forecast horizons. CF uses data published by Financial Times' Currency Forecaster (CDF) for the period February 1888 through February 1991. They consider three-month and twelve-month-ahead forecasts. They also found significant bias in the CDF survey data. Ito (1990) used data from Japanese Center for International Finance for the period 1985-87 at the one, three and six month horizons. Unbiasedness was rejected for the longer horizon and was accepted for the shorter horizon. Frankel and Froot (1989), and Chin and Frankel (1994) found evidence of excessive speculation in the forecast, and suggested that a speculator can make excess profits by betting against the market. Frankel and Froot (1989), and Cavaglia, et al. (1993a, 1993b) attributed the bias in the forward discount not only to risk premium but also to irrationality.

Dominguez (1986), Frankel and Froot (1989), Ito (1990), Sobichewski (1994), MacDonald and Torrance (1989), Cavaglia, et al. (1993b), and Beng and Siong (1993) investigated the *orthogonality hypothesis* and found that exchange rate expectations do not incorporate all available information.

Liu and Mddala (LM) (1992a, 1992b), Kim (1997) and Osterberg (2000) tested the Rational Expectation Hypothesis using cointegration tests. LM uses the same data set used by Dominguez (1986). They could not reject the REH for one-week-ahead forecast, but rejected for the one-month-ahead forecast. Kim found evidence of rationality for the one and four-week-ahead forecasts using Australian survey-based data. Following a different approach, Osterberg found that one-week-ahead forecasts are rational as in LM. However, when he corrects the serial correlation problem in the residual in one-month-ahead forecast, it also satisfied the rationality test. Both of these studies used Money Market Services (MMS) data. In a recent study, Baillie and Bollerslev (2000) showed that the forward discount anomaly may be viewed as a statistical artifact from having small sample sizes (peso problem) and persistent autocorrelation in the forward discount. Miah et al (2003, 2004) also uses time series methods and found that one month ahead and three month ahead data can also be rational for certain currencies.

OBJECTIVE OF THE PRESENT RESEARCH

In this research, we will test the Rational Expectation Hypothesis using survey data published by the FXforecast.com. It is one of the few major sources of survey data on foreign exchange rate. This research will

extend previous studies using more recent monthly data (Nov 2001 – April 2008) and applying the newer econometric methods recommended for time series data analysis. The study will help understand forward discount bias in the recent past.

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TRADE PATTERNS FOR THE NORTH AMERICAN REGION: BEFORE AND AFTER THE IMPLEMENTATION OF NAFTA

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ABSTRACT

The North American Region formed a Trade Agreement that eliminated tariffs between Canada, Mexico and the United States. The purpose of this study is to determine the impact of the integration by examining trade activity within the Region for the period 1987 through 2000. Trading activity during the pre-NAFTA period of 1987-1993 was compared and contrasted to the seven year period, since the implementation of NAFTA, from 1994-2000. The study also examined trends in the member nations growth patterns and changes in their employment activity. The economic data examined confirmed that NAFTA had a positive impact on the North American Region with Mexico being the greatest beneficiary economically. Increases in member nations GDP and Labor Force employed could not be directly credited to NAFTA, but it is evident that integration had done more to enhance the North American Region economies than the contrary.

INTRODUCTION

Since the end of World War II, cooperation among nations increased substantially. Often, the cooperation begins as a free trade area, develops into a custom union, then evolves into a common market, and eventually the group of nations may move to a complete economic integration. The European Union has played a large role in the recent surge of activity with the implementation of the Single Market Program in 1992 enlargement of its membership and numerous agreements with other countries. These agreements account for two-thirds of the agreements notified to GATT/WTO since 1990 and include the European Economic Area, the Europe Agreements with the countries of Eastern Europe, the EU- Turkey customs union, and the development of a Mediterranean policy potentially incorporating regional agreements with most countries on the southern and eastern shores of the Mediterranean. In Latin America, MERCOSUR was formed in 1991 and the Group of Three in 1995. The Andean Pact and Central American Common Market (CACM) were resurrected in 1991 and 1993, respectively. In Sub-Saharan Africa, the agreements in West Africa were reformed and reorganized. The Southern African Development Community (SADC) developed out of an earlier defense-based organization, Southern African Development Coordination Conference, and was supplemented-for many of its members-by the Cross-Border Initiative. The East African Cooperation sprang up where the East African Community had failed. (Ball, 2008).

The Middle East witnessed the development of the Gulf Cooperation Council (GCC), and in 1997 Arab League members agreed to cut trade barriers over a ten year period. In Asia, the Association of Southeast Asian Nations (ASEAN) countries developed twenty-five years of political cooperation into a free trade area in 1992, with the formation of the ASEAN Free Trade Area. The South Asian Association for Regional Cooperation agreed in 1997 to transform itself into the South Asian Free Trade Area becoming, in terms of the population it represents, the world's largest regional agreement. New ground was broken in 1994 when the Canada U.S. Free Trade Area was extended to Mexico through NAFTA. For the first time a developing country joined industrial countries as an equal partner in a trade bloc designed to increase economic development in all three economies. Ties between high-income and developing countries were also being forged in the Asia Pacific Economic Cooperation (APEC), established in 1989 as a loosely knit organization, committed to trade liberalization, on a non- preferential basis, by 2010 for industrial country members and 2020 for developing countries. (Robbins & Coulter, 2005).

PURPOSE

From the inception of NAFTA, there have been many reports, from proponents and opponents alike. Proponents had high praises for the agreement, while opponents, on the other hand, gave NAFTA failing grades in all respects. This study was conducted to determine the impact of the agreement on member nations by examining changes in economic activity within the Region for the period 1987 to 2000. This study first examines the volume of trade between the three countries, specifically, the volume of exports and imports. Then compares the pre-NAFTA period

from 1987 to 1993 with the seven year period since its implementation, from 1994 to 2000. The study also examined changes in the member nations Gross Domestic Product (GDP) and active labor force for trends and growth patterns.

REVIEW OF THE LITERATURE

It has been fifteen years since NAFTA went into effect on January 1, 1994. NAFTA's impact on the North American Region still remains inconclusive. There are several regional characteristics that are worth mentioning. First, the region is not homogeneous in terms of economic, cultural, and political features. Second, the region's population has been growing faster than the U.S. national average. Next, when compared to U.S. data, the region's unemployment rates are high and labor force participation rates are low. Finally, an agreement already existed between U.S. and Canada (Peach & Adkisson, 2000).

When the agreement was implemented, the United States had already been involved in a free trade agreement with Canada, which was signed in 1988 and implemented in 1989. As a result, some analysts are of the opinion that NAFTA would bring little change to U.S.-Canada trading (Adibi & Dott, 2001; Peach & Adkisson, 2000). The Agreement's passage made tariff reductions which were broad-based and included such manufactured goods as machine tools, medical devices, semiconductors, and telecommunication and electronic equipment. The agreement also led to the elimination of tariffs on sixty-five (65%) percent of all U.S. exports of industrial products to Mexico. These industrial products included light trucks, auto parts, and paper products. NAFTA provisions also made it possible for U.S. exporters to Mexico to benefit from the removal of import licenses which had acted as quotas that limited the importation of certain products into the Mexican market ((Adibi & Dott, 2001; NAFTA Facts, 2000). Many other Mexican trade barriers relating to local production and export performance requirements were also eliminated under NAFTA provisions. Also, farm products and equipment were scheduled to be phased-out over a fifteen-year period.

NAFTA's potential impact on the U.S. was examined extensively in the years prior to its actual implementation. For example, the U.S. Federal Reserve Bank of Chicago estimated that NAFTA would produce 'output gains' for all three nations, increasing the U.S. GDP by 0.24%. Mexico's GDP by 0.11% and Canada's P by an a sizeable 3.26% (Kengor, 2000). Studies measuring the actual impact of NAFTA were produced after 1994. In a 1997 study by the Heritage Foundation, NAFTA was acclaimed with remarkable success on all areas of measurement from job creation to increased exports to economic growth. The study noted that U.S. exports to Mexico had increased by 37% from 1993 to 1996, reaching a record \$57 billion. During the same five year period, U.S. exports to Canada rose by 33%

It makes sense to discuss why the prediction that the region would be better off with NAFTA than without it. This prediction can be compared to Ricardo's Theory of Comparative Advantage (Campolo, 1998). The theory predicts that participants of a free trade agreement benefit as each member specialize in their area of greater factor productivity. The Heckscher Ohlin (HO) Theory (Campolo, 1998) agrees with this premise and shows that if one nation is capital intensive and another is labor intensive, each nation will specialize in goods and services that uses its most abundant resources. Applying NAFTA to this theory, the US and Canada which are capital abundant will complement Mexico which is labor intensive. Through this application it is fair to draw the inference that NAFTA will have a positive impact on the North American member nations.

Studies pertaining to NAFTA's state-level effect were scarce, but one of the few studies done by the Allegheny Institute for Public policy focused on NAFTA's impact on Pennsylvania. The study found that Pennsylvania exports to Mexico and Canada reached record levels within the first year of NAFTA's implementation. Mexico exports increased by 31% and Canada's by 11%. A breakdown by industry showed that 20 of 30 industries experienced export gains to Mexico, while 26 of 32 experienced export gains to Canada. These gains in exports resulted in an extra \$616 million in Pennsylvania exports (Kengor, 2000). In a 1994 article in *Fortune* magazine, it was predicted that Texas would experience significant gains specifically for Dallas and Houston. The article predicted that in the Dallas area alone NAFTA would create 75,000 jobs in the banking and other traditional business industries. Other research has shown that there has been an impressive jump in Texas exports to Canada and Mexico. Under NAFTA, Texas experienced the second largest gain in total exports among all fifty states. Over half of its added \$21 billion in exports from 1993-97 came from new exports to Canada and Mexico (Kengor, 2000). This means that that Texas' exports to two (Canada and Mexico) of the world's nearly two hundred nations, accounted for half its rise in exports since NAFTA.

In another border-state with Mexico, California, the impact of NAFTA was less dramatic than with Texas. California's exports to Canada were not significantly impacted by NAFTA, while exports to Mexico increased significantly by 10.0% increase in 1994 to 21.8% increase in 1997 (Adibi & Dott, 2001).

The textile is one of the industries most significantly impacted by NAFTA. Export data out of New York indicated textile exports in 2000 totaled \$10.5 billion, a 15.8% increase from 1999. The increase was significant, considering that exports in prior years only grew between one to four percent annually. So far 2001 seems geared to another exciting year for the industry as in the first three months exports rose by 8.6% to \$2.7 billion. Much of the textile industry's success has to be attributed to NAFTA as exports to Canada and Mexico accounts for more than 60% of total textile exports and most of the growth (Leizens, 2001). Research has also predicted that NAFTA's impact on the economic growth of the member nations would be neutral to insignificant (Peach & Adkisson; 2000, Weintraub, 2000) and its overall impact on the active labor force of each country will be negative (Gail Group, 2001; Weintraub, 2000)

DATA COLLECTION

Employment data on the NAFTA countries was obtained from the US Department of Labor - Bureau of Labor Statistics, and The International Labor Organization - Yearbook of Labor Statistics. Gross Domestic Product data was obtained from International Monetary Fund, International Financial Statistics; OECD National Accounts and Economic Outlook; and World Bank Country Statistics. Trade data (imports and exports) was obtained from Lloyd's Register of Shipping, World Fleet Statistics, and The Balance of Payments Year Book.

METHOD

The trade volume that occurred between Canada, Mexico, and the United States as related specifically to exports and imports generated between the three countries were isolated from trade with other trading partners. The trade data was then analyzed and compared for the purpose of: (a) determining the impact of NAFTA on each participating country's trade, GDP, and active Labor Force; (b) determining the member nation that had benefited most from the agreement, and (c) determining, in general terms, the treaty's success or failure. The periods being reviewed are (i) from 1987 to 1993 (the seven years prior to NAFTA's implementation or the pre-NAFTA period), and (ii) 1994 to 2000 (seven years since NAFTA's implementation).

RESULTS

Export Data

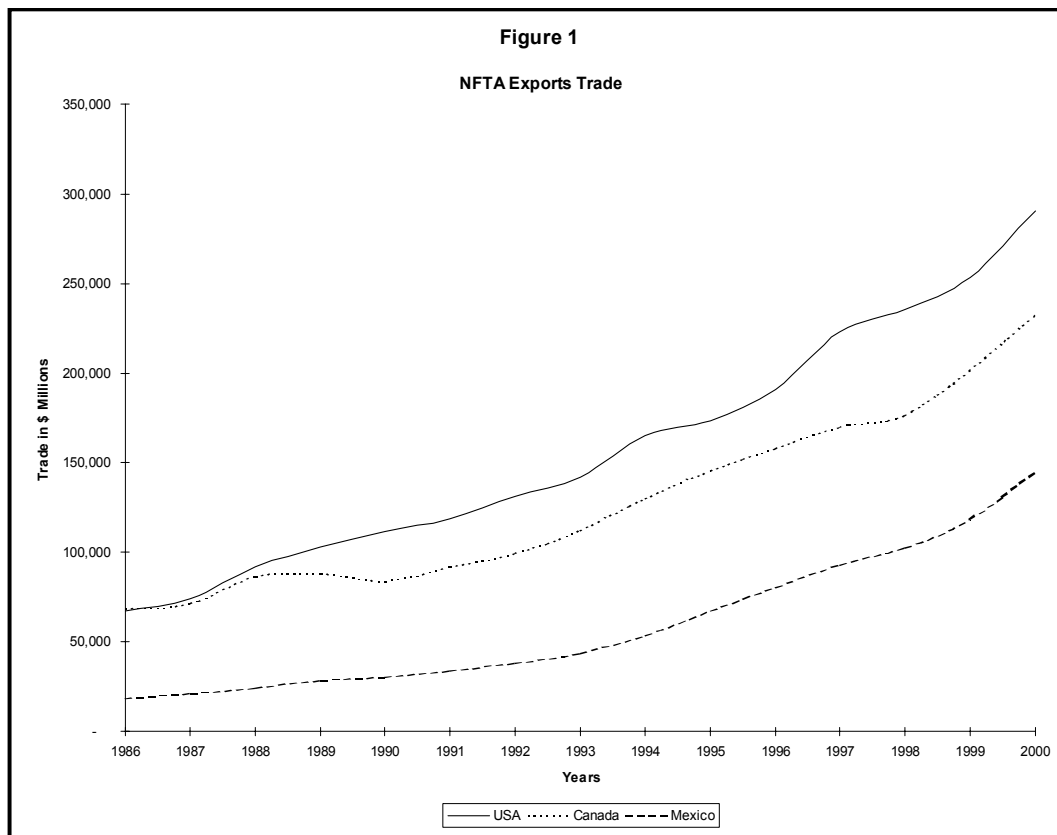
The export data between Canada, Mexico, and the United States for the periods 1987–1993 and 1994–2000, for all industries, are tabulated in Table 1.

Table 1: Total NAFTA Exports by Individual Countries 1987-2005

(Millions of US Dollars)									
Year	USA			Canada			Mexico		
	Region	Canada	Mexico	Region	USA	Mexico	Region	USA	Canada
1986	67,402	55,010	12,392	68,568	68,253	315	18,263	17,302	961
1987	73,900	59,318	14,582	71,439	71,085	354	21,286	20,271	1,015
1988	91,713	71,070	20,643	86,358	86,020	338	24,505	23,178	1,327
1989	103,235	78,253	24,982	88,438	88,017	421	28,873	27,169	1,704
1990	111,342	81,025	30,317	84,265	83,674	591	30,519	28,770	1,749
1991	118,427	85,150	33,277	91,844	91,064	780	33,864	31,130	2,734
1992	131,186	90,594	40,592	99,415	98,630	785	37,962	35,211	2,751

1993	142,025	100,444	41,581	112,204	111,216	988	43,507	39,917	3,590
1994	165,283	114,439	50,844	130,013	128,406	1,607	53,958	49,494	4,464
1995	173,518	127,226	43,292	145,782	144,370	1,412	67,452	62,101	5,351
1996	191,002	134,210	56,792	158,270	155,893	2,377	80,309	74,297	6,012
1997	223,155	151,767	71,388	169,959	167,234	2,725	92,957	85,938	7,019
1998	235,376	156,603	78,773	176,218	173,256	2,962	102,274	94,629	7,645
1999	253,509	166,600	86,909	201,697	198,711	2,986	118,076	109,721	8,355
2000	290,507	178,786	111,721	232,524	229,209	3,315	145,086	135,910	9,176
2001	265,234	163,725	101,509	230,538	228,991	1,547	143,647	140,564	3,083
2002	258,330	160,799	97,531	222,801	221,292	1,509	144,889	141,898	2,991
2003	266,938	169,481	97,457	236,787	235,241	1,546	147,335	144,293	3,042
2004	298,488	187,713	110,775	271,289	269,028	2,261	167,814	164,522	3,292
2005	331,469	211,420	120,049	305,284	302,551	2,733	187,797	183,563	4,234
Pre-NAFTA									
\$M Change	68,125	41,126	26,999	40,765	40,131	634	22,221	19,646	2,575
NAFTA									
\$M Change	166,186	96,981	69,205	175,271	174,145	1,126	133,839	134,069	(230)
Change	98,061	55,855	42,206	134,506	134,014	492	111,618	114,423	(2,805)
% Change	144%	136%	156%	330%	334%	78%	502%	582%	-109%
Source: Trade data (imports and exports) was obtained from Lloyd's Register of Shipping, World Fleet Statistics, and The Balance of Payments Year Book.									

The data shows that U.S. exports to Canada from 1987 to 1993, the pre-NAFTA period, increased by \$41.1 billion, and to Mexico an increase of \$26.9 billion over the same period. During the NAFTA period, from 1994-2000, U.S. trade to Canada increased by \$64.3 billion and to Mexico the increase was \$60.8 billion. The increase in U.S. export trade from the pre-NAFTA period to the NAFTA period to Canada and Mexico was \$23.2 billion or 56% and \$33.8 billion or 125% respectively during the NAFTA period over the pre-NAFTA period. During the pre-NAFTA period, exports increased at total of \$40.1 billion and since the implementation of NAFTA exports increased \$100.8 billion. Canada overall increase in export trade was \$60.7 billion or a whopping 151%. Canadian exports to Mexico also showed increases. The overall increase from the pre-NAFTA period to the NAFTA period was \$1.1 billion or 169%. Mexico's exports to the U.S. and Canada also related in increased trade of \$66.8 billion or 340% to the U.S. and \$2.1 billion or 83% to Canada. The overall impact of NAFTA exports to its member nations are best expressed in Figure 1. It is clear, from Figure 1, that the portion of the curves from 1986 to 1993 are flatter than the portion of the curves from 1994 to 2000. The means that the increase in export trade occurred more rapidly or were larger for the NAFTA period from 1994 to 2000 than during the pre-NAFTA period from 1986 to 1993.



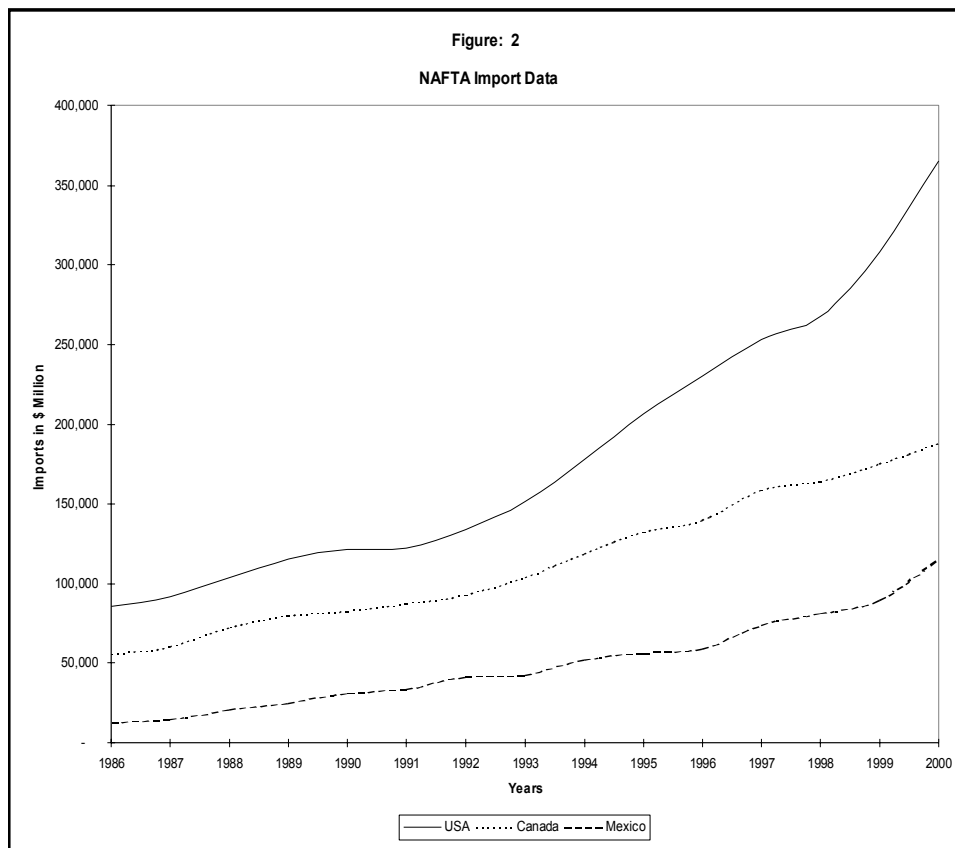
Import Data

The Import data for the U.S., Canada, and Mexico are presented in Table 2. The U.S. imports from Canada and Mexico increased by a total of \$127.4 billion relating in a 213% increase. Imports from Canada increased by \$60.7 billion or 151% during the NAFTA period. Similarly, U.S. imports from Mexico from the pre-NAFTA period to the NAFTA period increased by \$66.7 billion or a massive 340% increase. The import data clearly indicates, that like their U.S. partner, that both Canada and Mexico imports from NAFTA countries also show sizeable increases. Canada imports from Mexico and the U.S. increased by \$25.4 billion during the NAFTA period. Canada imports from the U.S. increased by \$41.1 billion to \$64.3 billion an overall increase of \$23.2 billion or 56%. The data also indicate that Canada's imports from Mexico during the NAFTA period increased by \$2.1 billion or 83% over the pre-NAFTA period. Mexico increased imports from its NAFTA partners were \$33.9 billion or 125% from the U.S. and \$1.1 billion or 169% increase from Canada. The impact of each countries overall imports from the NAFTA region for the period 1986 through 2000 is displayed in Figure 2. The chart shows that each participants total imports increased during the NAFTA period from 1994 through 2000. The U.S. contribution during the NAFTA period has been the most impressive followed by Mexico.

Table 2
Total NAFTA Imports by Individual Countries 1987-2000

(Millions of Dollars)

Year	USA			Canada			Mexico		
	Region	Canada	Mexico	Region	USA	Mexico	Region	USA	Canada
1987	91,356	71,085	20,271	60,333	59,318	1,015	14,936	14,582	354
1988	104,198	81,020	23,178	72,397	71,070	1,327	20,981	20,643	338
1989	115,396	88,227	27,169	79,957	78,253	1,704	25,403	24,982	421
1990	121,544	92,774	28,770	82,774	81,025	1,749	30,908	30,317	591
1991	122,194	91,064	31,130	87,884	85,150	2,734	34,057	33,277	780
1992	133,841	98,630	35,211	93,345	90,594	2,751	41,377	40,592	785
1993	151,133	111,216	39,917	104,034	100,444	3,590	42,569	41,581	988
1994	177,900	128,406	49,494	118,903	114,439	4,464	52,451	50,844	1,607
1995	206,471	144,370	62,101	132,577	127,226	5,351	56,344	54,932	1,412
1996	230,190	155,893	74,297	140,222	134,210	6,012	59,169	56,792	2,377
1997	253,172	167,234	85,938	158,786	151,767	7,019	74,113	71,388	2,725
1998	267,885	173,256	94,629	164,248	156,603	7,645	81,735	78,773	2,962
1999	308,432	198,711	109,721	174,955	166,600	8,355	89,895	86,909	2,986
2000	365,119	229,209	135,910	187,962	178,786	9,176	115,036	111,721	3,315
2001	352,916	220,138	132,778	295,898	141,995	7,773	118,002	113,767	4,235
2002	350,098	213,954	136,144	299,941	138,063	8,067	111,037	106,557	4,480
2003	367,354	227,652	139,702	324,404	145,118	8,693	109,481	105,361	4,120
2004	417,628	259,807	157,821	359,986	160,234	10,359	116,154	110,827	5,327
2005	464,429	291,944	172,485	189,393	177,410	11,983	124,716	118,547	6,169
PRE-NAFTA									
\$M Change	59,777	40,131	19,646	43,701	41,126	2,575	27,633	26,999	634
NAFTA									
\$M Change	286,529	163,538	122,991	70,490	62,971	7,519	72,265	67,703	4,562
Change	226,752	123,407	103,345	26,789	21,845	4,944	44,632	40,704	3,928
%change	379%	308%	526%	61%	53%	192%	162%	151%	620%
Source:	Trade data (imports and exports) was obtained from Lloyd's Register of Shipping, World Fleet Statistics, and The Balance of Payments Year Book.								



The employment data for Canada, Mexico and the U.S. were obtained from the US Department of Labor - Bureau of Labor Statistics, and The International Labor Organization - Yearbook of Labor Statistics. The data for the NAFTA partners are presented in Table: 3. The employment data indicates that the number of persons employed, in the U.S., Canada and Mexico, increased in each of the years since NAFTA implementation from 1994 through 2000. During that period Mexico enjoyed the largest increases in active labor force. However, in the U.S. the growth in number of persons employed increased in much smaller increments than experienced by its NAFTA counterparts, Canada and Mexico. The U. S. experienced the smallest growth in employment, since NAFTA's implementation, in 2000 with an increase of only 0.7%, which could be in indication that the employment growth in the U.S. may have begun to slow down. In the first two quarters of the year 2001 the number of persons employed dropped to 132,369,000, a decrease in employment of 1,997,000 or -1.4%. A clear indication that the U.S. economy is on the verge of slowing down.

Table 3
Total NAFTA Civilian Employment 1987-2000
(in Thousands)

Year	CIVILIAN EMPLOYMENT			PERCENT CHANGE		
	USA	Canada	Mexico	USA	CANADA	Mexico
1987	112,440	12,321	27,170	2.6%	2.9%	1.0%
1988	114,968	12,710	28,128	2.2%	3.2%	3.5%
1989	117,342	12,986	28,726	2.1%	2.2%	2.1%
1990	118,793	13,084	29,403	1.2%	0.8%	2.4%
1991	117,718	12,851	30,534	-0.9%	-1.8%	3.8%
1992	118,492	12,760	31,789	0.7%	-0.7%	4.1%
1993	120,259	12,858	32,833	1.5%	0.8%	3.3%
1994	123,060	13,112	32,782	2.3%	2.0%	-0.2%
1995	124,900	13,357	33,881	1.5%	1.9%	3.4%
1996	126,708	13,463	35,226	1.4%	0.8%	4.0%
1997	129,558	13,774	37,360	2.2%	2.3%	6.1%
1998	131,463	14,140	38,618	1.5%	2.7%	3.4%
1999	133,488	14,531	39,069	1.5%	2.8%	1.2%
2000	134,366	15,074	40,976	0.7%	3.7%	4.9%
PRE-NAFTA						
Change: +(-)	7,819	537	5,663			
NAFTA						
Change: +(-)	11,306	1,962	8,194			

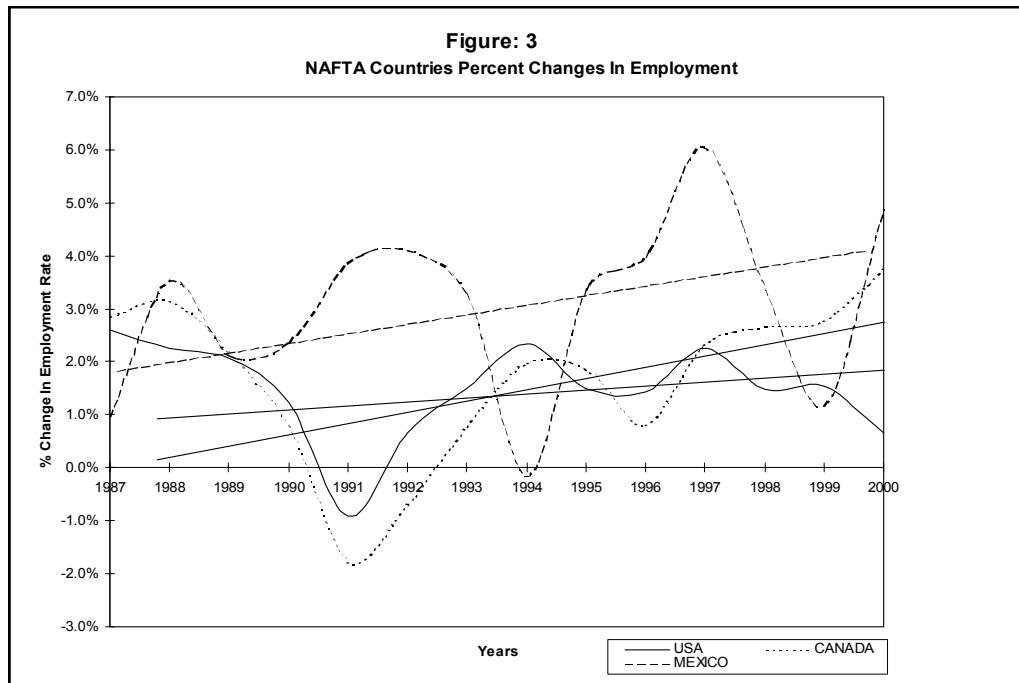
Change 3,487 1,425 2,531

% Change 45% 265% 45%

NAFTA 9.2% 15.0% 25.0%

Source : Employment data on the NAFTA countries was obtained from
US Department of Labor - Bureau of Labor Statistics, and The
International Labor Organization - Yearbook of Labor Statistic

It is clear, from the graph in Figure 3, that the with the exception of Mexico in 1994 that experienced a decrease in employment growth (-0.2%), all the negative employment growth occurred during the pre-NAFTA period. For the seven years since the implementation of NAFTA in 1994, all three countries experienced positive employment growth. It is also evident that Mexico experienced the largest increases in employment growth followed by Canada. The data also indicate that U.S. employment growth curve was much flatter than its neighbors, Canada and Mexico.



From the Gross Domestic Product (GDP) data (Table 4) collected from the IMF-International Financial Statistics, the ORCD National Accounts and Economic Outlook, and the World Bank Country Statistics, it is evident that the NAFTA countries, with the exception of Canada in 1998, experienced productivity growth for the period 1994-2000. In 1998, the Canada experienced a -4.1% decrease in GDP over the prior year. In that year also, Mexico experienced its smallest growth of 5.0% since the implementation of NAFTA. With the exception of 1998, Mexico experienced double digit growth in the other six years of NAFTA.

Table 4
NAFTA Gross Domestic Product (GDP) 1987-2000
(In billion of US Dollars)

Year	GDP			PERCENT CHANGE		
	USA	Canada	Mexico	USA	CANADA	Mexico
1987	4,743	414	140	6.5%	13.4%	94.5%
1988	5,108	490	173	7.7%	18.4%	23.0%
1989	5,489	550	205	7.5%	12.2%	18.4%
1990	5,803	400	107	5.7%	-27.3%	-47.7%
1991	5,986	359	138	3.2%	-10.3%	29.0%
1992	6,319	382	159	5.6%	6.4%	15.2%
1993	6,642	449	175	5.1%	17.5%	10.1%
1994	7,054	520	222	6.2%	15.8%	26.9%
1995	7,401	541	287	4.9%	4.0%	29.3%
1996	7,813	602	332	5.6%	11.3%	15.8%
1997	8,318	624	401	6.5%	3.6%	20.6%
1998	8,790	598	421	5.7%	-4.1%	5.0%
1999	9,299	635	483	5.8%	6.1%	14.8%
2000	9,963	688	576	7.1%	8.3%	19.1%

Source: Data obtained from the IMF-International Statistics; OECD National Accounts and Economic Outlook; and World bank Country Statistics.

CONCLUSION

Despite claims to the contrary (Adibi & Dott, 2001; Campolo, 1998; Peach & Adkisson, 2000), the North American Region, comprising Canada, Mexico and The United States, has benefited during the seven years since NAFTA's implementation in 1994. The trade data (exports and imports) for the NAFTA period clearly indicate that total exports to the NAFTA region increased for all three countries over the pre-NAFTA period. Although it was the consensus that due to the 1989 Free Trade Agreement between the U.S. and Canada, which eliminated tariffs between the two countries, any further impact on trade between those two countries will be negligible at best. However from the implementation of NAFTA in 1994, US exports to and imports from Canada increased by 56% and 79% respectively. Also, Canada exports and imports to the U.S. increased by 79% and 56% respectively since NAFTA's implementation in 1994. Both U.S. and Canada have had increased exports to and imports from Mexico. It is clear from the data that Mexico has received the greatest benefits from NAFTA.

The data clearly shows that during the NAFTA period both Canada and U.S. experienced continued employment growth. With the exception of 1994, the year of NAFTA's implementation, Mexico also experienced employment growth. In 1994 Mexico's experienced negative employment growth of -0.2%. From the available data, it is evident that the Region experienced employment growth since NAFTA's implementation. The data also indicate that during the NAFTA period, economic growth flourished in all three countries. In 1998 Canada recorded negative economic growth of -4.1%, while Mexico experienced its smallest growth of 5.0% over the seven-year period. With the exception of 1998, Mexico's experienced double-digit growth. Although the economic success of the region, especially the employment and economic growth, it is evident that the presence of NAFTA did little to hurt it.

It is evident that the North American Region benefited from NAFTA's increased trade (exports and imports) between member countries. However, it is difficult to attribute both positives and negatives, as relates to employment and economic growth, to NAFTA. On the other hand, the task will be much more difficult in supporting the argument that NAFTA has hurt the North American Region. Weighing NAFTA's precise impact is a delicate and difficult situation. However, this paper tried to assess, compare and analyze the available data and report the findings as obtained. Once observers weigh all the evidence, pros and cons, they will at the very least be able to conclude that NAFTA did not produce a giant sucking ground in the region.

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AN ORGANIZATION PERFORMANCE MEASUREMENT SYSTEM BASED ON QUALITY COSTS

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ABSTRACT

This paper suggests that organizations use the cost of quality to measure their overall performance. For this purpose, a decision support system will calculate and integrate the cost of quality for the operational processes and will suggest corrective actions that can result in improvement of the performance of the organization. A prototype decision support system in a real organization will validate the process.

INTRODUCTION

There is a vast amount of information in literature about the cost of quality, its definitions and applications. Blank and Solorzano (1978) define the quality costs in two group of discretionary and consequential; prevention and appraisal costs are regarded as *discretionary* and failure costs as *consequential* cost. Prevention costs relate to all those activities that prevent defects from occurring in the first place. These include, for instance, quality planning, design reviews and verification, education and training, process planning and control activities, supplier certification, quality audits, quality data acquisition and analysis, quality reporting and improvement projects. Appraisal costs are the costs for assessing the quality of materials and components supplied by vendors. They include all types of inspection and testing costs for incoming purchased products, labor and equipment, in-process evaluation and final product acceptance. Internal failure costs are due to defects in the products that occur before they reach the customer and include such items as scrap due to design changes, rework, repair, retest and re-inspection, downgrading of products, troubleshooting or failure analysis and associated paperwork expenses. External failure costs associate with defects found after the delivery of products to the customer. These costs include warranty claims, complaint investigations, handling of returned products and customer compensations, product liability claims, field services, lost sales and loss of good will. Juran estimated that 50-80% of the cost of quality for products is due to internal/external failure costs (March and Garvin 1989). The work of Groocock (1973) shows the importance of setting targets for quality cost reductions and of planning actions to meet those targets. Dale and Plunkell (1991a) emphasize the value of quality costs for facilitating performance measures and improvement activities.

Ittner (1996) defines quality costs as all expenditures associated with ensuring that products conform to specifications or with producing products that do not conform. These costs include conformance costs such as prevention and appraisal, and nonconformance costs including internal and external failure.

Recent views on quality cost measurement suggest that "conformance to specifications" definition of quality costs understates the costs of poor quality, leading to sub optimal quality improvement decisions (Taguchi and Clausing 1990). The conventional conformance to specifications definition assumes that no loss occurs as long as output lies within upper and lower specification limits. Taguchi, El sayed and Hsiang (1988) argue that "losses to society" occur whenever output deviates from its target value. Taguchi offers a quadratic "quality loss function" to estimate these costs. It is important to note, however, that the Taguchi loss function is not necessarily inconsistent with the four traditional quality cost categories (preventive, appraisal, internal failure, external failure) or the notion of quality-cost tradeoffs. He, for example, argues that management must choose the precision level that minimizes total cost, not just quality loss. This implies a tradeoff between investments in prevention and appraisal costs and the resulting reduction in quality losses, i.e., failure costs.

Freeman (1995) has developed an approach to analyzing quality costs using a prototype simulation system (QCOST). QCOST is a standalone simulation program, written primarily for use within a manufacturing environment. In particular, by using the Taguchi's methodologies, the package estimates quality costs for a wide range of production type configurations. The role of QCOST is two fold: first it shows where, if at all, quality cost savings exists, second it provides a framework for realizing such savings in a progressive stepwise fashion. They applied this system to a real life-manufacturing set-up and results from the analysis suggest where in the system, improvements may prove justifiable.

Feiring et.al. (1998) have modeled cost of quality in a production environment where the finishing operation is most critical. They used a five-state Markov chain model, which consists of three trapping, or absorbing states and two transient states. After gathering data for the one-step transition probabilities, the authors obtain the transition

probability matrix and apply it in a set of equations in order to find the total cost of the manufacturing operation. The total cost consists of the production cost and cost of poor quality.

During the 1950s, Juran, Feigenbaum, and Masser proposed the traditional cost of quality (COQ) model. According to this model, both internal and external failure costs seem to decrease exponentially when a company's prevention and appraisal costs are increased (Feiring et. al. 1998).

Juran (1989) and Juran and Gryna (1988) proposed an imaginative concept called the cost of poor quality (COPQ) and defined them as those costs, which would not have been incurred if every aspect of a product or service were perfectly, correct the first time and every time. Components of COPQ are internal failure costs, external failure costs, appraisal costs and prevention costs.

Fine (1986), developed a dynamic model called quality-based learning model in which the identification and correction of quality problems allow a manufacturer to increase its rate of learning and thereby lower its quality assurance costs below their previous level. As the efficiency and effectiveness of quality control activities increase due to organizational learning, the conformance cost curve shifts down and right, thereby allowing reductions in nonconformance costs over time to be accompanied by reductions in conformance expenditures.

Marcellus and Dada (1991) developed a model in which each investment in prevention provides a learning opportunity that decreases the future costs of defectives. Consequently, at least part of the investment in prevention is analogous to a capital investment that provides benefits over multiple periods. Given the capital investment-like nature of quality improvement activities, the cost of prevention becomes concave over time as opposed to strictly convex in the traditional quality cost model. The resulting dynamic model of quality cost behavior implies that a relatively fixed level of prevention expenditures can produce decreasing marginal reductions in failure costs over multiple periods.

Fassoula (2005) has developed a diagnostic tool to identify and measure the impact of "reverse logistics management" on cost of quality. The mechanism of the diagnostic tool is process oriented and provides cost functions for selected processes. The existence of a quality management system is a prerequisite for the implementation of the described tool.

THE PROPOSED MODEL

The development and implementation of a tool that measures, monitors and improves quality costs for operational processes can improve the overall performance of organizations. This paper introduces a quality cost decision support system (QCDSS) for management of the performance of organizations. The QCDSS also creates an assessment procedure for goal setting and action planning. The implementation of QCDSS can benefit organizations in a number of ways that increase the competitiveness. The direct and indirect benefits of this model include but not limited to the followings: 1) Identification of operational processes and their role in overall performance of organizations; 2) Introduction of quality costs related to each and all processes; 3) Creation of an integrated quality cost calculation system that is monitored by different managers as a tool for quality improvement; 4) Introduction of sub-processes that increase the cost of quality for major operational processes and applying control over these processes; 5) Providing general solutions to the causes of quality problems using an intelligent suggestion system; 6) Providing a centralized follow-up system that keep track of corrective actions and results; 7) Building a knowledge base for problems and solutions that can error-proof the systems and help future expansions; 8) Providing an overall performance measurement system as a base for compensation of employees

Methodology of the QCDSS

The methodology used for the development of QCDSS is based on the following concepts:

By identifying the costs related to each process and the way these costs are controlled, the total improvement in cost structure will be possible.

Cost of quality is a large portion of the organizations costs and can be controlled by creating a balance between four groups of costs.

Error-proofing of the systems can prevent cost increase.

In the classification of quality costs into four groups of prevention, inspection, internal and external failure, the control and reduction of the latter three is very crucial.

The organizations follow a system approach in which all the functions or activities understood in terms of how they affect other elements and activities with which they interact (Lambert et al., 1998).

There are activities or sub-processes that can increase quality costs of the processes and affect the financial performance goals of the organizations (Campanella, 1999).

Figure 1, presents the structure of QCDSS. Figure 2 presents the algorithm for calculation of the costs, comparing with previous data, suggesting corrective actions and monitoring the progress.

CASE STUDY

In order to test the concepts of the proposed system, an overseas company agreed to use this system for a certain period so that the results can refine the designed system. The prototype company (called ABC) assembles power train for passenger cars. There are three assembly lines for engine, transmission and axles. A final dress up line assembles engine, transmission and axles to get the power train unit for different car models, currently four. ABC Company purchases the parts for engine, transmission and axles in CKD (completely Knocked Down) form from local and foreign sources. ABC sells the dressed-up units to car manufacturers who have technical assistance agreement with foreign manufacturers. the time of study, they did not have the quality cost structure in place. In order to implement this system, ABC Company agreed to take the following steps: 1) Introduce quality cost as a measure of performance in the organization and communicate and train the employees accordingly; 2) Review and refine operational processes; 3) Identify the quality costs related to each process and Classify all the quality costs under four defined classes; 4) Introduce the methods of calculations and integration of costs based on the provided models; 5) Establish a system to compare the historical data and show the changes in costs; 6) Form a committee to analyze the costs and suggest corrective actions for cost and performance improvement; 7) Create a system to monitor the whole system in coordination with the author; 8) build a knowledge base for the problems and solutions;

In order to build the structure of the model, the author provided ABC Company with the conceptual design of the model, trained the people involved and helped them with the physical design of the system. The system implementation follows an agreed schedule with the management of ABC. The validation of the model and further development will be pursued after data collection.

CONCLUSIONS AND FURTHER RESEARCH

This paper presents a new approach on continuous improvement, based on using the cost of quality as a process measurement tool. In this approach, at least one quality cost measure is used for each of the operational processes. At the end of defined periods, these costs are calculated and the total cost is compared with the one of the previous period. If the costs are increased, the item costs are referred to a DSS in which the correction, corrective action and/or preventive action will be advised.

The implementation of this model can benefit organizations in a number of ways including but not limited to the following: 1) Identifying the areas where quality cost savings are possible; 2) Reducing quality costs and as a result, the total costs; 3) Allowing unexplored or underestimated processes to become focal points for improvement opportunities; 4) Helping to understand and control the processes; 5) Allowing the measurement of cost of quality to become more systematic and effective; 6) Improving customer service activities that will increase customer satisfaction; 7) Introducing organizations (if they have not already been) to a process-oriented business mentality that can also determine their cost accounting system; 8) Creating a better understanding of the relationships between processes; 9) Finally, creating the central measure of organizational performance as cost of quality.

The data base section of the DSS has been built and the model-base section of DSS containing an expert suggestion system is under construction.

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For the complete list of reference, please contact the author at alari@uncfsu.edu

Figure 1: The components of the QCDSS

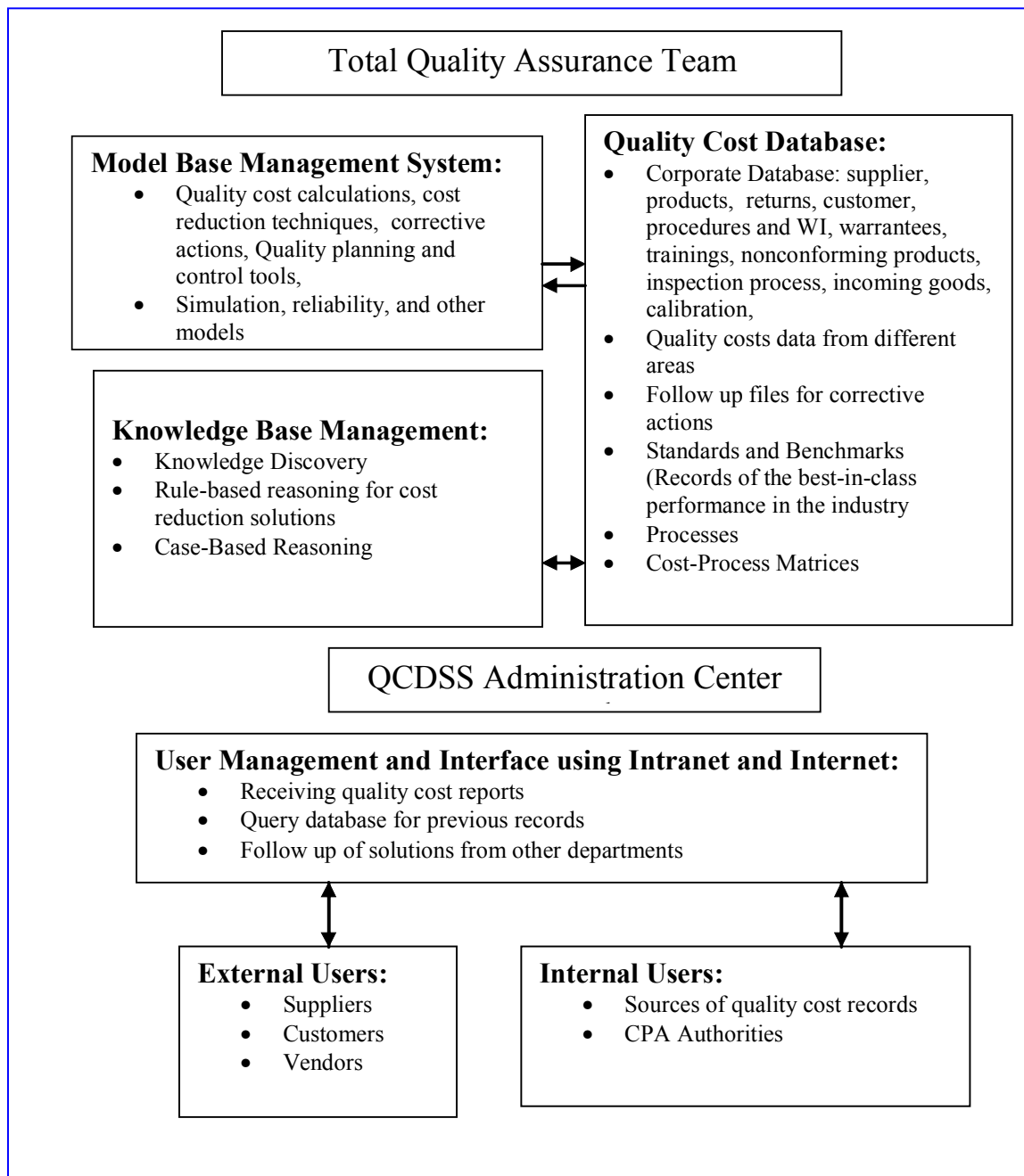
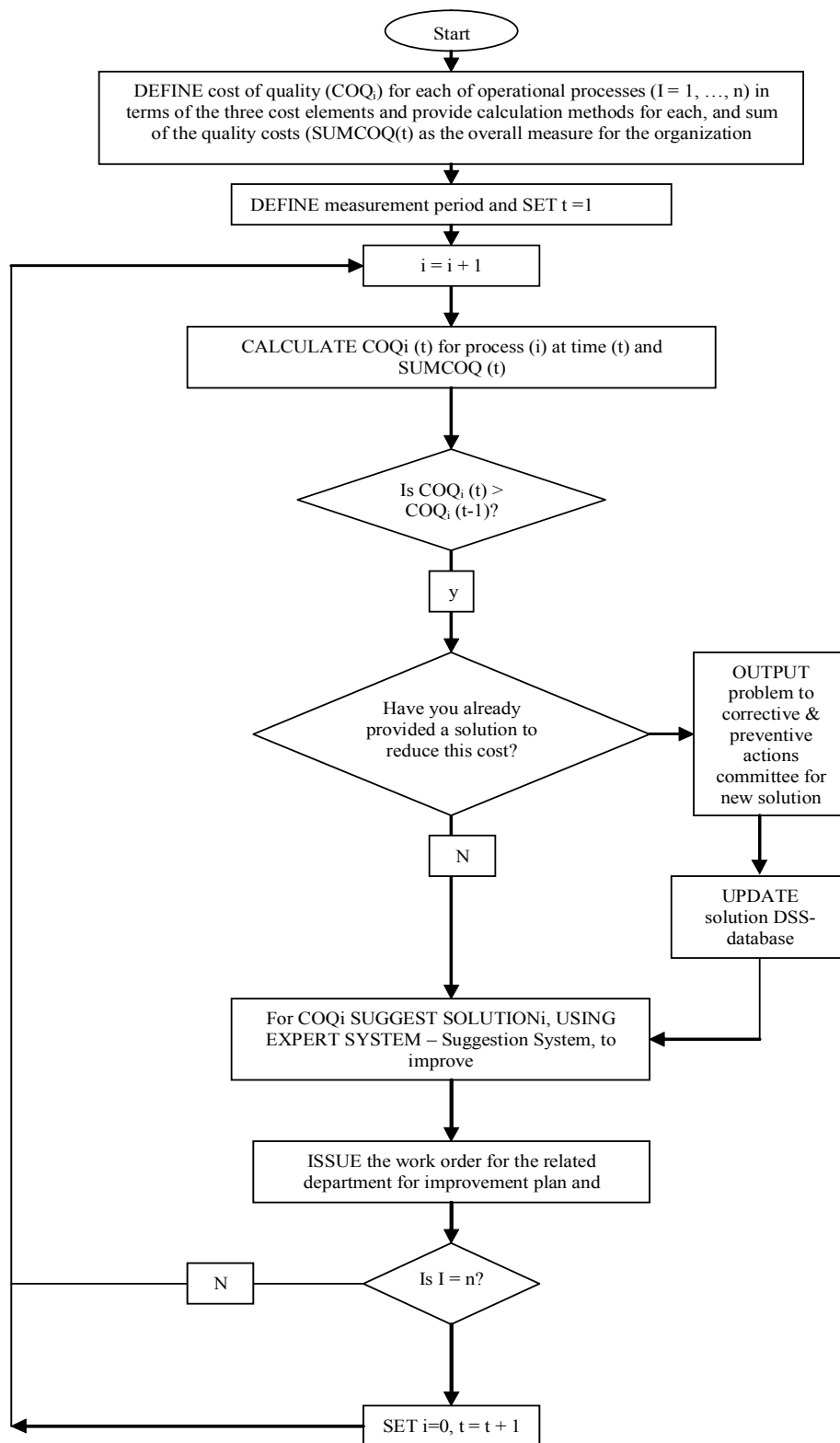


Figure 2: The Conceptual Design of the Model



EXEMPLARY MODELS OF FIRM INNOVATION: STRATEGY AND LEADERSHIP FOR THE TWENTY-FIRST CENTURY COMPETITIVE ENVIRONMENT

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ABSTRACT

The author begins the article by outlining factors that influence the innovation success of firms. Second, he presents the resource-based view and the contingency perspective as the theoretical underpinnings. Third, he presents the literature review, methodology, and three approaches employed by exemplary innovators in stimulating creative and innovative ideas within their organizations. Fourth, the author discusses how exemplary innovators manage creativity and innovation. Fifth, he draws implications for would-be innovators seeking to make innovation an integral part of their strategic thrust. The author concludes by emphasizing a similarity between innovations of the previous two centuries and those of the twenty-first century. He then draws a lesson from the above centuries that can be applied today: adept, well-managed companies that commit the right resources to innovation and leverage their external environment will shape the markets and build the new industries of the twenty-first century (Chesbrough & Teece 2002).

INTRODUCTION

Following prior research the author defines innovation as used in this paper as a process that begins with an invention, proceeds with the development of the invention, and results in the introduction of a new product, process or service to the marketplace (Edwards & Gordon 1984). Innovation begins when a firm chooses an invention for development, with the ultimate goal of introducing it to the market (Kuznets 1962). This definition is also consistent with Schumpeter's description: "The making of the invention and the carrying out of the corresponding innovation are, economically and sociologically, two entirely different things" (1939, p. 85).

The role of innovation in creating firm value has long been recognized. Firms undertake investment in research and development in hopes of developing innovative products and services that lead to increase performance. Prior research has found a positive correlation between innovation and firm value (Griliches 1981). For example, Griliches (1981) reported that investment in innovation can yield returns of 200 percent over the long run. Similarly, much has been written on factors that contribute to the innovative success to firm (see Brown & Eisenhardt 1995; Damapour 1991; Fiol 1996). Some of these factors are aspects of an organization's structure and culture, project team composition, within-firm and within-team knowledge flows, and top management and project leadership skill, commitment, and attitudes toward change (Griliches 1990). More specifically, technological innovations often follow a "trajectory"—a related stream of technological development (Dosi 1982; Winter 1984). Continuous exploration and continuous exploitation are both necessary for a firm to progress along a technological trajectory (Puranan, Singh & Zollo 2006).

THEORETICAL UNDERPINNINGS OF THE ARTICLE

The author applies the resource-based perspective of the firm and the contingency theory as the theoretical framework of this article. The resource-based view of the firm seeks to explain how organizations develop and maintain competitive advantage using firm-specific resources and capabilities (Wernerfelt 1984). According to this perspective, resources are assets or inputs to production that an organization owns or accesses (Helfat & Peteraf 2003); while capabilities are the ability to use resources to achieve organization goals (Amit & Schoemaker 1993; Helfat & Lieberman 2002). The basic premise is that resources and capabilities increase the efficiency and effectiveness of firms (Barney 1991).

Similarly, contingency theory has a long tradition of discussing how different dimensions of the external environment interact with organizational attributes such as the degree of competition in an environment (Pfeffer & Leblebici 1973), the availability of financial resources (Pfeffer & Salancik 1978), manufacturing intensity (Thompson 1967), and market size (Lawrence & Lorsch 1967).

LITERATURE REVIEW

Sources of Firm Innovation

There are, of course, innovations that spring from a flash of genius. Most innovations, however, especially the successful ones, result from a conscious, purposeful search for innovation opportunities, which are found only in a few situations. Four such areas of opportunity exist within a company or industry: unexpected occurrences, incongruities, process needs, and industry and market changes. The additional sources of opportunity exist outside a company in its social and intellectual environment: demographic changes, changes in perception, and new knowledge. True, these sources overlap. Different as they may be in the nature of their risk, difficulty, and complexity, the potential for innovation may well lie in more than one area at a time. Together, they account for the great majority of all innovation opportunities (Drucker 2002).

Organizational Knowledge and Firm Innovation

It is widely accepted that an organization's capability to innovate is closely tied to its intellectual capital, or its ability to utilize its knowledge resources. Several studies have underscored how new products embody organizational knowledge (e.g. Stewart 1997), described innovation as a knowledge management process (e.g. Anthony, Eyring & Gibson 2006), and characterized innovative companies as knowledge creating (e.g., Nonaka & Takeuchi 1995). So close are the ties between research on knowledge and research on innovation, in fact, that in recent years scholars have seen a blurring of the boundaries between these areas. It is now quite common for studies examining innovation to use knowledge or intellectual capital as antecedents, and studies investigating knowledge and intellectual capital frequently use innovation as outcomes (e.g., Ahuja 2000; Dougherty 1992; Subramaniam & Venkartraman 2001; Tsai & Ghoshal 1998).

Although the basic link between organizational knowledge and innovation is on the whole persuasive, more remains to be understood about its precise nature. It is known, for instance, that organizations adopt different approaches for accumulating and utilizing their knowledge and that these approaches manifest themselves as distinct aspects of intellectual capital—namely, human organizational, and social capital (Davenport & Prusak 1998; Nahapiet & Ghoshal 1998; Schultz 1961). Research has also delineated the differences between incremental and radical innovative capabilities (Abernathy & Clark 1985) and noted that they vary in the kinds of knowledge they draw upon (Cardinal 2001). Yet the finer aspects of how organizational knowledge gets accumulated and utilized remain unconnected to the specific types of innovative capabilities organizations possess, with most studies only linking knowledge to very generic, broadly defined innovation outcomes (e.g., new product introductions, technology patents, sales generated from new products). This gap in understanding is of concern given that organizations invest significant resources to develop their intellectual capital, often with a strategic need to enhance select types of innovative capabilities (Tushman & O'Reilly 1997; Ahuja & Katila 2004).

METHODOLOGY

This paper relies on the literature review of current relevant articles focusing on firm innovation. Except where a source was needed specifically for its perspective on broad issues relating to firms' overall business environment, the author screened papers by "firm innovation" and by numerous variants of keywords, focusing specifically on firm innovation management. Source papers included refereed research studies, empirical reports, and articles from professional journals. Since the literature relating to firm innovation is voluminous, the author used several decision rules in choosing articles. First, because firm innovation is changing fast in today's environment, the author used mostly sources published 2000-2007, except where papers were needed specifically for their historical perspectives. Second, given the author's aim to provide a practical understanding of the main issues in firm innovation, he included, in order of priority: refereed empirical research papers, reports, and other relevant literature on current firm innovation practices. To get some perspective on the current state of firm innovation, the author begins with a brief look at exemplary innovators find their creative ideas.

HOW EXEMPLARY INNOVATORS FIND THEIR CREATIVE IDEAS

Studies indicate that exemplary innovators (from now on EIs) usually have a pretty clear idea of the kind of competitive edge they're seeking. They have thought long and hard about what's practical in their particular business. And just as hard about what is no. For example, by drawing new product ideas out of current products—and tapping existing skills and technologies—EIs reduce the chance that they will come up with ideas that are impractical to produce or market. And using systematic patterns, rather than the preconceptions of customers or marketers, to generate ideas liberates a firm's innovation process from the straitjacket of existing concepts and assumptions (Goldenberg, Horowitz, Levav & Mazursky 2003). However, the process of generating and finding innovative ideas is not an easy task in most firms. How then do EIs find good, concrete ideas? Brainstorming is one approach. Good ideas most often flow from the process of taking a hard look at the customers, the competitors, and the business all at once. So in looking for ways to innovate, EIs concentrate on (a) what is already working in the marketplace that they can improve on as well as expand (b) how they can segment their markets differently and gain a competitive advantage in the process (c) how their business system compares with their competitors' (Pearson 2002), and adapt their business system accordingly (Hargadon, Parise & Thomas 2007).

Another strategy employed by EIs is to look at how to create segments or markets for their products. It sounds simple, but it takes a lot of creativity and skill to segment a market beyond simple demographics, ferret out what individual groups of consumers really want, and actually create distinctive product performance features (Pearson 2002). EIs do this by employing their ability to innovate through unique designs (Verganti 2006).

A third approach used by EIs seeking good innovative ideas is to look in their business system. Beyond its products, every company has a business system by which it goes to market. That system is the whole flow of activities, starting with product design and working its way through purchasing, production, MIS, distribution, customer sales, and product service. It will come as no surprise that these systems differ from one competitor to another, even in the same industry. And in almost every case, each competitor's system has particular strengths and vulnerabilities that can provide a fruitful focus for EIs innovative energies. The underlying concept here is that a distinctive system can give EIs a big competitive edge for all their products. This is because it will help them leverage their inherent consumer appeal in ways their competitors find hard to match (Pearson 2002).

FINDINGS

Findings from the author's research show that EIs possess nine main characteristics that distinguish them from their peers. These attributes are presented below.

The first attribute is that EIs embrace new innovation mind-set. That is, they share the following operating beliefs: (1) good enough can be great. Many companies unintentionally slow the innovation process by pushing for perfection. For EIs, they believe it is better to put something out there and see the reaction and fix it on the fly. It's another way of saying 'perfect' is the enemy of 'good enough.' (2) step, don't leap. Great leaps forward, when companies spend many years and millions of dollars seeking to jump over existing companies, almost never work. EIs are aware that they have a much greater chance of success if they start with a simple springboard, and (3) the right kind of failure is success. Most well-run companies naturally consider failure to be highly undesirable. But remember, most of the time the initial strategy for a growth business is going to be wrong. For this reason EIs recognize that learning what's wrong with an approach and adapting appropriately is a good thing, not a failure (Anthony, Eyring & Gibson 2006).

The second characteristic that set EIs apart from their peers is that EIs know that most of their best innovations had come from connecting ideas across internal businesses. That is, they used the connect-and-developed model. In other words, to focus their idea search, EIs direct their surveillance to three environments: (a) identify top ten consumer needs (b) identify adjacencies—that is, new products or concepts that can help them take advantage of existing brand equity, and (c) define strategy to evaluate technology acquisition moves in one area that might affect products in other categories (Huston & Sakkab 2006).

The third quality of EIs is their ability to develop a strategic game plan for innovation. EIs create a short list of innovation ideas for their target market and to assess whether those ideas adhere to the general pattern of success they have uncovered and to their specific checklist. The discipline of checking seemingly high potential ideas against a rigorous list of questions keep EIs from moving forward with a plan that is similar to something that worked in the past but different in some crucial ways (Wolpert 2002). For this reason, EIs do concentrate more on patterns and less on quantitative measures or outcomes.

The fourth feature of EIs is that they practice management innovation. A management innovation can be defined as a marked departure from traditional management principles, processes, and practices or a departure from customary organizational forms that significantly alters the way the work of management is performed. Simply put, management innovation changes how managers do what they do such as (a) setting goals and laying out plans (b) motivating and aligning effort (c) coordinating and controlling activities (d) accumulating and allocating resources (e) acquiring and applying knowledge (f) building and nurturing relationships (g) identifying and developing talent, and (h) understanding and balancing the demands of outside constituencies. For EIs, management innovation is not a one-time revolutionary initiative. Rather it is ad hoc and incremental. A systematic process for producing bold management breakthrough that includes (a) commitment to a big management problem (b) novel principles that illuminate new approaches (c) a deconstruction of management orthodoxies, and (d) analogies from atypical organizations that redefine what is possible (Hamel 2006).

The fifth peculiarity about EIs is their ability to look at innovation systematically. They know that their competitive successes are built on a steady stream of improvements in production, finance, distribution, and every other function, not just a big hit in sales or marketing or R&D. So EIs make sure they've got players who can deliver consistently. And they create organizations that give those players all the backup they need. That means (a) creating and sustaining a corporate environment that values better performance above everything else (b) structuring the organization to permit innovative ideas to rise above the demands of running the business (c) clearly defining a strategic focus that lets the company channel its innovative efforts realistically—in ways that will pay off in the market (d) knowing where to look for good ideas and how to leverage them once they're found, and (e) going after good ideas at full speed, with all their resources brought to bear (Pearson 2002).

The sixth attribute of EIs is their strong commitment and believe in the power of networking. Successful innovation requires the ability to harvest ideas and expertise from a wide array of sources. For EIs, that means bringing in insights and know-how not just from outside parties but from other businesses. They understand that the need for external perspectives seems almost self-evident: If they stay locked inside their own four walls, how will they be able to uncover and exploit opportunities outside their existing businesses or beyond their current technical or operational capabilities? Yet perhaps even more self-evident to EIs is the need to lock in their innovation initiatives to protect them from competitors. They do this by establishing a network of strategic intermediaries. This is because intermediaries facilitate the exchange of information about innovation among companies while keeping their secrets. The intermediaries can be trusted to maintain confidentiality because if they ever violated the terms of an arrangement no company would hire them again (Wolpert 2002).

The seventh trait of EIs is their ability to innovate through design. EIs understand that products that are radically innovative tend to have the following qualities: (a) they offer longer commercial lives than other goods (b) they create in consumers bolder expectations for the brand and high receptivity to their equally startling successors, and (c) they tend to enjoy especially high margins, because they are so dissimilar to the offerings of competitors (Verganti 2006).

The eighth characteristic of EIs is their propensity have lots of experiments going on all the time. This encourages more risk taking since they don't expect every experiment to succeed. This also holds down costs since tests and trials don't get expanded until they show real promise. And it improves the odds of success because EIs usually bet on a portfolio, not on one or two big, long-odd projects (Chesbrough & Teece 2002).

The ninth, but not the least, quality of EIs is their ability to institutionalize simplicity in decision making. The goal here is to manage complexity before it is hardwired into plants and costs. To do this, EIs would determine who has responsibility for making innovation decisions across the value chain (Gottfredson & Aspinall 2005).

DISCUSSION

When it comes to corporate innovation, the myth of the long genius dies hard. Most companies continue to assume that innovation comes from that individual genius, or, at best, small, sequestered teams that vanish from sight and then return with big ideas. But the truth is most innovations are created through networks—groups of people working in concert. The misconception has never been more damaging, as companies pour more money into generating ideas and they end up frustrated as innovations simply don't develop. In order to do away with this bad practice and lay the groundwork for innovation, organizations must make it easy for their employees to build networks—talk to their peers, share ideas and collaborate.

The process consists of the following steps: (1) Get the right people talking. There is a crucial first step companies can take to improve innovation: figure out what everyone inside the company knows—and make sure

they talk to people with complimentary talents. (2) Rapidly test and refine ideas. With the rapid pace of change in many industries, companies must clear up the decision-making process to make it easier to push ideas through to the test stage. If it is not clear who has final say over a new idea, or if too many people have a say, it can lead to bottlenecks and sap the energy of those with big ideas, leading them to avoid risky proposals. Clearing up those processes can help fight fear of failure and promote creativity. Companies must also clear up the building and testing process for new products. That means having resources inside the organization that can be mobilized around a new opportunity, such as a model shop devoted to turning ideas quickly into prototype. In some cases, companies can improve their testing speed by turning to outside partners. A company might tap a trusted supplier to quickly provide new and promising materials, for instance. Or it might ask retail partners to make shelf space available for a brief test of a new product. (3) Think twice about leadership. The people who usually get chosen to come up with new ideas are top performers in individual areas. But they may not have connections within the company that are vital for getting the job done. For instance, a star engineer might be tapped to lead a big project. But a lower-level engineer who has worked in more divisions of the company might be a better choice, since he or she could draw on broader knowledge and connections inside the organization. (4) Make collaboration easy. Very often, companies undermine their efforts by keeping workers sequestered in their groups. Research shows that collaboration between R&D groups stall when it takes longer to get approval to transfer people from one project to another than to actually get the work done. While executives will not be able to entirely overhaul organizations, they can at least make sure that they aren't impeding innovation. One effective strategy is to allow employees to work with more than one department at a time. So, for example, someone in R&D could collaborate with others in the business units without requiring juggling of budgets or formal reassignments. (5) Consider energy. Emotion plays a substantial role in networks. If one feels positively about a co-worker, he is more likely to turn to him for help and advice. And one is more likely to generate interesting ideas with that person than with someone who leaves one feeling drained or irritated. Therefore companies should map the energy and enthusiasm in their network—in other words, ask people to say who leaves them feeling positively or negatively (Cross, Hargadon, Parise & Thomas 2007).

MANAGERIAL IMPLICATIONS FOR WOULD-BE INNOVATORS

Several lessons are drawn from the analysis of the influential factors of EIs in this article that can benefit would-be corporate innovators. First, to organize a business for innovation, managers must first determine whether the innovation in question is autonomous (it can be pursued independently) or systemic (it requires complementary innovations). They must also assess whether the capabilities needed to produce the innovation can be easily obtained or must be created (Chesbrough & Teece 2002).

Second, companies should make sure that as they begin to execute their innovation strategies, they need to encourage adaptation and flexibility. They can do this by following a simple mantra: Invest a little, learn a lot. Research shows that many companies that think they are following an 'invest little, learn a lot' approach are actually falling into one of three classic traps: They are unwilling to kill projects that have fatal flaws; they commit too much capital too soon, allowing a project team to follow the wrong approach for too long; or they fail to adapt their strategies even in the face of information that suggests their current approach is wrong. To avoid these mistakes, companies should be rigorous about staging their investments. Early investments should focus on resolving critical unknowns. Identifying where the team should focus is straightforward. They must ask the following questions: What are the consequences of being wrong about an assumption? Is it catastrophic or potentially harmless? How much certainty do they have that they are right? How long would it take and how much would it cost to become more knowledgeable? By answering these questions and identifying critical assumptions, teams can direct their investments to the appropriate experiments. After running the experiments, companies then have one of four options: (a) double down—Information clearly points to a winning strategy with no obvious deal-killing uncertainties, so move forward rapidly (b) continue exploring—All signs look positive, but there are still untested assumptions, so keep experimenting (c) adjust the game plan—Investigation suggests that the current strategy is not viable, but another approach might be, so change the approach and begin experimenting again, and (d) Shelve—There is no clear path forward, so move on to other projects until something else changes. The key is to make decision rapidly. Studies show that companies seeking to build their innovation capabilities try to move dozens of idea forward simultaneously. Starting with a lot of ideas is important, but success requires the fortitude to shut down the unpromising ones and redirect those that are heading in the wrong direction. If companies wait too long to make these decisions, they end up diverting resources toward fruitless efforts or continuing to executing a fatally flawed strategy (Anthony, Eyring & Gibson 2006).

Third, because innovation is both conceptual and perceptual, would-be innovators must also go out and look, ask, and listen. Successful innovators use both the right and left sides of their brains. They work out analytically what the innovation has to be to satisfy an opportunity. Then they go out and look at potential users to study their expectations, their values, and their needs. To be effective, an innovation has to be simple, and it has to be focused. It should do only one thing; otherwise it confuses people. Even the innovation that creates new users and new markets should be directed toward a specific, clear, and carefully designed application. Fourth, careful analysis of the needs—and, above all, the capabilities—of the intended users is also essential. It may seem paradoxical, but knowledge-based innovation is more market dependent than any other kind of innovation (Drucker 2002).

CONCLUDING REMARKS

It should be noted that innovation is always a risky pursuit, with an uncertain and often distant payoff. But must that fact doom it to erratic investment? Or can innovation become a staple corporate priority as, for example, quality has become? Research shows that stability can be brought to corporate innovation and that the result will be much greater strategic gains and much stronger returns on investment. But sustainable innovation requires an entirely new approach. In stead of being a largely isolated process—carried out often with considerable secrecy—innovation needs to become more open. Initiatives must gain access to and leverage from the insights, capabilities, and support of other companies without compromising legitimate corporate secrets. As counterintuitive as this may sound, innovation must become part of the ongoing commerce that takes place among companies. Only then will it be protected from both the ax of short-term cost reduction and the faddishness born of easy money (Wolpert 2002).

Therefore, to sharpen an organization's receptivity to change and innovation, several ingredients are essential. First, and foremost, top management must be deeply and personally involved in the process. Innovative companies are led by innovative leaders. It is that simple. Leaders who set demanding goals for themselves and for others, the kinds of goals that force organizations to innovate to meet them. They must also set specific, measurable goals that constitute outstanding relative performance—like becoming number one in a particular market. Not vague, easily reached objectives. Innovative leaders aren't necessarily creative, idea-driven people (though objectively many are). But they welcome change because they're convinced that their competitive survival depends on innovation. That's a mind-set most executives can develop—if their conviction is based on a specific understanding of a particular competitive environment, not just a bromidic generality (Pearson 2002).

It is important to remember that as the economy boomed in the 1990s, corporations went on an innovation binge. They poured money into programs for generating fresh ideas, pioneering new technologies, and promoting entrepreneurship and creativity among employees. They launched venture capital arms and new-business incubators. They recruited freethinking executives who weren't afraid to rock the corporate boat. They brought in creativity consultants to spur out-of-the-box thinking. Where are those efforts today? Many of them have been scaled back, mothballed, or disbanded altogether. As the economy cooled at the start of the century, companies quickly cut off the flow of funds into innovation efforts. What seemed like a mandatory expense just months before suddenly seemed discretionary. Even the rhetoric of business took a turn: Executives began to speak less about creating the future and more about protecting the core (Wolpert 2002).

Research confirms that in the 1990s disruptive innovations have had a major impact on industry structures, from travel to computer retailing to communications, and have often given rise to change in the process (Christensen, Baumann, Ruggles & Sadtler 2006). Similarly studies indicate that the leading industries of the late nineteenth and early twentieth centuries—chemicals, steel, and railroads—all experienced rapid systemic and disruptive innovations. The winners were the companies that made major internal investments to shape the markets rather than those that relied on others to lead the way. While business conditions have certainly changed, many of the principles that worked a century or decade ago still pertain. Today, leading innovative companies like Intel, Apple, and Microsoft make extensive investments to enhance their current capabilities and spur the creation of new ones. The lessons of the second industrial revolution apply to the third: Adept, well-managed companies that commit the right internal resources to innovation and leverage their external environment will shape the markets and build the new industries of the twenty-first century (Chesbrough & Teece 2002).

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NETCENTRICITY AND TECHNOLOGY TO STIMULATE ADAPTATION IN PUBLIC ORGANIZATIONS

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INTRODUCTION

This paper focuses on the inherent contradiction between the basic building block of most non-market productive relationships – hierarchy – and the vision inspired by the architecture of modern information technology, especially the World Wide Web, of a more egalitarian culture in public organizations. As noted earlier, Evans and Wurster (1997) have argued that, in the future, all knowledge-based productive relationships will be designed around fluid, team-based collaborative communities, either within organizations (deconstructed value chains), or collaborative alliances like the “amorphous and permeable corporate boundaries characteristic of companies in the Silicon Valley” (deconstructed supply chains). They assert that, in these relationships everyone will communicate richly with everyone else on the basis of shared standards and that, like the Internet itself, these relationships will eliminate the need to channel information, thereby eliminating the tradeoff between information bandwidth and connectivity. “The possibility (or the threat) of random access and information symmetry,” they conclude, “will destroy all hierarchies, whether of logic or power.”

Evans and Wurster lay it on a bit thick. Nevertheless, to ignore such visionaries is at our peril. The World Wide Web, together with the canon that two heads are better than one, has created something immensely interesting and potentially transformative. The genius of the World Wide Web is, as Evans and Wurster explain, that it is (a) distributed (so that anyone can contribute to it), and (b) standardized (so that everyone else can comprehend the contributions). Random access and information symmetry jeopardize the power of gatekeepers of all sorts: political leaders, managers, functional staff specialists, and even experts to determine *what* information counts as evidence and what beliefs are sufficiently *warranted* to count as knowledge. In other words, they threaten nearly everyone with a vested interest in existing institutional arrangements. One does not expect folks to surrender position or power without a struggle. Furthermore, *homo sapiens*’ need for leaders is evidently instinctive, deeply rooted in our simian brains (Heifetz, 1993). The need for hierarchy buttresses the status quo, even where the powerful are neither wise nor unselfish.

To understand the conflict between hierarchical arrangements and the vision inspired by contemporary technology and the possible outcomes of this conflict, this paper will look closely at a case based upon recent encounters with e-government in the United States: the 2004 presidential election. This case was selected because it shows what may appear at the leading edge of e-government owing both to the scale and scope of the activities in question and the resources lavished upon them.

THEORETICAL CONSIDERATIONS FROM THE ECONOMICS OF ORGANIZATION

The basic idea behind the new economics of organization is that the comparative advantage of governance mechanisms boils down to a question of information or transaction costs “and to the ability and willingness of those affected by information costs to recognize and bear them” (Arrow: 1969; Coase, 1937). Hence, the circumstances which create market failures: public goods, natural monopolies, externalities, moral hazard and adverse selection, etc., the problems that justify government action in a capitalist economy, are all fundamentally information failures. Markets could deliver public goods, for example – if information technology existed that would permit free riders to be profitably excluded from enjoying them. Monopolies could be compensated to behave like competitors -- if information costs were lower. And, bargaining between self-interested individuals could eliminate externalities,

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without the intervention of government -- if transaction costs were zero. Much the same logic applies to the choice between organizations and markets and the kinds of governance mechanisms used within organizations.

A corollary to this basic Coasian insight is that information costs -- typically search, bargaining, logistics, and/or enforcement costs -- can be reduced by carrying them out through formal mechanisms of governance: organizations rather than markets or government rather than private organizations. Reduction does not imply elimination, however. This fact implies a second, perhaps, less obvious corollary to the basic Coasian insight: the conditions that wreck markets will also impair organizations and governments. Consequently, as Robert Gibbons (2003) explains, the organizations one observes tend to be less efficient than the markets, even though they are more efficient than the markets they replace; the government agencies one observes tend to be less efficient than many private organizations, even though they are often more efficient than the private organizations they replace.

Gibbons' corollary to the basic Coasian insight explains the declining efficacy of markets, organizations, and government as transactions difficulty increases. As the critical values of transaction difficulty are confronted then markets and private organizations, and private organizations and governments are both equally efficacious -- however private organizations are more efficient than markets. With less transactions difficulty, government is more efficient than private organizations.

The evidence seems to support Gibbons' corollary. Where the production of privately consumed goods and services -- steel, banking, even telecommunications -- is concerned, private organizations are usually observed to be more efficient than state-owned enterprises. Finally, it also might be noted that Gibbons' corollary is entirely consistent with the observation: reducing the cost of information should increase the efficacy of markets relative to organizations and of non-governmental organizations relative to government. Improved communications technology, logistics, and IT have all reduced the cost of information.

This observation most emphatically does not mean, however, that the most efficient technology, let alone set of social/institutional relationships, must necessarily win out in the end. Technological development is not a coldly rational, self-regulating economic process, which proceeds automatically along a singular path. Even if one sets aside the contested nature of efficiency, the evolution of social constructs is precisely analogous to natural selection, a process that is inherently path dependent, a fact made patently obvious by English spelling in the first case and the platypus in the second. For the purposes of this paper one may accept David's (1985) definition path-dependence in the following manner: "A path-dependent sequence of economic changes is one of which important influences upon the eventual outcome can be exerted by temporally remote events, including happenings dominated by chance elements rather than systemic forces." (332) In other words, economic arrangements are partly a function of systemic change; but they are a function of random, fortuitous events as well. Moreover, systematic forces include culture, position, and power -- people, institutions, and competing values -- and not merely payoffs.

Evolution of social constructs is not entirely a Darwinian process of slow adaptation; it is partially driven by change that comes quickly and is comprehensive in scope. Human agency intervenes at every stage to order arrangements to suit felt needs and wants. Human decisions shape economic arrangements, social relationships, and technological developments at the same time they shape us.

This paper stresses the normative power of these observations: not that Y will cause X, but that if you want Y, you should do X. Brynjolfsson and Hitt (2000) provide compelling evidence that computers do increase performance: where both are compared to industry averages, an eight percent increase in IT assets is associated with a one percent increase productivity. They emphasize, however, that the payoff to IT investment varies substantially across firms, even in the same industries. Measurement error may explain some of this variation. IT measurement focuses on tangible assets -- hardware and, in some cases, software. Intangible assets -- investments in human capital, business process reengineering, and organizational culture -- are usually overlooked, although in successful IT projects, systems implementation and deployment typically account for 75 percent of total project costs. In explaining this phenomenon, Brynjolfsson and Hitt stress not the level of effort given to IT systems implementation and deployment but the manner in which systems are implemented and deployed. They argue that if we want the high productivity that IT promises, it is not sufficient to invest in computers and software, our organizations must also adopt a specific relational architecture, set of processes or routines, and culture.

NETCENTRIC ORGANIZATIONAL CHANGE

Brynjolfsson and Hitt refer to this pattern of practices as the digital or netcentric organization. They insist that IT and digital organization are complements: firms that simultaneously adopt the digital organization and invest more in IT have disproportionately higher performance. They imply that adopting any of the seven practices of

highly effective netcentric organizations in isolation may actually hurt performance, although their evidence speaks only to a couple of the practices and to investment in computers. Five of the characteristics of digital or netcentric organizations are often found in high performance organizations, especially those operating in hazardous environments that call for high reliability on the part of their members (Weick & Sutcliffe 2001). These organizations consistently maintain focus and communicate goals, foster information access and communication throughout the organization, link incentives to performance, hire the best people, and invest in human capital (Pfeffer 1998; see also Ichniowski and Shaw 2003; Dixit 2002; Lazear 2000; Asch 1990).

Moving from analog to digital processes and distributing decision-rights to front-line personnel are the practices that truly distinguish the netcentric organization from more traditional bureaucracies. The first is inconceivable without computers; the second is a recipe for disaster where people lack a clear sense of mission and the motivation, capacity and information needed to accomplish it. It makes sense that implementing either of these practices in isolation could degrade organizational performance. The architecture that distinguishes the netcentric organization from more traditional bureaucracies was, perhaps, first clearly articulated by Hammer (1990) in his rules for business process reengineering:

Jobs should be designed around missions and goals rather than functions (functional specialization and sequential execution are inherently inimical to efficient processing);

Those who use the output of an activity should perform the activity; the people who produce information should process it, since they have the greatest need for information and the greatest interest in its accuracy;

Information should be captured once and at the source;

Parallel activities should be coordinated during their performance, not after they are completed;

The people who do the work should be responsible for making decisions and control built into their job designs.

Moving from analog to digital processes means reconfiguring processes to exploit the power of IT to perform a variety of tasks rather than merely using IT to perform steps in existing processes. This is not a new problem nor is it necessarily an easy one. First the technology must be ready. Then someone must grasp its full potential and figure out how to configure work to extract every advantage from it.

With these lessons in mind we may observe that the power of netcentric organization to transform productivity is dependent on a number of variables, including good human resource management. The role of new technology in enhanced productivity is highly evident as was first demonstrated in the computer industry. Many of the characteristics of netcentric organizations were already common practice in this industry by the 1990s. Owing to their technological expertise, its leaders were themselves well positioned to grasp the possibilities inherent in the technology and to figure out how to reconfigure basic business processes to take advantage of them, although actually doing so often took many years. IBM's Business Continuity and Recovery Services facility in Dallas, Texas was an early example of a complete netcentric organization. It explicitly mimicked the self-organization of markets. Everyone was either a customer or provider, depending on the transaction, which transformed the facility into a network of voluntary exchanges and substantially boosted productivity.

APPLICATION OF NETCENTRIC PRINCIPLES AND ARRANGEMENTS IN GOVERNMENT?

Can public organizations, including universities, copy the netcentric model, organizing into alliances of networks, sharing top management and core competencies, investing in multi-disciplinary teamwork and a common culture, and using computers to chart activities and operational flows? Can it use real-time information on operations made possible by modern IT systems to pass the exercise of judgment down into the organization, to wherever it is most needed, at service delivery, in production, or to the client? Can government abandon its hierarchies, its need to push operating decisions to the top of the organization, or its stove-piped functional organizations? Can it consistently maintain focus and communicate goals, foster information access and communication throughout the organization, link incentives to performance, hire the best people, and invest in human capital, as well as computers and software? The benefits are there, but so too are the costs. Adopting the netcentric organization is problematic in

several ways, two of which are crucial: lack of understanding that certain practices matter and that these practices must be adopted together, as part of a complementary system, and the unwillingness of the people at the top to share authority.

CONCLUSIONS

Governments at all levels are grappling with these issues. The issue that must soon be faced is: what do the new technologies mean for the democratic process itself and for the prospect of enhanced citizen engagement? Democracy may be easier to achieve in the workplace than in society. Work is central to our lives but government and its functions are not, which implies an important relational distinction. At work, participation in governance is a benefit, in society writ large it is a cost. For democracy to work as it should, this cost must be borne but, the incentives to participate are so widely dispersed in society that the absence of participation is understandable, if regrettable. This fact explains why governments so often fail to manage their business affairs properly, why corruption is prevalent in democratic and quasi-democratic political systems, and why public organizations are so resistant to management reform.

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THE MACHINIST'S SEQUENCING DILEMMA

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ABSTRACT

We examine a single machine sequencing problem of n -jobs which are applied to a single product. While each job adds value to the product, the accumulated product value is always at risk due to a given chance that the next job will fail. Once a job fails the product is considered defective and cannot be repaired. The goal is to find the sequence of jobs which minimizes the expected value of failure. This sequencing problem, which we call the "machinist's dilemma", depends on the value of each job and the likelihood that the job will fail. We offer a mathematical programming model to solve this problem. This method works well for small problems. When a large number of jobs are considered, other heuristics are discussed and future research is suggested.

INTRODUCTION

In the machinist's sequencing dilemma (MSD), n jobs must be performed on a given product. Associated with each job j is a value¹ p_j ($j=1, 2, \dots, n$) and a probability of failure f_j with $0 < f_j < 1$. The jobs will be processed sequentially until one job fails. In that case the product becomes defective and not repairable. The value of jobs accumulated up to that point will be lost. If no job fails the product is not defective and no losses occur.

For any sequence S , the accumulated value of the k -th job is the value added of the first k jobs calculated as $C_{\max(k)}^S = p_{s(1)} + p_{s(2)} + \dots + p_{s(k)}$, where $p_{s(i)}$ is the processing time of job i in sequence S . Job processing is statistically independent and so for any sequence S the probability that k -th job will be carried out is $Q_k^S = q_{s(1)} q_{s(2)} \dots q_{s(k-1)}$ where $q_{s(i)} = 1 - f_{s(i)}$ is the probability (Q) that job i for ($i=1 \dots k$) in sequence S will not fail.

The central question of this paper is to provide how should a series of jobs, each with a probability of failure and with an independent value added to a product be sequenced in order to minimize the overall loss of accumulated cost. The accumulated cost at risk involved in this scenario is sequence dependent as well as not intuitively obvious. Improper sequencing in this type scenario can lead to substantial losses; that is, optimal solutions may result in significant savings over suboptimal approaches. The purpose of this paper is to introduce and provide a theoretical formulation for the machinist's dilemma sequencing problem.

LITERATURE REVIEW

The subject of scheduling and sequencing has been one of the most studied areas among scholars and practitioners. A number of survey papers (Graham et al., 1979; Lawler et al., 1982; Lawler, 1983; Lenstra and Rinnooy Kan, 1985; Lawler et al., 1993) have been written on this subject as well as the books by Pinedo (1995) and Conway et al. (2003). One of the major results of the scheduling research is the successful addressing of many interesting and important problems through use of optimization and heuristic solution approaches (Bellalouna and Jaillet, 2007). Stochastic scheduling is among these interesting and challenging problems and has always been the focus of the research. However, stochastic cases of scheduling have been mainly limited to random processing times (Soroush, 1996; Xia et al., 2008) random release time (Hsieh et al. 2006), and random due dates (Cai and Zhou, 2005). A comprehensive discussion of stochastic scheduling problems is provided in Chapter 8 of Pinedo (1995). The MSD is known as a-priori scheduling problems. This approach was used for the stochastic case of traveling salesman problem when probabilistic elements change (Jaillet 1988; Bianchi 2002).

Considering the random failure rate as probabilistic element and using priority approach, we consider MSD as a single-machine sequence-dependent scheduling problem. Also, we assume the added value from each job is proportional to the job's processing time. As such, MSD can be reformulated as sequence-dependent scheduling

model, where the objective function is to minimize the expected value of lost value-added under the constraint of each job having a probability of failure. Sequence dependent scheduling problems for a single machine (deterministic or probabilistic) with the objective to minimize the loss, usually involve setup times, known as the traveling salesman problem (TSP) and described in the famous paper by Gilmore and Gomory (1964). More work in the sequence dependent processing times is provided by Bianco et al. (1988), Tang (1990), and Wittrock (1990). Beside setup-times, job sequencing in a single machine becomes sequence dependent when due dates and tardiness are considered (Lawler, 1977; Lin and Ying, 2007; and Szwarc, 2007). Most recently, the research in single machine sequencing has focused on stochastic environments (Black et al. 2005; Xia et al. 2008) and dual or multiple criteria sequence dependent setup time scheduling (Lee and Asllani, 2004).

MATHEMATICAL PROGRAMMING FOR THE MSD

In this section, we first provide a 0-1 mixed integer non-linear programming formulation of the MSD. Notations for the non-linear model are:

- $j = 1, \dots, n$ job index used as a unique identifier for each job;
- $k = 1, \dots, n$ job index used to identify the position of a job in a given sequence;
- p_j = Processing time for job j ;
- f_j = Probability of failure for job j ;
- $x_{jk} = 1$ if job j is assigned to the k -th position in the sequence;
0, otherwise;
- $C(k)$ = Completion time for the job in the k -th position in the sequence;
- $P(k)$ = Processing time for the job in the k -th position in the sequence;
- $f(k)$ = Probability of failure for the job in the k -th position in the sequence; and
- $E(k)$ = Expected value of failure for accumulated makespan in the k -th position in the sequence.

Using the above notations, a 0-1 mixed integer non-linear formulation is presented:

$$\text{Minimize } Z = E(1) \quad (1)$$

subject to

$$\sum_{j=1}^n x_{jk} = 1 \quad k = 1, \dots, n \quad (2)$$

$$\sum_{k=1}^n x_{jk} = 1 \quad j = 1, \dots, n \quad (3)$$

$$P(k) = \sum_{j=1}^n x_{jk} p_j \quad k = 1, \dots, n \quad (4)$$

$$C(k) = \sum_{s=1}^k P(s) \quad k = 1, \dots, n \quad (5)$$

$$f(k) = \sum_{j=1}^n x_{jk} f_j \quad k = 1, \dots, n \quad (6)$$

$$E(n) = f(n)C(n) \quad (7)$$

$$E(k-1) = f(k-1)C(k-1) + [1-f(k-1)]E(k) \quad k=2, \dots, n \quad (8)$$

$$x_{jk} = \{0,1\} \quad j = 1, \dots, n \quad k = 1, \dots, n \quad (9)$$

$$C(k), P(k), f(k), E(k) \geq 0 \quad k = 1, \dots, n \quad (10)$$

Equation (1) is the objective function. The goal here is to minimize the expected value of failure in the first position. Note that this is a recursive function which includes all the decisions made in all positions. Equations (2)

and (3) assure that only one job is assigned to each sequence position and a job is assigned to only one sequence location, respectively. Equation (4) determines the processing time, and equation (5) determines the accumulated value at risk of the k -th position in the sequence. Equation (6) identifies the probability of failure of the job in the k -th sequence position. Equations (7) and (8) recursively identify the expected value of failure for all positions 1 through k . Finally, equation (9) and (10) represent the integrality and non-negativity constraints.

Jobs	value	failure rate
1	400	0.7
2	560	0.1
3	30	0.1
4	700	0.8
5	140	0.5

What'sBest!® 9.0.2.0 - Library 5.0.1.150 - Status Report -

MODEL INFORMATION:

CLASSIFICATION DATA	Current	Capacity Limits
Numerics	222	
Variables	65	
Adjustables	25	300
Constraints	10	150
Integers/Binaries	0/25	30
Nonlinears	14	30
Coefficients	173	

MODEL TYPE: Mixed Integer / Nonlinear

SOLUTION STATUS: LOCALLY OPTIMAL

OPTIMALITY CONDITION: SATISFIED

OBJECTIVE VALUE: 401.15098946313

DIRECTION: Minimize

SOLVER TYPE: Branch-and-Bound

STEPS: 9

TRIES: 3313

ACTIVE: 0

INFEASIBILITY: 2.5143698167085e-005

A

As shown in Figure 1, we formulated and solved an MSD problem with 5-jobs. We used What'sBest!® 9.0.2.0, an Excel based package designed to solve non-linear mathematical programming models. If n is the number of jobs to be sequenced, our model has presented in the previous section has $n^2 + 4n$ variables. When the number of jobs increases, the number size of the model with respect to decision variables will increase significantly. For example, a five-job scheduling problem requires 45 decision variables and a 10-job scheduling problem requires 140 decision variables. When more than 20 jobs are considered, the number of decision variables and constraints can become

well above 500. Further, equations (7) and (8) make this a non-linear programming model and the complexity of the problem increases. Such large models make the implementation of the proposed mathematical model very time consuming and impractical.

However, since the solution provided by such models is optimal, operations schedulers should consider the use of such models when the number of jobs is relatively small. Scheduling complexity in such cases can also be avoided by preparing a user-friendly interface for the purpose of data entering and solution interpretations

CONCLUSIONS

The problem addressed in this paper assumes that each job is 1) independent, 2) of constant value and 3) of constant risk of failure. These assumptions allow for the computation of expected loss at any point in the solution by multiplying all previous values added by the probability of loss for the k^{th} job. These assumptions may be violated in certain situations, however.

Our problem assumes any process can be placed at any point in sequence. Often one process must precede another. For example, a hydraulic piston rod must be lathed before fastening threads can be cut. Therefore regardless of the value added and risk of failure of the processes, the lathing must precede the thread cutting. Our problem also assumes that value added calculations use a measure of total time to complete a process. In fact, a lengthy individual process may be botched in the first few seconds of work rather than at inspection when all work is completed. Finally, risk of failure may be a function of the number of previous processes completed. Damage to an already machined section of a piece of work may be more likely if adjacent places on the work have already been machined and are susceptible to being ruined.

The final area for research is to develop an algorithm that allows a scheduler to determine either the first process or the final process to be scheduled independently of all non-optimal solutions. Our method presented in this paper requires all possible solutions be considered before an optimal solution can be determined. For processes with a small number of operations, this approach is feasible and not time consuming. For determining the combinatorials of this type of problem requires the calculation of a factorial; that is, the possible number of sequences of K processes is $K!$. The natural break point of effort for the decision tree solution presented in this paper is 5 or perhaps 6 operations ($5! = 120$ combinations; $6! = 720$ combinations). For pieces of work requiring 20 machining processes, the possible number of sequences ($20!$) equals 2.43×10^{16} and is not feasible using our methods. If, on the other hand, an algorithm can be found to find the first process, that process can be removed from the alternative list of choices and the algorithm can be repeated on the remaining choice continuing until a final solution is determined.

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THE FOUNDATIONS OF SALES FORCE MANAGEMENT**Khalid M. Dubas***Fayetteville State University***Rajiv Mehta***New Jersey Institute of Technology***Fazlul Miah***Fayetteville State University***ABSTRACT**

This paper compares three theories in sales management literature namely, the theory of reasoned action (TRA), transaction costs analysis (TCA), and the human capital theory (HCT) to understand and predict sales force behavior. Each theory has its strengths and weaknesses. While the literature has utilized TRA and TCA, very little attention has been paid to HCT. It could be argued that HCT is the most comprehensive theory in sales management literature since it offers insights about sales force training, general human capital, specific human capital, productivity, compensation, quits and discharges.

THE FRAMEWORK OF AN IT-ENHANCED SYSTEM DESIGNED TO IMPROVE QUALITY OF PATIENTS CARE

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ABSTRACT

The scope of ambulatory care has increased over the past decade as the volume and complexity of interventions has burgeoned. The opportunity to turn the potential of health information technology (IT) towards improving safety and quality in emergency department (ED) settings will form the cornerstone of this paper. The purpose of this paper is to discuss the conceptual framework of a health IT system, which is capable of using a Brief Negotiated Interview (BNI) process as an intervention tool in the ED system for patients with alcohol-related problems. This system, when implemented, is expected to improve the quality of the health services provided by conducting 100 percent drug and alcohol screening (via BNI) for every intoxicated adult patient that presents to the emergency department, and decrease alcohol intake and trauma recidivism.

INTRODUCTION

Healthy People 2010 aims to achieve two general goals: first, to increase the quality of life and life expectancy for all ages; second, to eliminate health disparities. Using 1998 as the base year, some objectives for 2010 include: reducing alcohol-related motor vehicle deaths by 32%, alcohol-related motor vehicle injuries by 42% and alcohol-related hospital emergency department visits (USDHHS, 2000).

Certain screening tools such as interviews, questionnaires and laboratory tests help identify individuals who are dependent on or abuse alcohol. Gentilello et al. hypothesized that providing brief interventions, as a routine component of trauma care would significantly reduce alcohol consumption and the rate of trauma recidivism. They conducted a randomized controlled trial in a level 1 trauma center; they screened patients and randomized those with positive results to a brief intervention control group. Gentilello et al. detected reinjury by a computerized search of emergency department and statewide hospital discharge records, and conducted 6- and 12-month interviews to assess alcohol uses. They concluded that given the prevalence of alcohol problems in trauma centers, screening, intervention, and counseling for alcohol problems should be routine (Gentilello et al. 1999).

In another study, Reynaud and colleagues indicate that while many of the patients admitted to emergency departments are intoxicated, some of these individuals may require further treatment; currently alcoholism treatment is offered to less than 5% of these patients. The authors found that the proportion of alcohol abusers or alcohol-dependent patients was about 80% of the individuals admitted to emergency departments for acute alcohol intoxication. They concluded that patients who are admitted to emergency departments with high blood alcohol levels should be assessed for alcohol dependency, and treatment for alcoholism should be offered to these patients (Reynaud et al. 2001).

It is important to train practitioners to conduct screening interviews. D'Onofrio et al. applied a brief negotiated interview (BNI) for a population of "hazardous and harmful" drinkers, and trained emergency practitioners to gain proficiency in intervention. The authors found that emergency practitioners can successfully apply a BNI as part of routine emergency department clinical care, and that they can become proficient in performing the BNI in routine emergency department clinical practice (D'Onofrio et al. 2005).

The framework presented in this paper suggests the application of a BNI for every intoxicated adult individual presenting to the ED. The objective is that while these patients are treated for their specific trauma, it is also

effectively determined whether the intoxication is acute and without need of further attention or is the result of unsafe alcohol use or dependency. Patients that are identified as having unsafe alcohol usage or dependency will leave the ED with a plan to seek proper treatment. Identifying such behaviors in the ED may prove to significantly decrease alcohol intake and trauma recidivism by the identified patients. This paper enhances these efforts through the development of a health IT system that will allow for better information flow to the patient and the physicians, and also more efficient and effective treatments.

QUALITY MEASUREMENT AND USE OF HEALTH IT SYSTEMS

An essential component of improving health care quality is the evaluation of the results of services provided and clinical outcomes. Quality measurement has been the focus of healthcare organizations through accreditation by the Joint Commission (The Joint Commission, 2007), participation in the Hospital Quality Alliance (HQA), (AHA December 2006) or Ambulatory Care Quality Alliance (AQA), and the Centers for Medicare and Medicaid Services (CMS) demonstrations of hospital quality (USDHHS, February 2007). However, such capabilities are not yet broadly employed by US health care system, particularly in ambulatory care settings and across transitions in care. Significant effort has been devoted to advancing quality measurement through organizations such as the Healthcare Quality Alliance (HQA) and the National Committee for Quality Assurance (NCQA), among others.

One cornerstone of the Department of Health and Human Services' Transparency Initiative (USDHHS, December 2006) is transparency in quality. This work is complemented by the creation of a new workgroup of the American Health Information Community (AHIC), the Quality Workgroup, with a charge to make recommendations regarding how health IT can provide the data needed for the development and implementation of quality measures that are useful to patients and others in the health care industry, automate the measurement and reporting of a comprehensive current and future set of quality measures, and accelerate the use of clinical decision support systems that can improve performance on those quality measures. There is an urgent need to develop safety and quality measures in ambulatory care settings, determine essential data elements for the Institute of Medicine (IOM) priority areas, use health IT systems to capture, provide, export and aggregate data on measures, enable public reporting and feedback through health information exchange, and evaluate the efficiency of quality measurement.

The importance of IT has long been recognized in the field of medical care. Kohn et al. pointed out that while it's human to make errors, they are nonetheless costly in terms of loss of patient trust in the healthcare system and diminished satisfaction by both patients and health professionals. They suggested that the establishment of systems that remind, support, and correct decisions can often prevent mistakes in healthcare delivery (Kohn, Corrigan and Donaldson, 2000). In the late 1970s and early 1980s, the Agency for Healthcare Research and Quality (AHRQ) supported the development and evaluation of computer-based patient records systems, and much of this early work was done in ambulatory settings (Simborg and Whiting-O'Keefe, 1982).

With an ever-increasing volume of information in healthcare, IT becomes increasingly important and essential as well. Here we propose a model for health IT in EDs, which will result in a decrease in alcohol intake and trauma recidivism for patients who are admitted to the ED while intoxicated, and who are identified to have unsafe alcohol usage or dependency. Decreasing alcohol intake and trauma recidivism is supported and enhanced with the developed health IT system, which will increase the flow of information to the patient throughout his or her treatment, increase the flow of information to the practitioners involved in the patients' treatment and within the ED, and between the aforementioned.

This computerized patient service quality and safety improvement system, when implemented, is expected to: create a web-enhanced health IT system to collect point-of-care information about patients with unhealthy alcohol consumption habits, treatment procedures, and quality measures; use training modules for physicians and other providers in implementing interventions such as BNI for patients in the ED systems; use training modules for patients on related health issues; create a patient self-management and advisement system by using the expert system and advising component of the designed health IT system; create a secure infrastructure for communication among providers allowing electronic sharing of patients' clinical; create a computerized emergency department communication, documentation, passive tracking, and medical record system, and evaluate the use of this technology toward improving patient safety and quality of care; increase organizational efficiency; create a core in the IT system for defining quality measures for the performance of both the patient health care system and the health IT system, and a mechanism for improving the performances of both systems; create an intelligent suggestion

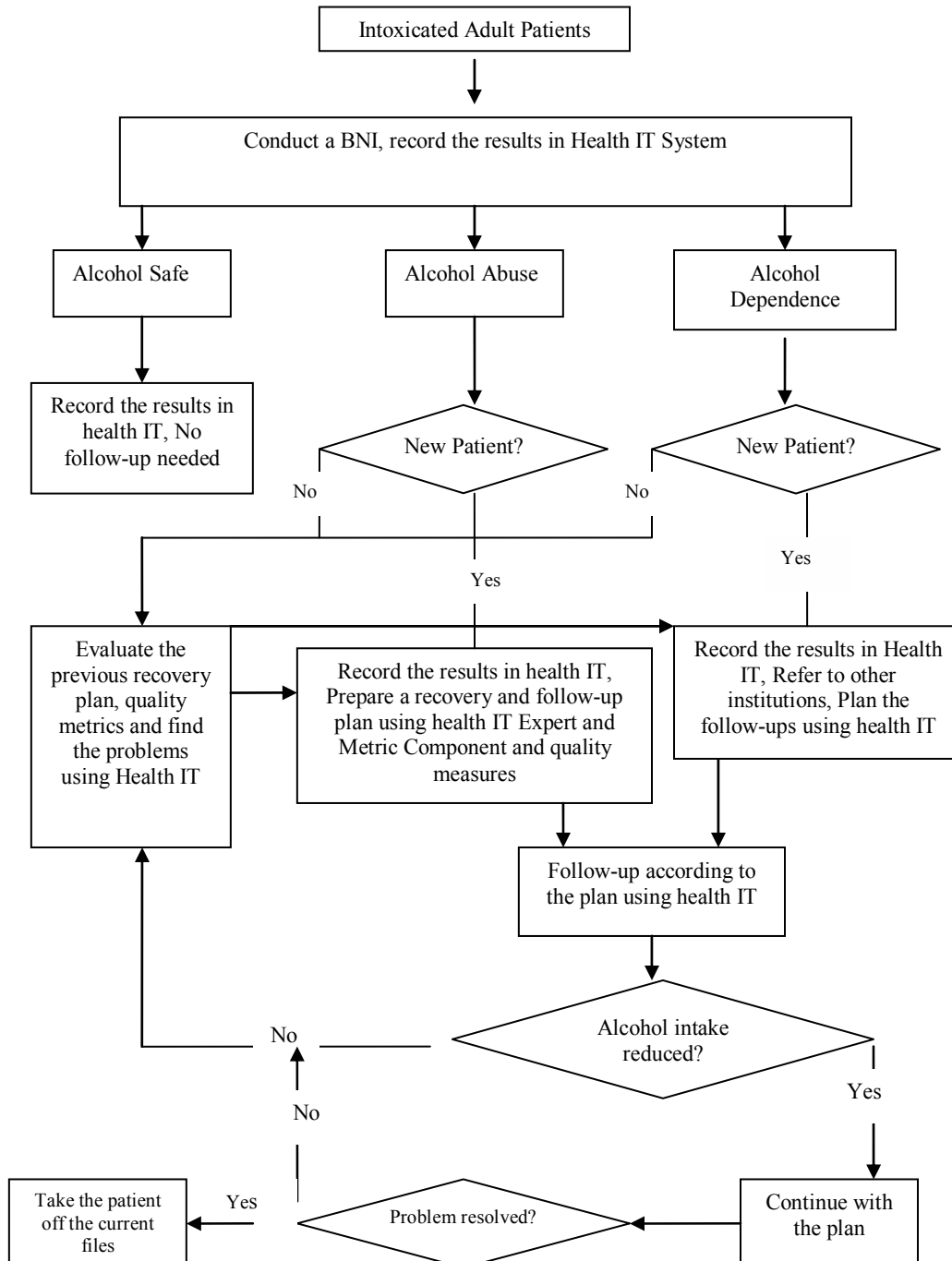
system for quality measurement and continuous patient treatment improvement based on the historical data collected from the performance of the system and the experiences and advancements of technology.

CONCEPTUAL DESIGN OF THE MODEL

Figure 1 shows the conceptual design of the model. Each module of this model is enhanced by a health IT system specifically designed for this purpose. In this conceptual model, for any intoxicated adult patient entering the emergency room, a BNI will be performed to determine unsafe alcohol use and dependency. The results will be entered into the health IT system and will classify patients into three groups of alcohol safe, alcohol abuse or alcohol dependence. The alcohol-safe patients' data will be entered into the database, they will be treated for the trauma or the problems that brought them to the emergency room, and will be released without any need for follow-ups with this regard. The dependent patients will be referred to the specific institutions that will have communication channels with this emergency room for the follow-ups. The major work and interest is with patients who are unsafe alcohol users; these patients will leave the emergency system with a suitable individual plan with clear and defined quality metrics and measurement tools to reduce harmful alcohol usage. The follow-ups will be given and the patients' results will be continuously compared with their previous results in order to record improvements, and introduce new measures if required. The quality measures and evaluation tools will be constantly evaluated and matched with the developments in the healthcare quality field.

The objective of the model is to improve the quality of the healthcare provided to a specific group of patients by using an integrated IT system that can collect data, introduce patient health improvement procedures, analyze the results based on some given quality measures, and refine the system through continuous interaction with all the stakeholders and also evaluation of the results. This system will be capable of measuring both patient improvement metrics and the system performance.

Figure 1: The Conceptual Framework of the Model

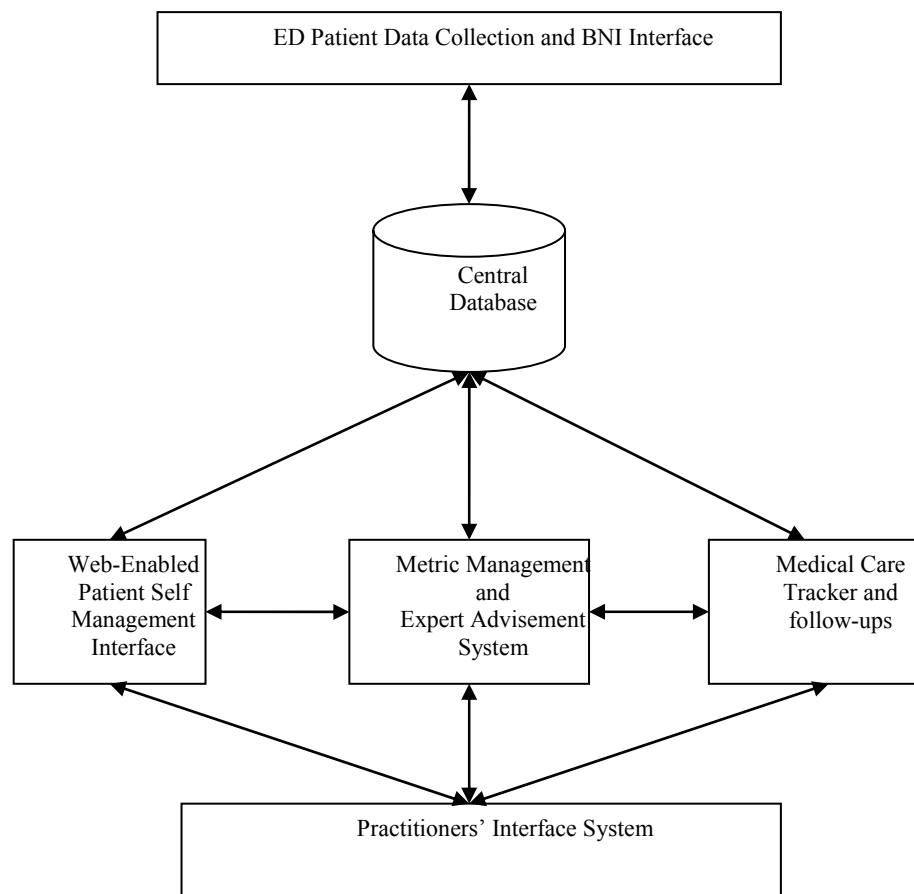


FRAMEWORK FOR THE HEALTH IT SYSTEM

The conceptual model presented in Figure 1 will be built upon the infrastructure of a health IT system that facilitates the services of the healthcare provider, educates patients about safe versus unsafe alcohol consumption, and implements the procedure for increasing the quality of health services provided. The structure of this IT system is presented in Figure 2.

Healthcare Informatics Technology Standards Panel's interoperability standards specifications will be followed throughout the design and implementation of the health IT system. The main modules of the proposed health IT system are: ED Patient Data Collection and BNI Interface, Central Database, Medical Care Tracker and Follow-ups, Metric Measurement and Expert Advisement System, Web-Enabled Patient Self-Management Interface, and Practitioners' Interface System. The first three components are the core components of the health IT system and the remaining are the value added components. The ED Patient Data Collection and BNI Interface is the primary data collection interface for this system. The Central Database is the data storehouse, and the Medical Care Tracker and Follow-ups is the component which will track the improvements of care on the specified quality measures and acts as the primary reporting component with respect to patients' improvement. Each of the modules is further described below.

Figure 2: The Structure of Health IT System



ED Patient Data Collection and BNI Interface:

This component will be the primary interface at the point-of-care for patient data collection and applying BNI. The main objective is to automate data collection as close as possible to the source of data to minimize data

corruption that may occur due to the temporal or spatial separation of data collection and the source of data. All the data collected using this interface will be stored in the health IT central database, with assured data confidentiality. Central Database:

This database will act as a central repository for the patient and the emergency care related data together with all the follow-up results and information about different measurement tools. It will be integrated with other existing hospital databases and databanks that may contain health records, laboratory and radiology data and electronic claims data to enhance the type of service provided based on the available data.

Medical Care Tracker and Follow-ups:

The primary function of the Medical Care Tracker and Follow-ups component is to report and monitor the quality of care received by the target patients based on the quality metrics developed in this system. This component will use the data from the Central Database and evaluate them against the benchmark set based on the implementation results of the quality measures.

Metric Management and Expert Advisement System:

This module will integrate the patient information collected through the BNI with existing patient information, and quality measures in order to assist the physician/clinician in providing personalized care through an advisement system. It also helps patients in their self-management interface. This component will be used for generating reports related to the effectiveness of the quality metrics and IT system in facilitating the decision-making process.

Web-Enabled Patient Self-Management:

This component empowers the patient to self-manage by providing personalized content and service guidelines for continued support. Once the patient leaves emergency care, the patient will still be virtually connected to the health IT system and will be able to benefit from the provider resources. The entire IT system will be connected to patients and medical professionals through proper user interface systems such as Practitioners' Interface System. .

IMPLEMENTATION PLAN

Planning, analysis, design and implementation of the conceptual model presented in Figure 1 will be completed in four phases:

Phase 1: Evaluation of the conceptual framework, and planning, analysis and design of the health IT system

This phase focuses on the analysis of the applicability and feasibility of the proposed conceptual framework in a real situation, and evaluation of the completeness and structure of proposed initial measures of quality (i.e. decrease of alcohol intake and trauma recidivism), planning of the activities and the design of the health IT system.

Phase 2: Develop the health IT system

Once phase 1 is finished with a complete design of the health IT system, phase 2 will continue with the development of the real system. This phase involves the development of all modules, and making changes in the infrastructure for the required system.

Phase 3: Implement and monitor the health IT system

In this phase, the health IT system will be implemented in a real emergency room environment. First, the system needs to be integrated with the existing system of the emergency department. An on-going training/monitoring program for system operators and ED staff will be developed. Then, the system will be implemented (in accordance with the model in Figure 1).

Phase 4: Analyze the results, validate the system, refine, and develop a dissemination plan

This is the final phase where all results are collected for the post-evaluation. The evaluation process must be conducted using measures for the improvements in healthcare service quality, patients' health improvement, and performance of the health IT system. Once the health IT system becomes functional, it is expected to be used by a selected emergency department with minimal maintenance.

CONCLUSIONS AND FUTURE RESEARCH

The scope of ambulatory care has increased over the past decade as the volume and complexity of interventions has grown immensely. Safe and high quality ambulatory care requires complex information management and coordination across multiple settings. At the heart of this proposal lies the great opportunity to turn the potential of health IT towards improving safety and quality in emergency departments (EDs). The purpose of this paper was to present a conceptual framework for a health IT system, which will integrate data from not only point-of-care settings but also from other existing heterogeneous data sources; this will provide a sound platform for data analysis with one-point-of-contact, meaning users will not have to search different locations for useful information. Further, the system will also help in mining for hidden knowledge through the use of an expert system. When implemented, this system is expected to improve the quality of health services provided, decrease patients' alcohol intake and reduce trauma recidivism. This paper provides the possibility for a number of extensions, which include implementation of this health IT system in a target emergency department, and upon evaluation of the results, the generalization of the method and health IT system for use at other locations, which will ultimately increase the quality and extent of care for alcohol abuse patients and reduce trauma recidivism on a larger scale.

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ALGORITHM DESIGN FOR CORPORATE DAIGNOSIS ON THE BASIS OF SOFT SYSTEM METHODOLGY USING LEAN MANAGEMENT

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ABSTRACT

In this paper, an algorithm is described for corporate diagnosis to diagnose manufacturing organization on the basis of Soft System Methodology and Lean Management system. This diagnosis is essential for companies to survive regarding to the world wide increase in competition between companies and great changes. First of all the concept of diagnosis, its goals and necessity is explained, then we discuss about the lean management system, soft system methodology and its necessity, finally, the steps of suggestive algorithm is explained.

INTRODUCTION

Many companies that have tried to implement lean production recognize that there is more to it than just applying the well done methodologies followed by leading companies. Many companies fail to achieve the synergy they hope for in applying powerful approaches such as Just-in-Time, quick changeover, mistake-proofing, Total Productive Maintenance and Total Quality Management. This is most often due to a lack of logical and integrated approach to determine where the company actually is. Corporate diagnosis is a practical approach to company assessment that helps CEOs and management team focus on what their company must do to become more competitive.

THE CONCEPT OF LEAN MANAGEMENT

First we describe lean management concept, since the suggestive methodology uses lean management concept in this algorithm.

Lean management performance acts with most benefits and less waste at the shortest time. Lean management has 3 main elements:

The development frame work

The Business Renewal Process

Strategic Improvement Cycles

Development Framework

The development framework comprises several key components:

Three cornerstones of growth

Nine keys to development

Five levels of organizational learning.

The three cornerstones of growth include strategy, organizational structure, strength (human resource capabilities).

Table 1: Nine keys to development

Keys	Zero-Waste Goal	Relation to Profit
Customer focus	Zero customer dissatisfaction	Customer input and feedback assures quality
Leadership	Zero misalignment	Direction and support for development improves cost, quality and speed
Lean organization	Zero bureaucracy	Team-based operations reduce overhead by eliminating bureaucracy and ensuring information flow and cooperation
Partnering	Zero stakeholder dissatisfaction	Flexible relation with supplier, distributors, and society improve quality, cost, and speed.
Information Architecture	Zero lost information	Knowledge required for operations is accurate and timely, thus improving quality, cost, and speeds
Culture of improvement	Zero wasted creativity	Employee participation in eliminating operations waste improves quality, cost, and speed
Lean production	Zero none-value adding work	Total employee involvement and aggressive waste elimination promote speedier operations and eradicate inventories
Lean equipment management	Zero failure	Longer equipment life and design improvement reduce cost. Meticulous maintenance and equipment improvement increase quality. Absolute availability and efficiency increase speed
Lean engineering	Zero lost opportunity	Early resolution of design problems with customers and suppliers significantly reduces cost, while improving quality and cycle times

5 levels organized learning

What can not be measured can not be controlled. Tracking the progress in the nine key requires a measurement system. The lean management system establishes five levels of development for each key to help managers to evaluate the organizations' progress.

<i>Level Five</i>	<i>Mass production</i>
<i>Level Four</i>	<i>System initiation</i>
<i>Level Three</i>	<i>System development</i>
<i>Level Two</i>	<i>System maturity</i>
<i>Level one</i>	<i>System excellence</i>

The Business Renewal Process

Lean companies reexamine their reason for existence on regular basis and fuse the entire organization with the answer they develop. The process of business renewal is closely related to traditional strategic planning. Using market forecasts, Traditional strategic planning tries to ensure greater profits to stock prices by defining a product's variety, quality, markets, distribution, and prices.

Strategic Improvement Cycle

The Business Renewal Process is followed by several rounds of learning and improvement called Strategic Improvement Cycle. These annual cycles form a "policy bridge" between the vision and specifics of implementation. Strategic Improvement cycle has four distinct phases.

Phase I: Focus. In this phase, a top management team devises an annual policy that focuses on improving two or three of the key areas.

Phase II: Standardization. This phase standardize policy, first, by deploying it to all managers, supervisors, and team leaders, and second by involving all employees in its implementation through focused team activities and documentation.

Phase III: Adherence. This phase assures a company's adherence to its business renewal strategy through a system of concise report and annual audit of policy implementation.

Phase IV: Reflection. In phase IV, the top management team analyzes performance for the previous period and reviews the company's capabilities, markets, and industry conditions. Top managers use the results of the analysis to devise next annual policy.

SOFT SYSTEM METHODOLOGY

Nominalism

It denies all objectivity, whether actual or potential, to universals; in other word words, nominalists grant no universality to mental concepts outside the mind.

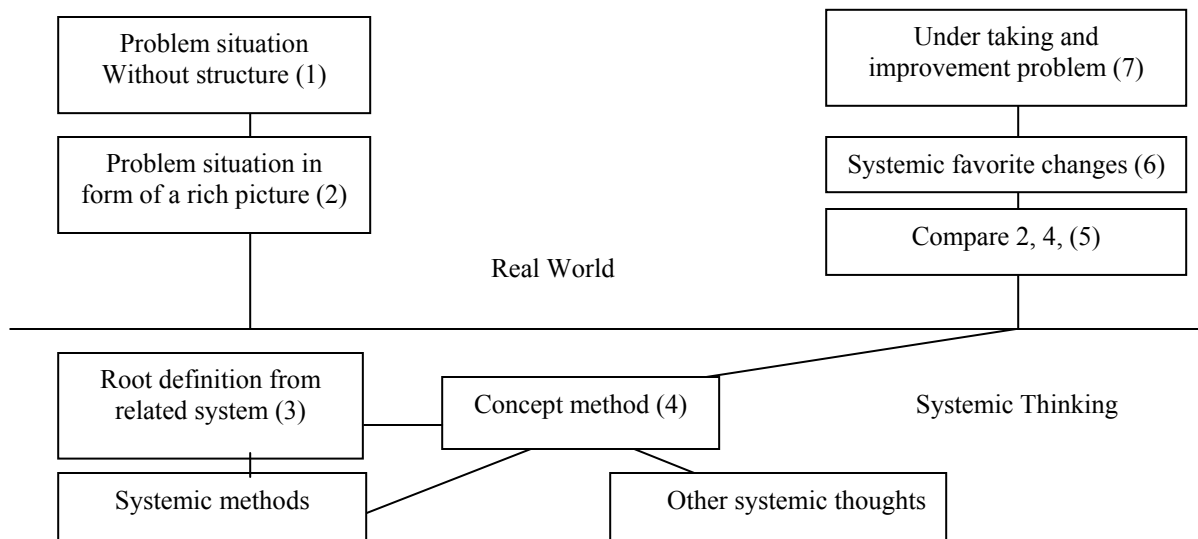
Interpretation

It is about the way of thinking which suits cause and effect insight for finding problems.

Soft System Methodology

Soft System Methodology epistemology is on the basis of Interpretation and its world view conforms to Nominalism (Fitzgerald 1998).

It is shown in figure below:



Phase 1: problem situation (without structure)

In this phase company is defined with its constituents and its problem. Problem situation can be formed from different issues. In problem definition we consider hard data such as departments, organizational structure, products and communication channels, also soft data such as employees' thoughts, their skills and organizational culture.

Phase 2: Problem situation in form of rich picture

This phase includes a comprehensive picture of company's mutual communications, and processes.

Phase 3: Root definition of related systems

This phase includes a definition and description of real problem which we have to make an effort for resolving. This step is one of the main steps of the methodology which is implemented with considering Critical Success Factors, related systems and all problem components

Phase 4: Conceptual model

The model which should include all relations and interaction among the processes is obtained in this phase. This model is called conceptual model.

Phase 5: Comparison between second and fourth Steps

This phase includes comparison conceptual model with an actual model. Through this comparison, systematic favorable changes and cultural feasibility are determined.

Phase 6: To determine systematic favorable changes

This stage includes the selection outputs of the previous step. It is ultimately ended by its owners and other member's commitment to solve the problem with their signs.

Phase 7: To apply changes

This step includes the operational plans. Skillful persons as analyst are utilized in this stage.

WHY USING SOFT SYSTEM METHODOLOGY?

Soft system methodology is a response to existent problems in deploying hard system approaches such as physics and engineering. In business problems, hard system analysis reveals unexpected behavior of systems and complicated feedback between system elements. However, using these methods by human resource will generate some errors because the organization's goals may be influenced by political and controversial issues of employees. The results of these investigations will be influenced by human's understandings. So, we use soft system methodology to develop a suitable algorithm for organizational diagnosis.

SUGGESTIVE METHOD

The suggestive algorithm consists of following steps:

1st step: To form working team

Performing corporate diagnosis is based on team work. In suitable situation, team members should be composed of four disciplines: organizers, supervisors, facilitators, and analysts.

2nd steps: To explain accomplishment process

In this step, the necessary trainings are offered to all team members. The content of these trainings must be at least following matters.

Team work instruction

To instruct group decision making techniques including brain storming Delphi, NGT¹, DEMTEL²

Teaching algorithm steps

3rd steps: To define problem situation (4)

Problem definition is formed on the basis of Soft System Methodology subjects. To do this hard data like company sections and soft data as suspects, reasons and inspirations can be used.

4th steps: To prepare rich pictures (4)

The general picture of organization and its mutual relations, processes and environment is provided in this step.

5th steps: To compile critical success factor (7)

Critical success factors determine areas to which managers have to pay attention permanently. These factors have most importance to implement strategy. To define CSFs we should consider to the main aspects of success. These success aspects are defined by considering 9 keys of lean management development (customer focus, leadership, lean organization, partnering, Information Architecture, Culture of improvement, Lean production, Lean equipment management, Lean equipment management)

6th steps: To prioritize critical success factors

It is performed using AHP³ with two levels, the first level is company mission and the second level is critical success factors.

7th steps: To compile diagnoses for each successful critical factor

In this stage diagnoses are determined regarding to critical success factors. To do this, cause and effect algorithm, brain storming, NGT group are used. Also the second way is using questionnaire.

8th steps: To prioritize diagnoses

Resolving one diagnosis may alter the priority of diagnoses. So instead of using prioritizing methods we should use the methods which demonstrate the relation and dependency of diagnoses. DEMATEL is used to perform the required diagram.

9th steps: Analyzing and offering solutions

In this phase to resolve diagnosis, team members should formulate short-term and long-term programs. First, conceptual models can be developed on the basis of soft methodology. In order to control programs' progresses, we use strategic improvement cycle of lean management.

CONCLUSION

This result obtained in accordance with this method in several industrial units, is that most diagnoses are in management area. Poor coordination and disagreement on goals and strategies result in inefficient cooperation between organizational departments. Using team approach and top management judgments about organization's diagnoses, and solutions will be accomplished more efficiently.

PT¹ TP Nominal Group Technique

PT² TP Decision Making Trial and Evaluation Laboratory

PT³ TP Analytical Hierarchy Process

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DEVELOPING NGOS IN POST-SOVIET AZERBAIJAN: EXPANDING KURT LEWIN'S IDEALS**Roger A. Ritvo***Auburn University Montgomery***ABSTRACT**

This paper reports the results of a field research project on the leadership and governance patterns of non-governmental organizations (NGOs) in Azerbaijan, one of the states in the former Soviet Union. Sometimes referred to as the father of social psychology, Kurt Lewin (1890 – 1947) developed the force field analysis model that is applied to the changes in the nonprofit sector in a country that is still in its teenage years of independence. Using data from an extensive literature review and interviews with government and nonprofit organizational leaders in Azerbaijan, results show that Lewin's model transcends national boundaries, but that it has serious limitations in less-than-stable societies and with developing nonprofits. The future can be described as cautiously optimistic.

INTRODUCTION

"If you want to truly understand something, try to change it." Kurt Lewin's famous statement applies to many facets of the developing nonprofit sector in post-Soviet Azerbaijan. This paper connects Lewin's approach to planned change with the emerging roles of nonprofit organizations (non-governmental organizations, NGOs). Change is everywhere in Azerbaijan and yet progress is slow. Old habits die hard. The push for reform includes external international pressure because of the oil-rich Caspian Sea and growing internal domestic needs. As the country shifts from the autocratic leadership of the Soviet system to an emerging democracy, new social structures emerge with both pain and aspirations.

METHODOLOGY

The methodology used in this article consisted of record reviews, literature search, and interviews of NGO leaders. All interviews were conducted in Baku during November 2007; each participant signed an Informed Consent form, which was witnessed by a third party.

SELECTED ASPECTS OF LEWIN'S RESEARCH

Lewin, Lippitt and White (1939) defined democratic, authoritarian and laissez-faire leadership styles. Democratic styles had more effective results because they defined leadership more broadly than just a position. Authority can be based on what contribution each person makes to the whole rather than seeing leadership as vested in a title. On the other hand, more authoritarian leadership reduced effective decision making in a group or team. Most organizations reward those at the top and prevent lower power individuals from being able to contribute to the group's goals and processes. The laissez faire style does not succeed in many instances because it misses the need that individuals and groups have for boundaries, structure and a sense of the greater good and vision.

Change from one style to another is complex, but it is often faster (more efficient, not necessarily more effective) to move from a democratic to an authoritarian style than from the authoritarian approach to a more open democratic leadership. This is true in groups and societies. Lewin (1948) explored both macro and micro issues of social change. Thus, the struggles faced by NGOs in Azerbaijan reflect the research findings that stress the difficulty of moving from authoritarian systems to a democratic, open and civil society.

Repression, totalitarianism and autocratic leadership were more than just an academic interest to Kurt Lewin. The professional was personal. His mother died in a Nazi concentration camp and it took extraordinary efforts of the Emergency Committee In Aid of Displaced Foreign Scholars to assist his escape to the United States. "In all, some 6,000 displaced scholars and professional persons from Europe appealed to the Committee. Of that number 335 were granted assistance." (New York Public Library 2007)

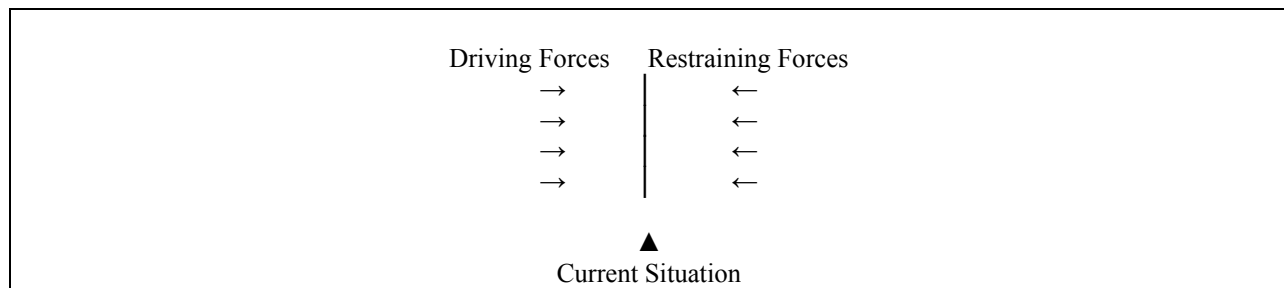
Lewin faced discrimination throughout his life. In Germany his academic career path was stopped by anti-Semitism. At Cornell and Iowa, he fought these same hatreds: "if universities were required by law to admit

students on merit and not on the basis of race or religion, the practice would bring new and more favorable attitudes." (Marrow 1969) Thus, the freedom fighters and public rallies in Azerbaijan would certainly have resonated with Lewin's professional and personal values since he knew the horrors and dangers of repression.

FORCE FIELD ANALYSIS

Change happens both through planned events and unforeseen circumstances. Lewin's model shows why the current situation results from opposing forces which create a quasi-stationary equilibrium. Field theory (Lewin 1951) stresses that behavior results from the interaction of many factors operating at the same time, creating a "dynamic field." Change one factor and others will change to some degree. Actions and decisions are grounded more in today's reality than in our interpretation of the past or aspirations for the future. Individual choices, organizational realities, public policies and global issues can be understood as "fields" which balance opposing factors. Called a force field analysis, the model demonstrates that situations look like this:

Figure One
Force Field Analysis



DRIVING FORCES push in the direction of a desired change. These are often the rewards that the system expects to get for moving to a new steady state. Alternatively, the change can be driven by external forces such as law, regulation or competition. But, RESTRAINING FORCES oppose these changes. They become impediments to change and might include poor leadership, inadequate resources, outdated information or slow technology.

Using this model, any existing situation is defined as the equilibrium balancing the driving and restraining forces. It is particularly useful diagnostic tool with strong action implications and can identify both allies for change as well as help develop strategies to overcome resistances. For planned change to occur, the leaders of any system, a person, a group, a small family-owned business or an international conglomerate, have three options: (a) reduce the restraining forces, (b) strengthen or add driving forces, and/or (c) do some of each.

Creating dis-equilibrium is the first step in the planned change process. Called unfreezing, this process involves preparing the system for change. It can come through policy, personnel, program plans or physical plant issues. Each of these will create dis-equilibrium and help prepare the system for change. Of course, any one of these can create anxiety, fear of the unknown – all key restraining forces.

When unplanned change occurs, this model still has applicability, although it is less a proactive approach. Even when such changes occur (a hurricane, tsunami, terrorist attack, loss of a key organizational member), the system responds. Hopefully prior planning helps prepare for these emergencies.

The goals and aspirations of any planned change effort must support the system's vision and become the target for the re-freezing point. This is where the system hopes the new equilibrium will occur: higher production levels, a responsive customer service culture, and new compensation programs. As Schein (2007) clearly notes, "For change to occur, this force field had to be altered under complex psychological conditions because just adding a driving force toward change often produced an immediate counterforce to maintain the equilibrium. This observation led to the important insight that the equilibrium could more easily be moved if one could remove restraining forces since there were usually already driving forces in the system."

NGOs AND CHANGE IN POST-SOVIET AZERBAIJAN

Located on the Caspian Sea, Azerbaijan borders Russia, Armenia, Georgia and Iran. About the size of the State of Maine, it became independent in 1991 and was admitted to the United Nations (2007) in 1992. The capital city of Baku is currently experiencing an economic boom, fueled literally by oil from the Caspian Sea and a BP-lead construction of a pipeline to the Mediterranean Sea. Ninety percent of its approximately 9 million people are Azeri and almost 95% are Muslim. The 19% inflation rate in 2007 hurt NGO budgets severely (AzerNews 2007) and the government's official prediction for 2008 is a 12 – 14% increase. (AzerNews 2007b) The higher education system strives to meet the requirements in both letter and spirit of the Bologna Accords so its institutions can compete on the world stage rather than being shackled with the "former Soviet" label.

One of Lewin's concepts was Genidentity, the belief that objects kept their identity over time. Can this principle be applied to societies? Lewin certainly believed it could. He became an advocate for democratic societies, the approval of the State of Israel, community relations and racial understanding "as part of the changing social world." (Marrow, 163) As a supporter of the creation of Israel, it is not a stretch to conclude that Lewin would have supported the independence of the former Soviet states. Azerbaijan is an emerging democracy and thus changing its life forces, social institutions and relationships between the government and the people. NGOs are part of this shifting landscape.

Azerbaijan's cultural and religious traditions have mixed consequences on the developing role of NGOs. On one hand, there is a tradition that the family will take care of its own members. Turning to the government or outside organizations does not have deep roots. Under Soviet domination, the government with its records and reports was a force to be avoided. Thus, how do NGOs meet the growing need for their programs and services, especially when they are required to 'register' with the government? An official Azerbaijan government report (2006) entitled "State Program on Poverty Reduction and Economic Development: 2003 -2005" is notable for the almost total absence of any role for NGOs in alleviating the "sharp decline in living standards of the population." According to this government report, an estimated 49% of the population is living in poverty."

Several factors impede the development of NGOs in Azerbaijan. First, it requires diligence, patience and political power just to establish a nonprofit organization. A USAID Report (2002) concludes: "The Ministry of Justice, which is responsible for NGO registration, utilizes internal instructions and regulations that are not available to the public to regulate the registration of NGOs. This has resulted in a near halt in registration of new organizations over the past two years." And, Azerbaijan is in the bottom half of all countries in the "ease of doing business" and 159th out of 178 in "dealing with licenses." (World Bank 2007)

Yet, selected NGOs experience few problems navigating the government's rules and regulations. For example, "the Azerbaijan Marketing Society (2007) was established on July 7, 2000 and registered on August 16, 2000." It appears that NGOs with business and commercial missions receive preference over those with humanitarian, social service and human rights agendas.

This gap seems likely to remain for the foreseeable future. As a board member stated, "The government still has Soviet-thinking so people do not trust government or NGOs which the government supports. It worries that younger people will want to change the system; it is afraid of that." This mistrust is often mutual. When a group of mid-level government officials were asked to describe what animals NGOs brought to mind, responses included "snakes, rats, chameleons, cats (take a lot but give little back) and dogs (loud and make a mess for others to clean up)."

"Azerbaijan's NGOs are falling on hard times after the authorities amended the country's grants legislation to repeal tax breaks. The changes mean that organizations which receive grants now have to pay more than a quarter of their payroll fund and two per cent of every salary into the Public Social Security Fund." (ReliefWeb 2003) Since the national tax codes do not provide deductions for individual or corporate charitable donations, philanthropy is neither in the national consciousness or public culture.

The government does not "trust NGOs and aspires to have greater control over the third sector." (USAID 2005) According to data released by the NGO-Forum, the number of NGOs in Azerbaijan is increasing. The Forum reports some progress in registering NGOs; as of November 2005 the NGO sector consisted of approximately 3000 organizations, 60% of which are registered. Only 600 or so are active and visible especially in humanitarian relief, environmental protection, youth services, human rights, civic and legal education, and economic development. NGOs are forbidden to monitor elections or become involved in the political process except in special circumstances.

EFFECTIVE NONPROFIT LEADERSHIP

Building on the work of Chait, Holland and Taylor (1996), Holland, Ritvo and Kovner (1997) developed and expanded a competency-based model that characterizes effective nonprofit organization boards. The primary duties of a board include (a) recruiting, hiring, retaining, evaluating and terminating the CEO, (b) developing and monitoring strategic plans, (c) ensuring all resources are used appropriately, (d) representing the nonprofit to stakeholders and external constituencies, (e) evaluating its own performance, and (f) recruiting new members. A key issue for this study is how do research-based board competencies relate to non-US NGOs? Emslie (2007) studied England's National Health Service boards. His findings strongly document that the competencies transcend national boundaries. But, to date, there is no literature on these board competencies in Azerbaijan or other post-Soviet countries.

Contextual competencies ask the question "how do the nonprofit organization's mission and values fit into the larger social context?" This skill helps leaders understand the organization's place, role and function in society. This includes its work with, around, through, and in spite of governmental rules and regulations. Quotes from interviews in Azerbaijan include:

"NGOs help the country and its people develop." (Trustee of a small children's service organization)

"Azerbaijan's economy develops because of these organizations." (CEO of an arts organization)

"NGOs play an important role in developing democracy and building a civil society. NGOs promote democracy by giving people an opportunity to express their points of view and to be involved in important social tasks." (Director serving on three NGO boards)

Strategic competencies often manifest themselves through strategic planning. In Azerbaijan, these strategic competencies were noted as very low: long term planning, conversations about mission, values, goals and objectives rarely occur. A USAID report (2002) notes that most NGOs do not even understand the concept or purpose of a mission statement. "NGOs work mainly from project to project and rely heavily on a top-down management structure. Few NGOs develop or utilize constituencies, strategic plans, mission statements, or maintain permanently paid staff. A very small number of NGOs are beginning to apply some strategic planning techniques."

Analytical competencies help boards understand the complexity of issues before it takes action. Most issues that come to top leadership do not result in simple Yes or No decisions. How does the board review any matter? There are financial, personnel, space, service, professional, legal and ethical dimensions to most actions. The board needs to analyze all these and find the best path through the maze. In Azerbaijan this gets complicated. The USAID Report notes that "though legislation formally provides NGOs with the right to work without restraint, in reality this is not the case...The government uses spontaneous tax or labor inspections to place pressure on NGOs to conform or in some instances to dissolve them."

Political competencies help reconcile different values, reaching effective compromises that move toward goals, and allowing input from those who are affected by decisions. For example, assuming limited funds, should a small NGO use its resources to educate people on ways to prevent HIV/AIDS? Should it fund services to some people who are HIV positive or should it sponsor research to help understand and stop this international pandemic? Each of these options represents different values. Research is a long-term process with many failures; education must be reinforced and does not always lead to behavior change; services to those who already have HIV may require long term commitments. Which should an organization choose? How will its leadership decide?

Effective political skills help create "cobwebs" or networks to serve larger populations. For example, the National Council of Azerbaijan Youth Organizations began in 1996 as a consortium of 46 NGOs. (Society for Humanitarian Research 2007) But not all such well-intended efforts succeed. The human rights agenda of Association of Lawyers in Azerbaijan may be typical. After a long struggle to get registered, they were finally denied. "Unfortunately, the lack of an office, equipment and financial resources has hindered the ALA from expanding its scope and functioning more effectively." (International League of Human Rights 2007)

"How does a board learn?" **Educational** competencies develop members' skills and information base. Most importantly, education involves information. One of the major impediments to developing strong educational competencies in Azerbaijan is the government's general approach to sharing information; it prefers not to. An example from a Yale Law School Report (2005) shows how defiant the system can be. Although it is a signatory partner on international efforts to improve children's rights, health and social conditions, "Azerbaijan has so far not met the requirement of the Convention - to disseminate it widely within country." This has a serious impact on local

NGOs which strive to help children. In addition, “NGOs do not take sufficient efforts to create a positive public image. They do not promote transparency in their activities and they remain closed from the general population. As a result, public awareness about NGOs and their activities remains low.” (USAID 2005)

Interpersonal competencies help board members work together effectively as a group. They reflect the axiom “There is no “I” in team.” How are differences resolved? Is there an open appraisal process for both the CEO and board members? How does the board cultivate new leadership? Is power shared or held closely by an elite subgroup? Board members usually benefit from process time to reflect on how decisions were made, and were the best decisions reached when reviewed a year later. These interpersonal competencies may clash with Azeri cultural values that place hierarchy, a sense of place, and sometimes adherence to religious edicts, family needs and tradition above public law and policy. These are not intrusions on interpersonal competency; rather they help define acceptable behavior in that culture.

CONCLUSIONS

Lewin’s ideals for community relations and democracy survive his death 6 decades ago. Several questions provided the impetus for this research. First, can force field analysis be used to understand social problems in a post-Soviet country? The answer is strongly affirmative. The forces for change and its impediments are different than at the individual level. But because they form a life space and field, the model applies as a diagnostic tool. Figure 2 below summarizes both Driving and Restraining Forces.

A second question for this effort regards the leadership for NGOs. If any conclusions can be drawn, it is that the six board competencies do not directly apply with as much vigor in an emerging democracy as they do elsewhere. This is not because many dedicated individuals are not trying; they are. Rather, the emphasis is less on long-term leadership than on nearer-term programs, management and service delivery.

What does the future hold? According to Azerbaijan's Embassy in the United States (2007) "The Government Initiative to Bolster Non-Governmental Organizations (NGOs) was approved on July 27, 2007 by the President of the Republic of Azerbaijan. This is a part of the Administration’s ongoing effort to strengthen Azerbaijan’s civil society – in particular NGOs and independent media. This new Executive Order will provide government financial and logistical support to NGOs, as well as improve the legal environment for their operations.”

Lewin’s aspirations help individuals and societies. “The four elements of empowerment – information, inclusion/participation, accountability and local organizational capacity – can be combined to create more effective, responsive, inclusive, accountable institutions.” (Narayan 2002) Former President of the World Bank James D. Wolfensohn best summarized the challenge for the future; referring to the relationships between NGOs, governments and the World Bank, he stressed “We are really interdependent. But we must build mutual trust.” (Wolfensohn and Kircher 2005)

And therein lies the future of NGOs in Azerbaijan.

Figure Two: Summary of Pushing and Restraining Forces on NGOs in Azerbaijan

FORCES	
<u>Driving</u>	<u>Restraining</u>
Government can not meet all the needs of its people	Little public support
The post-Soviet generation that expects change	Soviet mentality – fear of central authority
Committed volunteers	Some boards exist on paper only
Successful NGOs pave way for others	Suspicious populations
Record of incremental successes	Little public support
Political figures see benefits in NGOs	Lack of philanthropic culture
More NGOs applying for government registration	Few transparent financial reporting systems
Growing needs of the Azerbaijani population	No ethics statements
Emerging democratic system is under scrutiny	Oppressive tax codes hinder generating funds
Armenia's occupation of its land	Legal restrictions
Caspian Sea Oil brings international inspection	Small professional staff limits programs
Increasing international interest	Few success models (e.g. Red Crescent)
Tourism brings outsiders who understand NGOs	Little experience with fundraising

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FACULTY TRANSITIONS FROM FACE-TO-FACE TO ONLINE CLASSROOMS**Pooneh Lari***North Carolina State University***ABSTRACT**

The purpose of this study was to describe the transition of faculty members from traditional to online environments and to examine their assumptions about their teaching and learning in face-to-face and online environments. In that it describes the transition experiences of faculty members from traditional to online environments, their teaching and learning assumptions and possible changes and transformations, this study may assist those faculty members who have been resistant to transitioning from traditional to online classrooms. The questions guiding this research were (a) How do faculty members describe their transition from teaching face-to-face to teaching in an online environment? (b) What personal, professional, pedagogical or other assumptions do faculty members hold about the teaching and learning in traditional and online environments before starting their transition and how do those assumptions change after their transition? And (c) How are the changes the faculty members experience as they transition from traditional to online environments defined along a continuum in relation to change theories? This qualitative study research was conducted as multiple case studies, meaning participants at various locations were interviewed. The results of this study contribute to creating a body of knowledge useful to institutions, faculty members, and others transitioning from traditional to online classrooms. It expands the online teaching literature regarding what teaching and learning means to the faculty members and allows them to bridge technology with pedagogy. It also contributes to the literature that discusses the role of emotional intelligence as faculty members transition from traditional to online environment and how emotions affect the decision-making process in this transition. This research also adds to the different types of presence the faculty members can have online that enable the faculty members to be more effective in the way the faculty members teach, learn, and interact within their community of practice.

A LOOK AT WOMEN ENTREPRENEURS IN UNDERREPRESENTED INDUSTRIES

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ABSTRACT

There has been increased policy and research interest in the growing number of women entrepreneurs and their potential contribution to both their local and global economy. Nevertheless, the extant literature on women entrepreneurship is often limited to predictable industries in which women entrepreneurs dominate – albeit retail trade and service. In this paper, an analysis of the literature review on women's historical position in underrepresented fields such as engineering, mining and construction shows that they continue to occupy a disadvantaged position. The paper looks at women in these fields - - from girls in their earlier toddler years to later-life phased entrepreneurial positions. It ends with recommendations for possible future research that can be pursued in this area.

INTRODUCTION

It has long been known, that women in general, experience barriers when trying to enter or advance in non-traditional industries (Menches and Abraham, 2007). This applies particularly to women who choose to pursue entrepreneurial ventures in such industries where women have historically had very limited representation. Non-traditional industries can be defined as those industries that represent 5% or less of all women-owned businesses, specifically agricultural services, mining, construction, manufacturing, wholesale trade, transportation, communication and public utilities (Center for Women's Business Research, 2005). In contrast, traditional industries for women have larger percentages of women dominating, namely services, finance, insurance, real estate and retail trade (Center for Women's Business Research, 2005; Thomasson, 2000).

Research on women entrepreneurs' entry, progress and function in traditional industries, such as retail and services has been well documented (Smith-Hunter, 2006). What remains lacking is a focus on women entrepreneurs' participation in industries such as engineering, mining and construction. Industries where their representation is limited, are a primary concern, since it points to the underutilization of women as "human resources" in such fields of study, which are seen as pivotal to the national economic growth in countries where women are often approximately 50% of the workforce (Ramirez and Wotipka, 2001).

The research shows that early concentrations of women and even minorities were limited in certain industries (de Graaf, 1980; Jordan, 1989; Riley, 1999; Blackburn and Richards, 1993; McGuire, 2002). As early as the 1800s and into the early 1900s women's existence in industries such as engineering, mining and construction were non-existent (Ling, 1993; Jordan, 1989; Riley, 1999; Blackburn and Ricards, 1993; Gordon Hall, 2001; Botticelli, 1997; Chauncey, 1981). The range of opportunities for women in such industries was tragically restricted (Rakowski, 1995). A second stream of work regarding women and technology emerged during the 1970s, looking at the continued underrepresentation as well as problems in regards to retention rates of women in certain industries (Riley, 1999; Ramirez and Wotipka, 2001; Lunn and Perry, 1993).

Part of the underrepresentation for women in non-traditional fields comes from the gender identification and alliance of some occupational fields that purport a male/female focus. Gender has been said to be socially constructed (Faulkner, 2000), thus creating an environment where occupations that are aligned with male characteristics (hard physical labor, high scientific component) are labeled as male-like or having a "maleness" to them and thus become dominated by males with very low female employees and a continued derisory of women entering such fields (Faulkner, 2000).

The reasons for the strongly masculine connotations of engineering work stem to a significant extent from its distinctive origins. Early work in the engineering fields involved hard, dangerous physical exertion level work that did not lend itself to a feminine population. This gendering of engineering and the related fields was reassessed and the entry for women relaxed when the male working population went off to World War II and a shortage for labor was created at home. With this shortage, a larger than previous population of women then ventured into these fields.

LITERATURE REVIEW

The literature review that follows examines females in engineering, mining and construction from three perspectives. The first section looks at girls' early educational level, where their pipeline entry into these non-traditional fields begin. A second section looks at the occupational levels of workers in the mainstream labor market, where they perform as engineers, miners and construction workers. A third section looks at women in the world of entrepreneurship – as owners and operators of their own businesses in these non-traditional fields. This comprehensive overview is critical in understanding the relation between early exposure and later connections of women in non-traditional sectors/industries.

Girls in Non-Traditional Education Fields

Despite efforts to increase the participation of women in the non-traditional areas of math and technology in the educational fields, repeated studies have shown that girls and young women continue to feel disenfranchised in these fields (Alting, 1992; Morgan, 1993). Engineering, mining and construction related education has a predominantly gendered history, one that has prevented women en masse from finding a place in this predominantly male territory (Friedman, 1977; Bix, 2004; Bird and Allen, 1989). Throughout the first half of the twenty-fifth century and into the second, studying or working in non-traditional fields such as engineering was seen as defying traditional gender norms (Bix, 2004).

Some have suggested that as early as the baby and toddler years for girls and boys, the socialization of what is feminine and masculine is instituted (Alting, 1992; Srivastava, 1992; Heywood, 1978). An article written thirty years ago indicated that in order to adequately and significantly change women's position in non-traditional occupations, the transformation has to take place in early forums of education, as early as the grammar school level (Heywood, 1978). Specifically, Heywood (1978) presented the idea that provisions in the courses offered to and encouraged for girls at this early stage, needed to include a favorable focus for them in the science and technology type subject areas (Heywood, 1978). The implication being that this favorable introduction would carry over for girls in their latter educational years and thus occupational choices.

Srivastava (1992) looked at the barriers girls/young women faced when entering the higher educational levels of the construction industry as well as the image that is portrayed to mentors/supporters of those young women (Srivastava, 1992). The author used a number of research and sampling techniques to assess how women fared at five polytechnic institutions that offered construction courses. The author concluded that the underrepresentation of women in the construction industry was a social phenomenon with females being socialized differently from males in the early educational years regarding their exposure to the sciences (Srivastava, 1992). Adding that the culture and image of construction presents a barrier to women's participation (Srivastava, 1992). In order to rectify this shortcoming –informal networks that would recruit, mentor, and help to retain young women in such non-traditional fields are recommended (Srivastava, 1992).

International statistical data indicates that women's enrollments in science and engineering fields in higher education increased between 1972 and 1992 throughout much of the world (Ramirez and Wotipka, 2001). While men's participation in science and engineering fields has doubled over the last two decades, the participation of women has tripled (Ramirez and Wotipka, 2001; Teich and Gold, 1986). The largest increases in women's participation rates have been noted in the Middle East/North Africa, Latin America and the Caribbean. Overall, the absolute level of women enrollees in the science and engineering fields lags behind that of women enrollees in other fields of study (Ramirez and Wotipka, 2001). This lower enrolled position, especially compared to men is said to be consistent with the "persistence-of-inequality" perspective women are said to experience in these non-traditional fields (Ramirez and Wotipka, 2001).

Henwood (1998) explored the reasons behind the continuing underrepresentation of women in science and engineering educational fields. Using an empirical research, the study examined the subject choices and occupational decision making processes of two groups of students in a college of technology one undertaking a course in traditional "women's" work and the other, a course in a non-traditional area (Henwood, 1998). The analysis employed a poststructuralist approach, analyzing aspects of discourse theory which suggests that there is a major contradiction with gender differences being understood as natural but yet vulnerable to change, especially when individuals are encouraged to enter fields dominated by members of the opposite sex (Henwood, 1998). The author ends the study by stating that in order to transform this less than inviting position of some occupations

towards women, a transformation of existing gendered power relations, is needed, one that results in real changes for the lower-populated gender group (Henwood, 1998).

In related articles by Rosser (2002) and Bystydzienski (2004), the authors also echoed the need for a transformation of non-traditional occupations for women's entry and advancement in non-traditional educational fields (Rosser, 2002; Bystydzienski, 2004). However, the presidents of some of the most prestigious research universities who are recommending these changes emphasize the need to have the transformation supported and buoyed by women's organizations and women's groups (Rosser, 2002). Bystydzienski (2004) noted that the National Science Foundation (NSF) is promoting the creation of programs that address the deficiencies women are experiencing in the science, engineering and technology fields. The authors also lamented the lack of neutral gender work in certain educational fields.

Other work has also scrutinized the lack of neutral/non-gender propagated focus of certain courses, such as the sciences and engineering course. Murray, Meinholdt and Bergmann (1999) suggest that the campus climates at universities that are primarily engineering institutions may be hostile to women, who are for the most part, in the minority. This hostility occurs at all levels, with their peers and equals their fellow male students, with their subordinates and with faculty, staff and administrators, whom the women may come in contact with (Murray, Meinholdt and Bergmann, 1999). The authors end by stating that this hostility is further compounded, intensified and has led to resistance especially when women attempt to teach gender issues in the engineering classroom (Murray, Meinholdt and Bergmann, 1999).

Menches and Abraham (2007) reported the five main challenges faced by females in science and engineering fields. The study was conducted by a committee of successful university presidents, chancellors, provost and professors. The committee's findings included the following:

The number of women faculty members in science and engineering programs at research universities is less than 10% and women often receive fewer resources and less support than men.

Women from minority racial or ethnic backgrounds are virtually absent from the nation's leading science and engineering departments.

Women who are interested in science and engineering careers at every educational transition.

Women faculty are paid less, are promoted more slowly, receive fewer honors and hold fewer leadership positions than men. These discrepancies do not appear to be based on productivity, the significance of their work or any other measure of performance.

To capture and capitalize on the talent of women, will require revising policies adopted when the workplace is more homogenous and creating new organizational structures that manage a diverse workforce effectively.

Women have made gains as students and professionals in science and engineering, yet they continue to lag behind men in the number of doctoral degrees attained (Fox, 1998) and even more so in the levels of professional participation, position, productivity and recognition (Fox, 1998; Evetts, 1997). Programs at the graduate level merit special attention because graduate education is tied directly and indirectly to subsequent professional participation and performance in the field. Thus, education at the graduate level is a critical stage in linking the past exposure of a potential female employee to programmed initiatives that will improve women's position in non-traditional industries.

Women in Non-Traditional Occupations

Early studies by Aldrich (1978) and Finn (1978) explored the unemployment rates for women scientists and engineers. The authors noted at the time that there was a systematic underutilization of women in all fields when compared to their male counterparts (Aldrich, 1978; Finn, 1978). The unemployment rates of women scientists and engineers were looked at and explained by two key reasons Finn (1978). First, women graduates in the science and engineering field were more likely than men to place personal restrictions on their job search activities (Finn, 1978). Second, women were more likely to be recent graduates and this cohort was also the group most likely to have the highest rate of unemployment when compared to other groups (Finn, 1978).

More recent studies have continued to present a picture that depicts the under-utilization of women in the science, engineering and construction fields (Botticelli, 1997; Rossiter, 1997; Menches and Abraham, 2007). More specifically, Rossiter (1997) looked at the percentage of women in various science fields, noting that women were more likely to be found in fields that were seen as "soft" such as teaching, versus "hard" fields, predominated by men, such as "research" (Rossiter, 1997). The author also noted that government funding for the male dominated

fields was disproportionately larger when compared to fields that boast the higher percentages of women (Rossiter, 1997). Menches and Abraham (2007) focused on the development of legislative body (CITB – Construction Industry Training Board) to address the challenges and the resulting shortage that impact women in the construction industry (Menches and Abraham, 2007). The authors noted that women in the construction industry faced the following top five barriers to their success: slow career progression, difficult work-family conflicts, attitude barriers caused by male dominance, job hopping to avoid difficulties and an overtly masculine culture (Menches and Abraham, 2007). The authors conclude that changing the difficulties women experience in the construction industry requires an alliance of educational institutions, the industry, as well national and local agencies (Menches and Abraham, 2007).

Fox (1998) indicates that participation, position and rewards of women in occupations can be regarded as an individual rather than a structural definition of the problem (Fox, 1998). This is said to be true across occupations, particularly in the fields of science and engineering. In an individual definition, the author sees the status of women as being attributed to, or said to correspond to, women's individual characteristics, such as attitudes, behaviors, aptitudes, skills, performance and experience (Fox, 1998). In terms of a structural (also referred to as organizational or environmental) definition, the author sees this aspect of women's status as being attributed to factors beyond individual characteristics, that is, to features of the settings in which they are educated and in which they work, and to positions they hold and the tasks they perform (Fox, 1998).

Research on women's experiences in the male-dominated world of engineering and the meanings they bring to these experiences have taken on a variety of perspectives. One study of women in engineering in (Robinson and McIlwee, 1992) identified and contrasted the occupational cultures of engineering workplaces and schools. They found that engineering school cultures value academic work at which women excel, whereas engineering workplace cultures value masculine strengths, such as "fascination with technology, expertise as a tinkerer and an aggressive style of presentation" (McIlwee and Robinson, 1992). In a similar vein, Dryburgh (1999) later looked at the professionalization of women, enrolled in engineering schools through the use of focus groups, observations and in-depth interviews. The author concluded that the professionalization of students in engineering, as in other professions, requires adaptation to the professional culture, internalization of the professional identity and solidarity with others in the profession (Dryburgh, 1999). The author emphasized that the solidarity and the ability to work collaboratively are learned through the ritual ordeal of the engineering work's hard culture (Dryburgh, 1999). For women engineering students, this anxiety extends to gender issues as they foresee problems associated with being a women engineer working in industry (Dryburgh, 1999).

In terms of women in the construction and mining fields, the research for the most part has been historically relatively quiet. The construction industry specifically is seen as family owned and operated businesses passed down through generations (Janis, 1998). With the perpetuation of this industry as being male-dominated (Gale, 1994), sons rather than daughters have embraced the family lineage to pursue occupational opportunities. Gale's (1994) article speaks to the gendering of such work and the fact that women see entering such an occupation as riskier than more traditional occupations for women to enter and progress in (Gale, 1994).

In a related line of argument, Bennett, Davidson and Galeand (1999) looked intensely at women in the construction industry in Britain. The authors used two distinct groups: undergraduate male and female construction students and male and female professionals currently working in the construction industry; as well as qualitative and quantitative approaches to conduct the research. The results indicated that the women were less likely to be married, less likely to have children and had fewer experiences in the field than their male counterparts (Bennett et al, 1999). They (the females) were also less likely to indicate that they would remain in the occupational field long-term (Bennett et al, 1999). In addition, males were likely to have higher expectations of power and control of their careers than their female counterparts in this field (Bennett et al, 1999). The preceding findings further indicate that females (as opposed to their male counterparts) occupy a less favorable position in the non-traditional fields in which they are employed.

Fielden et al (2001), for their part, found that women in the construction industry have experienced occupational and organizational segregation (Fielden et al, 2001). Facing barriers during the entry stage into the occupations. The authors used focus groups of women only, as well as focus groups of men and women with the male-dominant population in the industry to discern that women experienced difficulties ranging from a lack of adequate network structures, stereotypes regarding women's work-family conflict issues, sexist attitudes, as well as the glass ceiling effects (Fielden et al, 2001). Not surprisingly, male participants in the study saw these difficulties as more surmountable than their female counterparts (Fielden et al, 2001).

In contrast to Fielden et al (2001), Kehinde and Okoli (2004) used a structured questionnaire in a field survey format. Looking at professional women in seven occupational areas (architects, builders, engineers, estate managers, surveyors, urban and regional planners and interior decorators), the authors concluded that while there are diverse career opportunities open to both males and females in these occupations, women remained mainly involved as administrators, designers and lecturers in the public service sector (Kehinde and Okoli, 2004). The authors also found that women experienced biased perceptions of their abilities to perform certain tasks and that professional organizations, teachers, counselors and parents had little influence on women joining these traditionally male dominated occupations (Kehinde and Okoli, 2004).

Similar studies conducted by Dainty, Neale and Bagilhole (1999), Byko (2005), Dainty and Lingard, 2006 and Cartwright et al, 2005 also showed similar findings. Dainty et al (2001) found that while the number of women have increased in the construction industry, women's careers in the said industry is unlikely to progress in parity with men's without a change in the overall culture of the industry (Dainty et al, 1999). The issue of a change in culture needed for women to advance in such non-traditional field was reinforced by Maskell-Pretz and Hopkins (1997) and Gale and Cartwright (1995).

Research on attitudes of employers toward women in non-traditional industries such as construction has been investigated by a number of research papers (Rodgers and Menaghan, 1991; Srivastava, 1992; Wilkinson, 1992; Gale, 1994). These researches have shown that women tend to occupy lower level positions with less authority and responsibility when they occupy/engage in employment in these industries (Evetts, 1996). One explanation for this occurrence is in the nature of these industries themselves – which are often male-dominated and heavily masculine in nature in terms of the type of work (Bennett, Davidson and Galeand, 1999; Lunn and Perry, 1993).

Women in non-traditional fields are said to face a daunting path, since often they are not provided with any mentors for them to gain support and assistance. This is particularly true for minority women who are often forced to work twice as hard as their white male counterparts. Underutilization of women and minorities in science and engineering is a problem of national (Leslie, McClure and Oaxaca, 1998) as well as international priority. Their representation in many specialties, such as engineering, mining and construction remains substantially below their distribution in the population (Center for Women's Business Research, 2005; Kearney, 2006). Studying women's participation rates in such industries are important – since the more women and minorities enter these industries, the larger will be a nation's stock of scientists and engineers, the greater will be the quality of that stock, and the greater will be productivity of that nation's labor force (Leslie et al, 1998).

The research on women in more non-traditional industries such as mining continues to be limited. Tallichet (2000) looked at women coal miners in the central Appalachian region and revealed that the sexualization of the women in such an industry represented the men's power to stigmatize women as inferior workers and to maintain the stereotypes for assigning work to women (Tallichet, 2000).

Bix (2004) noted that a survey of 17,000 professionals showed that the wage gap between men and women became significantly more pronounced as one scrutinized higher level positions (Bix, 2004), with women becoming more marginalized as they ventured into higher level positions. The author concluded that advocates in the 1960s, 1970s, 1980s and 1990s fought to change women's undermined position in engineering through social, psychological and financial support through conferences, talks and mentoring (Bix, 2004).

In contrast to the previous studies that perpetuate a high stress level and an underutilization of women in non-traditional industries such as construction, Loosemore and Waters (2004) reached divergent findings. The authors used a postal survey to garner information from men and women employed in the construction industry. They found that men experienced slightly higher levels of stress than did women in the study (Loosemore and Waters, 2004). In particular, men appear to suffer more stress in relation to risk taking, disciplinary matters, and implications of mistakes, redundancy and career profession (Loosemore and Waters, 2004). In addition, the factors that caused the most stress for women were listed as: opportunities for personal development, rates of pay, keeping up with new ideas, business travel and the accumulative effect of minor tasks (Loosemore and Waters, 2004). On the surface, this may bode as good news for women, but a closer analysis may reveal that the categories further depict the lowered level of responsibility given to women in such industries.

Overall, women in non-traditional occupations are seen to occupy less favorable positions when compared to their male counterparts. These less favorable positions apply to promotions, satisfaction and keeping up to date on current technology in their industries. In contrast, their male counterparts for the most part experienced a more favorable position in these industries and any unfavorable position was related to their higher level management positions in such industries.

Women Entrepreneurs in Non-Traditional Industries

Over the last three decades, three key areas of advancement, focusing on process, context and outcomes have emerged in the literature on women entrepreneurs. One area in the literature has focused on the characteristics of women entrepreneurs and the impact of these characteristics. Another area looks at how women entrepreneurs use their knowledge, networks and constructs to operate their businesses. A third area proposes a wider scope and looks at how women entrepreneurs are impacted by their environment around them, including the organizations they currently operate, as well as organizations they previously worked at, the community and the wider society in which they operate their businesses. This has been done extensively for women entrepreneurs in traditional industries.

A similar portrayal of comprehensive research on women entrepreneurs in non-traditional areas such as engineering, mining and construction has not been adopted. This is particularly tragic, since these non-traditional fields such as engineering are seen as the creators of a richer, more rational civilization and the natural leaders of a country's future (Carlson, 1988). While an overwhelming level of research does not exist for women entrepreneurs in non-traditional industries, a few do exist.

Smith, Smits and Hoy (1992) took the expected route of comparing male and female business owners in traditionally male-dominated industries, namely construction, manufacturing and wholesale distribution. The results showed that women were less likely to married, had been in business for a shorter time period and were less educated than their male counterparts (Smith et al, 1992). In addition, the women business were younger and had fewer employees than their male counterparts (Smith et al, 1992). However, both groups expressed similar reasons for embracing entrepreneurship – a need for autonomy in their work situation (Smith et al, 1992).

One study which looks at entrepreneurs in the engineering, mining and science fields was completed by Tang (1995). The author looked at males and females in these fields, all across racial lines of Whites, Blacks and Asians. The study did not explicitly focus on women entrepreneurs per se, but looked more at the exit and entry of the racial groups – sans gender – into and out of self-employment (Tang, 1995). The author concluded that native-born Asian and Blacks with paid employment are less likely than comparable native-born Whites to enter self-employment, while the opposite is true for post-1965 white immigrants (Tang, 1995). Among the self-employed, compared to native-born Whites, post-1965 White immigrants have a higher tendency to remain in self-employment and Blacks are less likely to persist in self-employment (Tang, 1995). However, no significant difference was found between Asian immigrants and native-born Whites in the likelihood of entering or staying in self-employment (Tang, 1995).

Another study to analyze women in non-traditional industries was completed by Anna, Chandler, Jansen and Merio (1999). The authors examined 170 women business owners in various traditional and non-traditional businesses in Utah and Illinois, using questionnaires along with a few in-depth interviews. Their analysis revealed that for non-traditional women, venture efficacy toward planning and the career expectation of autonomy were positively related to sales, while the expectation of money or wealth was negatively related (Anna et al, 1999). In addition, the women business owners in these non-traditional industries also indicated that the perceived importance of emotional and financial support was negatively related to sales (Anna et al, 1999).

One of the most fruitful studies to look at women entrepreneurs in non-traditional or underrepresented industries was completed by the Center for Women's Business Research (2005). Their study was based on phone surveys conducted with 400 women and 400 men whose businesses are in industries that are atypical among women-owned businesses. The women in these industries portrayed similar characteristics to their male counterparts in terms of their financial profiles (Center for Women's Business Research, 2005). The women also did not perceive any disadvantages for themselves versus their male counterparts in these industries (Center for Women's Business Research, 2005). Finally, the women entrepreneurs were most likely to have started their own businesses or to have purchased the business from a non-family member, rather than to have inherited it (Center for Women's Business Research, 2005).

Overall, the literature found the women entrepreneurs were more alike than different from their male counterparts – which is in contrast to studies that analyze similar factors in traditional industries. In addition, factors that often have a positive relationship to success and sales in traditional industries showed an opposite effect in non-traditional industries.

CONCLUSION AND RECOMMENDATIONS

Growth in entrepreneurship among women has occurred despite (or perhaps because of) patterns of discrimination in the workplace and sex role stereotyping. In this paper attention is focused exclusively on women in non-traditional or underrepresented industries. This attention has come about in part, because of the more than

proportionate increase in these industries for women entrepreneurs over the past decade, when compared to other more traditional industries, such as retail trade and service. The review of the literature on women's historical travels in these industries portray a journey that begins with earlier life experiences that manifests themselves at the high and tertiary levels of education to the mainstream labor market and into the world of entrepreneurship (Blackburn and Ricards, 1993; Bennett et al, 1999; Maskell-Pretz and Hopkins, 1997; Leslie et al, 1998; Geppert, 1996; Nicholson and Anderson, 2005) .

Based also on a review of the literature, there is evidence that a large gap does exist for women entrepreneurs versus their male counterparts, a gap that needs to be closed. This underutilization of women entrepreneurs in the engineering, mining and construction fields should be seen as a problem for national priority. A problem, since an increase in women entrepreneurs has been shown to be positively correlated with an increase in the Gross Domestic Product (GDP) of a nation's economy (Center for Women's Business Research, 2005).

While this research paper has illuminated some of the issues experienced by females at different phases in the engineering, mining, and construction field, some recommendations for future research foci also needs to be made in order to respond to other unanswered questions. Such research could look at the network structures and human capital characteristics of the young women at the tertiary level of education, women in the related occupations fields of engineering, mining and construction and women entrepreneurs in these industries. Network structure has been defined as the formal and informal connections of overlapping organizational, family and social memberships that accounts for our level of success, the resources we have available to us to satisfy our needs, obligations and expectations (Hogan, 2001; Easter, 1996; Aldrich, Reese and Dubini, 1989; Mitchell et al, 2002). Human capital has been defined as the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being (Becker, 1993). This definition of human capital extends beyond those capital assets linked directly to productivity, to encompass factors that reflect the broader values associated with a well-educated population (Becker, 1993). Network structure and human capital have been cited as critical variables that impact the success of various members of society in their respective fields (Smith-Hunter, 2006; Aldrich and Martinez, 2001; Foo, Wai and Lang, 2006; Friedman, 1986; Greenbank, 1999).

What has emerged from the literature synthesis in this paper was a robust early-years-to-employment explanation of why women are underrepresented in particular areas of engineering, mining and construction. The entrepreneurship field has long been seen as an alternative path of upward mobility for workers such as women. This is particularly true for women entrepreneurs in non-traditional fields, where studies (for the most part) have emphasized women's disadvantaged positions. These disadvantaged positions marginalize them when they try to function in the mainstream labor market, causing them to seek rewards on their human capital potential elsewhere (Tang, 1995; Tang, 1999). While current statistical data demonstrate that women's entry into these underrepresented occupational fields is slowly increasing (Evetts, 1997; Evetts, 1993), it is also expected that a further increase will also take place in the number of women embracing entrepreneurial ventures in these underrepresented fields

An interesting question however is what can be done to reduce, terminate or at least slow this trend? Several recommendations have been stated in this paper, they include: mentoring programs an early age for girls in the science and engineering subjects areas. In addition, government funded programs that assist women directly as well as other institutions that assist women in these industries and expand women's continued involvement in such programs is also recommended.

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FACILITATING VOCABULARY DEVELOPMENT IN ESL SETTINGS THROUGH CROSS-AGE TUTORING

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ABSTRACT

Vocabulary-building activities have been shown to improve oral language development in second language learners (Beck, McKeown & Kucan 2002; Johnson 2001; National Institute of Child Health and Human Development 2000). One of the ways to facilitate vocabulary acquisition in English Language learners (ELLs) is by organizing peer and cross-age tutoring programs with mutual benefits for all participants. This case study uses interviews and observations to compare the strategies that older ELLs utilized for one-on-one reading tutoring of elementary English learners. Precisely, the study examines the approaches to vocabulary instruction used by two tutors working with younger second language learners. As a result of analyzing the participants' perceived outcomes of the program, this paper offers insights and recommendations to educators who want to aid ELLs' vocabulary acquisition through cross-age tutoring.

INTRODUCTION

In a Southeastern school district in the United States, secondary-level English language learners (ELLs) received a chance to perform a valuable service by tutoring younger ELLs through a collaborative project between the teachers of English as a second language (ESL) and the instructors at a local university. According to the interviews of participating secondary-level students, many viewed vocabulary acquisition as crucial in enabling them to speak, read, write, and understand English. When asked what they could do to become better readers, numerous students responded, "Learn more vocabulary". Research has shown that reading comprehension is largely dependent on vocabulary knowledge (Beck, McKeown & Kucan 2002; Johnson 2001; National Institute of Child Health and Human Development 2000). As summarized succinctly by Ramirez (2000), "Directly teaching and developing vocabulary is critical to the development of strong comprehension skills" (p. 14). Yet, it is equally important to create instructional opportunities in which the use of difficult vocabulary occurs naturally and frequently (Freeman & Freeman 2000). This cross-age tutoring project, which brought together older and younger English learners, has given all participants an opportunity to learn and use new lexicon in meaningful contexts.

PURPOSE

Using a case study approach, this study examines how vocabulary acquisition of elementary-age ELLs was advanced by two high school-age tutors who were also English language learners. The research questions are: (1) What strategies did the tutors use to teach English vocabulary to the buddies? (2) How did strategy use differ between the two tutors? Before presenting the methodology, findings, and conclusions, the paper offers a theoretical rationale that served as the basis for the study.

RATIONALE

English learners, as well as their native English-speaking peers, need to develop the ability to acquire new vocabulary from multiple and varied contexts of reading (Johnson 2001). Many studies have demonstrated that peer

and cross-age tutoring, as an alternative context for reading, show great benefits for the participants. For instance, Labbo and Teale (1990) paired below-average achieving fifth-grade readers with kindergartners. After practicing reading their trade books, the fifth-graders read their selections to their younger buddies. By the end of the project, the fifth-graders showed significant gains on total reading scores on the Gates-McGinitie post-tests. Similarly, Juel (1996) discusses the benefits of a tutoring program to both first grade at-risk students and their university athlete tutors, who had low reading skills as well. Not only did the participants show progress on reading tests, but they also improved in affective areas.

Samway, Whang, and Pippitt (1995) recommend cross-age tutoring in multicultural school settings as an alternative to traditional teacher-centered reading instruction. Although planning and introducing such programs requires preparation both on the side of the teachers and the learners, the effects of this cross-age instructional arrangement appear to justify the extent of the groundwork. When ELLs of different ages were correctly paired in dyads or triads for reading activities, the teachers observed an increase in reading comprehension, the development of meaningful discourse, a growing motivation to read, and even improved behavior in both the tutees and the tutors (Samway, Whang & Pippitt 1995). In a similar instructional arrangement, Jacobson, Thrope, Fisher, Lapp, Frey, and Flood (2001) observed reading gains both in middle-school tutors and elementary-level struggling readers. After attending strategic reading classes, the tutors applied recently acquired learning strategies to tutoring sessions by using before-, during-, and after-reading activities (Jacobson, et al 2001). Although the benefits of peer and cross-age tutoring programs for ELL reading achievement are well supported, none of the above-mentioned studies specifically addressed vocabulary teaching and learning in ELL setting.

Beck, McKeown and Kucan (2002) present a comprehensive rationale for the explicit teaching and learning of vocabulary in their book *Bringing Words to Life: Robust Vocabulary Instruction*. The authors state that only Tier 1, or basic high frequency words, do not require much exposure or practice in the classroom. To keep up with the demanding literacy curriculum and in other subjects, readers need to acquire about 700 higher-level words per year, or over 7,000 words throughout their school careers. If teachers explicitly address approximately 400 Tier 2 words per year, they are assuring their students' adequate vocabulary development (Beck, McKeown & Kucan 2002).

Nation (2001), an expert in second language vocabulary acquisition, points out that "at the most general level, knowing a word involves form, meaning, and use" (p. 26). In the course of his research and practice, Nation has identified several key strategies for developing vocabulary in English as a second language. He believes that the use of context clues is the most important approach; however, students must possess the schema that includes knowing 95 percent of the words in a text. The use of word cards with the target vocabulary in English on one side and the first language translation on the other is also helpful, although teachers should not make this technique the sole vocabulary development strategy. Word part analysis, where students are shown how to break down words into prefixes, roots, and suffixes, allows them to learn the meanings for each word. A similar set of strategies was used by McLaughlin, August, Snow, Carlo, Dressler, White, Lively, and Lippman (2000) in a longitudinal study of the effectiveness of vocabulary instruction for second language learners in fourth and fifth grades. In the third year of the study, select students demonstrated noticeable gains in both the breadth and depth of vocabulary knowledge, as well as in reading comprehension. In this instructional intervention, students were exposed to twelve words per week through explicit word instruction, inferences, cognates, and language games. Some of the games included charades, twenty questions, completing word webs, and sorting word cards based on characteristics and relationships.

Although the above-mentioned studies are primarily concerned with younger students' reading success through vocabulary learning, the relation between a strong vocabulary foundation and second language comprehension is evident in adult learners, as well. In a study of 81 adult ELLs in Quebec City, Canada, Pichette (2005) determined that at the very basic level of second language proficiency, extensive reading alone was not associated with increased comprehension of texts by adult learners. Precisely, the low-proficiency group showed no significant correlations between time spent on reading and their reading comprehension, whereas the high-proficiency group showed a significant and moderate correlation. Pichette's research indirectly confirms the critical role of vocabulary-building activities for English language learners who are at the very basic proficiency levels in the target language. Thus, providing ELLs with opportunities to develop new vocabulary greatly enhances their learning.

METHODOLOGY

Setting and Context

The program under analysis was a three-year grant-funded tutoring project which paired elementary-level ELLs with middle and high school students who were also developing English proficiency. The goal of this intervention, conducted in thirty-minute sessions twice a week, was to promote younger ELLs' vocabulary development for improved reading comprehension and oral proficiency. Preparation for the tutoring meetings occurred during the elective period for high school students. The tutors planned for the instructional sessions on Mondays, Wednesdays, and Fridays. The ELL teacher had an agenda written on the board that listed activities for which the tutors were responsible.

The period started with a debriefing session for tutors to share what was successful for them in tutoring the previous day. In support of good instructional practice, the ELL teacher offered her personal observations of effective tutoring practices. Before the first session of the week, tutors completed Day One buddy reading plan and listed vocabulary words they deemed important to teach from the books they have chosen. They described how they planned to introduce and pre-teach these words for better comprehension of the text before reading it. Tutors, their peers, and the ELL teacher discussed possible ways to introduce vocabulary in a non-threatening environment of sharing. The second day of tutoring was devoted to consolidating new vocabulary. Depending on the reading and language proficiency level of the buddy, tutors could also teach phonemic principles based on these words and implement extension activities. On Tuesdays and Thursdays, participating high school students and their teachers took a ten-minute bus ride to the nearby elementary school to conduct tutoring sessions with their buddies. This 30-minute instructional period counted as the English as a Second Language (ESL) elective for high school students. Tutors would enter the room carrying the bags with the materials, find their young tutees, and sit down on the floor ready to work. The session passed quickly as the teachers circulated around the room, supervising the tutorial pairs. Often, university education majors were present with notebooks and pencils in hand, taking field notes.

Participants

The participants in this study belonged to two reading buddy pairs. In one observed pair, Vanessa (pseudonyms are used for all participants) was the tutor. She was an eleventh grader of intermediate English proficiency who had recently moved from Puerto Rico to the continental United States. Vanessa's buddy was Julia, an emergent English speaker from the Dominican Republic, who attended second grade. Both the tutor and the tutee shared the same mother tongue, Spanish. Mercedes, another Spanish-speaking high school student, was the tutor in the second buddy group. She was an eleventh grader from Colombia. Her buddy, Camilla, attended second grade and spoke Croatian as her first language. Her family had come to the US from Croatia, formerly part of Yugoslavia. Although Camilla was not yet proficient in English, her oral development was higher than that of the first tutee. Both Mercedes and Vanessa were enrolled in a local high school that participated in the cross-age tutoring project in collaboration with the local university. They were classmates and had the same teacher through their basic ESL class as well as the elective ESL course. Julia and Camilla, the tutees, attended an elementary school that offered a daily pull-out ESL program.

Data Collection and Analysis

The first method of data collection was observation of tutoring sessions. Field notes were handwritten or typed during the visits. At times, the investigators stopped recording their observations to ask the tutors why they had chosen one or the other instructional method. Next, the investigators conducted a review of the tutors' lesson plans, which they photocopied and kept for further reference. In addition, the investigators developed an interview protocol and conducted interviews with the tutors. Using pre-defined research questions, the investigators analyzed information from the protocols and field notes as they looked for patterns in the tutors' instruction. The focus was on finding similarities and differences among their approaches to teaching vocabulary.

RESULTS AND DISCUSSION

This section describes the study's findings for each research question. First, it presents the results for each tutor and focuses on the similarities and differences in their instructional strategies. Then, it presents a discussion which addresses implications for arranging cross-age tutoring projects in similar instructional settings.

Strategy Use in Teaching Vocabulary to Buddies

In the context of the project, tutors had the flexibility not only to determine the target vocabulary, but also to decide how they would approach the instruction. Although their ESL teacher advised them to preview the new words as part of pre-reading, the tutors were free in sequencing the specific pre-reading activities. They were also given an opportunity to choose activities following the reading, which normally took place on the second day of tutoring.

The first tutor, Vanessa, attempted to develop vocabulary knowledge before, during, and after reading. Although she used activities to preteach vocabulary, specific strategies were not reflected in her buddy reading plans. In some cases, she simply wrote the definitions of the vocabulary in her own words, some of which did not accurately reflect the meanings. Other definitions apparently came out of the dictionary. For example, she wrote that *mud* was "wet earth that is soft and sticky." The activities that were noted in the lesson plans included acting words out, showing Julia pictures or actual objects, giving antonyms and synonyms, and using Spanish equivalents. During Vanessa's instruction, it was observed that her most frequently used strategy was asking Julia the meaning of the word in English and then using the Spanish equivalent to make the meaning more clear. In addition, Vanessa gave Julia clues in Spanish and English and asked her tutee to guess the Spanish equivalent. During these sessions, one-word Spanish translations were used intermittently with extended explanations. This tutor also used the illustrations in the book to help Julia understand vocabulary. Instead of simply pointing to the picture herself, she usually asked Julia to relate a particular word to its appropriate visual representation. Another strategy frequently used by Vanessa was to act out the words, especially action verbs, such as *waving*. She usually paired this strategy with Spanish translations and then conducted a follow-up activity by asking Julia to act out the words herself. As Julia read the book, Vanessa asked her for the meanings of selected words in order to check her understanding. She helped Julia relate the words to pictures, to her background knowledge, and to Spanish equivalents. After reading, Vanessa usually went back through the book and asked Julia questions to check her retention of the vocabulary. She asked Julia to write sentences using some of the words. As an extension activity, she might have Julia label pictures, write the English word next to the Spanish word, or act out the words again.

The second tutor, Mercedes, stated that one of her primary tutoring objectives was to help her tutee Camilla develop a richer vocabulary, since Camilla was already a fluent reader. Mercedes did not limit the vocabulary she targeted to the four spaces on the front of the buddy reading planning sheet but she listed several more words on the back of the page. The words she selected often represented more abstract concepts. Instead of writing how she planned to teach the words in the spaces provided, she jotted down the definitions for the words, which were usually one-word synonyms written in English; however, she occasionally used a Spanish equivalent. Sometimes Mercedes looked up a certain word up in the dictionary and modified it to reflect her own lexicon; for instance, she jotted down a "small pool of H₂O" for "puddle". If Camilla had difficulty with a word during reading, Mercedes would explain it again or refer to illustrations. However, her greatest emphasis on vocabulary development took place during post reading activities. In one such activity, Mercedes cut out pictures that represented the words and asked Camilla to label the pictures. As Camilla was matching words with appropriate visuals, the tutor provided clues and referred Camilla to the book. If Camilla could not spell the words on her own, Mercedes would help her sound them out as a decoding strategy. If she was still not successful, Mercedes would let her look for the words in the book. After Camilla practiced writing the words, Mercedes asked her to create sentences involving the new vocabulary. This strategy is consistent with Swanson and Howerton's (2007) advice to "consider challenging students to find the ways in which new vocabulary words are used outside of class" (p. 292). Mercedes concluded her sessions either by giving Camilla a spelling test, or by playing matching games in which the tutee had to pair words with the definition cards.

Similarities and Differences in Strategy Use

Based on observations, seven salient strategies were identified as being used by the tutors to promote vocabulary development in their younger buddies. These strategies included native language use (word-to-word translation, definitions, and explanations), visual support (illustrations, drawing a picture, and realia), providing synonyms, antonyms, definitions, and explanations, tapping into background knowledge, acting out words, using games and structured extension activities, and incorporating writing and spelling follow-up activities. When many of these strategies are combined, they promote knowing the form, meaning, and use of words, which Nation (2001) defines as vocabulary knowledge. Many of these strategies have been found to augment vocabulary acquisition in other studies (McLaughlin et. al 2000). Two research-based strategies that have been found to benefit vocabulary acquisition (Nation 2001) but were not used by tutors included context clues and native language cognates.

Although Vanessa and Mercedes sometimes used similar strategies to teach vocabulary, they clearly differed in the frequency of its use. Vanessa tried to engage Julia in figuring out the meanings of words, whereas Mercedes simply provided the meanings. In addition, Vanessa was more animated as she acted out words, pointed to pictures and sketches and addressed vocabulary lessons before, during, and after reading. On the other hand, Mercedes used a more structured, direct teaching approach, putting a greater emphasis on post reading vocabulary activities. Another difference between the tutors was that Mercedes selected more difficult vocabulary, which often represented abstract concepts rather than tangible objects. These differences might have been due to Mercedes' buddy being at a higher reading and English proficiency level than Vanessa's, as well as the contrasts in personality and teaching styles of the tutors. The most frequent strategy that Vanessa used was Spanish translations and explanations. Of course, this was not an option for Mercedes, since her tutee Camilla did not speak Spanish. Ulanoff and Pucci (1999) found that native language use can be beneficial if it is provided as scaffolding; however, their research established that concurrent translation was not as effective since students tended to ignore English when they expected an immediate Spanish equivalent. Vanessa appeared to limit her use of Spanish during the session; however, it was sometimes evident that Julia preferred her to use their native language.

CONCLUSION

This study sought to analyze how two high school ESOL students helped their elementary buddies learn new vocabulary through a cross-age tutoring program under the supervision of ESL teachers and university instructors. Although tutors felt they selected vocabulary based on their buddies' needs, observations suggest that their own vocabulary needs and limitations affected the selection of words. Tutors sometimes lacked sufficient understanding of the words they taught, which might have resulted in their buddies' misunderstanding of certain words.

Seven primary instructional strategies were also identified. The tutors differed in the frequency of the use of similar strategies and in the distribution of vocabulary instructional focus during the tutoring sessions. Spanish language translation was the predominant strategy for Vanessa, since she shared the same language background as Julia. This option was not available to Mercedes, since she did not share a common first language with Camilla. In addition, both Vanessa and Mercedes expressed their enjoyment of the tutoring project. They shared that this experience not only benefited their buddies, but it also helped them to learn more words, which they believed was helping them with their own reading comprehension.

Several limitations of this study cannot be neglected. First, its findings cannot be generalized to other settings or other tutors. In addition, this research did not focus on the success of vocabulary strategies but rather concentrated on their perceived effectiveness. Future studies could examine a larger sample, evaluating the success of specific tutoring programs or specific instructional strategies on vocabulary development.

IMPLICATIONS FOR EDUCATORS

The findings of this case study have several implications for educators who are contemplating or already implementing cross-age vocabulary tutoring involving English language learners. If possible, older students should receive participation incentives that reward them for personal learning and recognize their contribution to the learning of others. Some of the incentives may involve earning actual credits for an elective (as described in this project) or receiving community service points. In both cases, students' internal motivation is enhanced by external stimuli, which increases the program's chance to remain attractive and exciting for tutors throughout its implementation.

Still, the motivational factor is not the only condition in order for cross-age programs to make a lasting contribution to the vocabulary development of all participants. First, as evident in the study, even pre-planned and supervised sessions may give way to semantic misrepresentations by tutors who have not grasped the correct meaning of the lexicon in their selections. Therefore, it is important for teachers who direct the project to discuss the meanings of vocabulary words with the tutors prior to the actual instructional sessions with the buddies.

Another important consideration in the success of cross-age tutoring is the selection of appropriate reading materials. Al Otaiba and Pappamihel (2005) believe this to be one of the primary conditions for successful literacy tutoring. If the text is too difficult either for the tutor or the buddy, the instructional arrangement will defeat its own purpose. Al Otaiba and Pappamihel (2005) continue to state that tutoring should be only a supplement, but never a substitute for classroom reading instruction. The main goal of this and other cross-age literacy interactions is to expose the tutors and the tutees to multiple modes of expression and discourse, and to allow opportunities to practice new and familiar vocabulary in interesting, meaningful contexts.

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TAYLOR RULE IN EAST ASIAN COUNTRIES

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ABSTRACT

In 1997 the Asian Miracle became the Asian Nightmare as many of the emerging economies of Asia were entrapped in monetary problems exacerbated by poor institutional quality, mismanagement, and capital flight. In the decade since the crises these affected nations have effectively restructured their economies, monetary policies, and in some cases the political system. One of the most important policy changes has been the adoption of inflation targeting. This paper explores inflation targeting in Asian nations. To this end we calculate the presumed inflation target in Indonesia, Japan, South Korea, Thailand, and Taiwan by utilizing the Taylor rule. The Taylor Rule is a monetary policy reaction function rule calculating the optimum central bank interest rate for a given set of macroeconomic factors.

INTRODUCTION

One aspect of the post-1997 macroeconomics stability and growth in Asia has been significant changes in monetary policy in the various countries. Monetary policy strategies in Asian countries are varied. To be sure some sort of anchor is needed to avoid a repeat of recent economic history. Some have attempted to achieve price stability through inflation targeting. The Taylor Rule provides a well established benchmark to determine the efficacy of inflation targeting in Asian nations.

INFLATION TARGETING

Inflation targeting as an overall monetary policy comprises five factors (Mishkin & Miguel 2001). First, a commitment to announce publicly what the medium-term target rates is for inflation by the central banking authorities. Second, an institutional commitment made by the central authorities to price stability as the overarching goal of monetary policy. Third, extensive analysis and information gathering is essential to ensure that a variety of measures are available for decision makers to formulate policy. This information is vital for getting the policy function instruments correct for each nation. Fourth, transparency in the political and financial systems, particularly in the central bank, is essential for inflation targeting to be successful. The central authorities must also communicate to the public, markets, and international financial institutions their plans and objective for overall inflation targeting. Failure to do so will undermine targeting attempts. Fifth, the central bank and its directing body must be held accountable for the bank's actions. By separating the bank from political pressures of the government the bank can pursue inflation targeting in a systematic and credible manner. These five factors constitute in various ways to credible inflation targeting policy and strengthen the institutional setting of the central banking system—something needed by all emerging economies, especially in Asia.

ADVANTAGES OF INFLATION TARGETING

Inflation targeting is an advantageous policy choice over pegs (hard and soft) and monetary targeting for various reasons. Inflation targeting allows central banks to focus on domestic conditions primarily while also allowing sufficient flexibility to respond in credible ways to both international and domestic shocks. Inflation targeting assumptions and calculations do not wholly depend on the money supply or price stability to accomplish its goal of price stability. To be sure, inflation targeting may be based upon multiple indicators or a reaction function; thus the ability to target inflation years in advance is possible. This substantial innovation over pegs and monetary targeting is sometimes called “flexible inflation targeting” (Svensson 2000). Such policy behavior is not uncommon as research shows that flexible targeting is what many nations do in practice, while not overtly declaring inflation targets (Bernanke, Laubach & Mishkin 2000). By establishing and holding to credible targets, this sort of central bank policy avoids the time-inconsistency trap. The time-inconsistency trap is a situation where political pressure (overt or covert) is applied to the central bank to increase the money supply for political purposes exclusive of economic rational. Inflation targeting demands institutional transparency and consistency, which are not

compatible with political pressure. Thus, the political debate over policy is refocused on what the central monetary authorities can do on a long term basis e.g. control inflation as opposed to short-term political ploys that creates a false sense of economic stability.

The decision making apparatus of the central authorities must be insulated from political pressure and the central bank must be granted autonomy in setting monetary policy goals and instruments. Transparency in the entire monetary policy framework of management and implementation is essential for the process to work efficiently. The intrusion of politically driven policies will eventually undermine positive results. The primacy of transparency is achieved by increased accountability of policy makers and the central bank. The self reinforcing nature of transparency and accountability has not been lost on Asian politicians as transparency has increase precipitously since the 1997 crises.

THE TAYLOR RULE

The Taylor rule is a monetary policy rule. This type of rule models the processes whereby a central bank makes adjustments to interest rates based upon existing economic reality. "The rules are responsive, calling for changes in the money supply, the monetary base, or the short-term interest rate in response to changes of the price level or real income" (Taylor 1993). These rules provide interest rate recommendations based upon deviations from targeted inflation rates and the gap between real and potential output. The primary assumption of this class of rules is that rational policymaking will pursue stabilized output and growth by calibrating interest rates to an optimal level for a sustained output growth trajectory with low prices (Cecchetti 1998). Policy rules of this type are called Taylor type rules since they are formulated in the same manner as those suggested by John Taylor (Taylor 1993).

THE MODEL

The following equation provides a reasonable approximation for the short term funds rate for United States (Taylor 1993).

$$r = p + .5 y + .5 (p-2) + 2 \quad (1)$$

Where:

- r is the federal funds rate
- p is the rate of inflation over the previous quarters
- y is the percent deviation of real GDP from a target

Furthermore

$$y = 100(Y - Y^*)/Y^*$$

- Y is the real GDP
- Y* is the GDP trend (Taylor 1993, 202)

Another interpretation of Y* is that it reflects the level of output that an economy would produce if the prices and wages were not sticky. Under this scenario, the monetary authorities would not be able to influence the output (Clarida, Gali & Gertler 1997). Taylor states that "The federal funds rate rises if inflation increases above target of 2 percent or if real GDP rises above trend GDP" (Taylor 1993). Then he observes "This policy rule has the same coefficient on the deviation of real GDP from trend and the inflation rate" (Taylor 1993). More generally, for any given inflation target and potential GDP, when the inflation exceed the targeted rate or if the output gap is positive then the Federal Reserve increases the interest rate to reduce the inflationary gap. On the other hand if the output gap is negative then the Fed reduces the interest rate to stimulate the economy. In practice there have been several modifications to the original Taylor Rule. The simplest is an algebraic rearrangement which yields:

$$r = 1.5p + .5 y + 1 \quad (2)$$

From equation (2) researchers have concluded that the inflation targeting has been more important during the study period than output targeting. The original work by Taylor uses the rate of inflation over the previous quarters others use the lead variables or forecasts of interest rate, output, and inflation (Taylor 1993; Clarida, Gali & Gertler 1997). The latter is known as forward-looking, while the former is known as backward-looking approach. Another major expansion of the Rule is the acknowledgement that central banks have a tendency to avoid monetary shocks.

This gradual adjustment is represented as a fraction of the lagged values of interest rate. Using lagged variables introduces first order autocorrelation into the model. Hence, they employ the generalized method of moment (GMM) using an instrumental variable technique. Following conventional practice they use the lagged values of the variable, here inflation (CPI) and output, as instruments. “[B]ased on our casual sense of the way central banks operate, we choose a horizon of one year” (Clarida, Gali & Gertler 1997). In empirical analysis they use lags 1-6, 9, and 12 for both inflation and output, as well as for additional variables that they incorporate one at a time. The following presentation is commonly utilized (Arestis & Chortareas 2006).

$$i_t = (1-\rho)\alpha + \rho i_{t-1} + (1-\rho) \beta_\pi \pi_t + (1-\rho) \beta_y Y_t + \varepsilon \quad (3)$$

Following the practice of having the least numbers of symbols the equation (3) is written as:

$$i_t = \alpha + \rho i_{t-1} + \beta_\pi \pi_t + \gamma Y_t + \varepsilon \quad (4)$$

Where

i_t is the nominal interest rate
 π_t is the inflation rate in time t
 Y_t is the output gap

In the above formulation the output gap is calculated according to Clarida *et al.*, which is different than the inflation variable used in Taylor. However, instead of using the regression trend line the Hodrick-Prescott filter is used. Since direct and reliable inflation rates are not available the CPI is used as the inflation measure (Clarida, Gali & Gertler 1997).

DATA

Data availability has limited the number of countries in the study. Monthly data are available for Indonesia, Japan, South Korea, Taiwan, and Thailand. However, the series are long. The data for Indonesia and Japan range from 1990:1 to 2005:12. The range for South Korea is from 1991:1 to 2005:12, while that of Taiwan is 1982:1 to 2006:12. Finally, the range for Thailand's data is 1990:1 to 2006:12. The Consumer Price Index is used for inflation, which is obtained from the same sources, respectively. The industrial production index (IPI) is used to represent the output. The IPI are filtered through the Hodrick-Prescott procedure to obtain the potential output gap. The difference between the de-trended output and the IPI is used as the output gap.

RESULTS

The results for each country are presented separately. South Korea declared inflation targeting as its monetary policy in 1998. In the year 2000 Thailand did the same. Although Indonesia announced inflation targeting in 2005, there is not enough data to study the impact of the policy decision. Japan and Taiwan also pursue inflation targeting, but so far we have not been able to determine the actual date the policy became effective. The t-values are in parentheses under corresponding coefficients.

INDONESIA

The estimated equation for Indonesia is:

$$i_t = -.004 \text{ inflation} - 1.95 \text{ output gap} + .96 i_{t-1} \\ (.85) \quad (.56) \quad (47.94)$$

The adjustment coefficient is very close to one indicating rapid adjustment for interest rates. This value is close to estimates obtained by others however, it is on the high end (Clarida, Gali & Gertler 1997). The coefficients for inflation and output gap are not significant so one cannot put too much stock in their signs. For all practical purpose they are zero, indicating that inflation targeting or output targeting are not the primary policy objectives of the Central Bank of Indonesia. On the other hand, the bank resorts to shock therapy; it adjusts interest rates very rapidly.

Almost in one period, which is a month for this study, the interest rate reaches to its targeted rate. The adjusted R-squared is 94%

JAPAN

The estimated equation for Japan is:

$$i_t = -.005 \text{ inflation} + .29 \text{ output gap} + .97 i_{t-1}$$

(0.67) (0.97) (150.4)

The adjusted R-Squared for Japan is 99%, the highest among the countries under review. It also has the largest coefficient for interest rate adjustment mechanism, indicating the fastest correction among these countries. However, since the coefficients for inflation or output gap are not significant the policy objective of the central bank of Japan cannot be determined. The overnight rate for Japan has been close to zero for several years, which might have contributed to lack of significance of the variables.

SOUTH KOREA

The estimated equation for South Korea is:

$$i_t = -.01 \text{ inflation} + 4.73 \text{ output gap} + .96 i_{t-1}$$

(1.02) (2.42) (31.87)

The adjusted R-Squared is 95%. For South Korea too, adjustments in interest rates are rapid. Although the inflation coefficient is not significant the coefficient for output gap is highly significant indicating output targeting in South Korea for the study period.

TAIWAN

The estimated equation for Taiwan is:

$$i_t = -.009 \text{ inflation} + 1.05 \text{ output gap} + .92 i_{t-1}$$

(1.75) (0.7) (33.22)

The adjusted R-Squared is 86%. Although the adjustment factor is lower than that of Indonesia it is fairly high. Furthermore, the coefficient for inflation is significant at the 8%, therefore there is some evidence of inflation targeting.

THAILAND

The estimated equation for Thailand is:

$$i_t = -.007 \text{ inflation} + 1.94 \text{ output gap} + .94 i_{t-1}$$

(0.677) (0.85) (32.06)

The adjusted R-Squared is 84%. However, the only significant variable is the lagged interest rate, which also has a high value indicating fairly rapid implementation of changes in interest rates. Since the other coefficients are not significant no inference can be made about the policy target of the central bank.

CONCLUSIONS

The results for the reaction functions of these far-east Asian countries are similar. They all have very high adjusted R-Squares, in part due to inclusion of the lagged interest rate. All have fairly high adjustment coefficients indicating that the changes in interest rate are implemented very quickly. Since the periodicity of the data is monthly

the central banks of these nations adjust to their desired rate of interest within a month at the rate of Indonesia 96%, Japan 97%, South Korea 96%, Taiwan 92%, and Thailand 94%. These are much higher than the adjustment rates reported for new entrants to the European Union and close to the estimate for Japan (Maria-Dolores 2005; Clarida, Gali & Gertler 1997). In several cases it is not possible to determine if the respective central banks of these countries are pursuing an inflation targeting or an output targeting policy. The clear exceptions are Taiwan (inflation targeting) and South Korea (output targeting).

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USING GAMES TO IMPROVE LEARNING IN AN INTRODUCTORY STATISTICS COURSE AND ENHANCE STUDENT CRITICAL THINKING SKILLS

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ABSTRACT

Current trends in education indicate that providing students with alternative learning environments and activities can lead to increased understanding and retention. To this end, education theory has long recognized the value of utilizing games, exercises, and simulations to stimulate interest in the learning environment, improve transfer knowledge applications, and enhance knowledge retention through meaningful repetition. This research proposes the utilization of a television game show, “Deal, or No Deal,” to enhance student understanding of expected value in the introductory statistics course and foster development of critical thinking skills necessary to succeed in the modern business environment.

INTRODUCTION

For a number of years, educators have recognized that experiential techniques and alternative learning environments are useful in helping students better understand and retain information. For example, according to the proponents of Activity Theory (Begoña Gros, 2003; Engeström, 1987; 1993; Squire, 2002), learning is conceptualized not just as a function of a game itself, but rather as a transformation that occurs due to the dynamic relations between and among player(s), the game, and any intervening social structure.

Additional studies have corroborated that games are very effective alternative learning activities that provide students with a learning environment that is both fun and informative, and provide a break from the too often drone of the routine lecture. Heineke (1997) offered three key ways that games, exercises and simulations can be used in the classroom: “to motivate learning, to provide a common experience or unified theme, and to illustrate abstract or complex concepts.” With the clear need for broadening our teaching repertoire in mind, we will focus on one particular teaching method that research has illustrated helps students better understand material through innovative activity based projects - games and simulations (Gloeckner, Love, & Mallette, 1995).

In this paper, we present a game method of teaching expected value in an introductory statistics course that also has the added benefit of enhancing students’ critical thinking skills. Over the years, we have found that students seem to have difficulty understanding the basic probability concepts at the early stages of the course. This problem in comprehension transfers forward when we get to more advanced applications like hypothesis testing, regression analysis, and even when applying the normal distribution.

Thus, we have looked for alternative learning activities that will not only enhance the students’ initial understanding of basic probability concepts, but also foster an enhanced level of transfer knowledge. The failure to transfer knowledge is often because students tend to lack the ability to generalize concepts learned at one stage of a course (or in a completely different course) to new situations encountered, leading to the question posed by Lovette and Greenhouse (2000) of “whether students have learned the necessary skills at a sufficient level of generality to be able to apply them appropriately.” Weast (1996) notes that higher education professionals recognize the need for alternative teaching methods and a shift away from the outdated methods. Games and simulations provide an alternative teaching method that help students reach that level of generality which will allow for appropriate follow-up application.

Instructors are also faced with the problem of assessing student performance levels. In assessing the mastery level of performance for students, the instructor must determine the method and criteria for mastery (Dick, Carey,

and Carey, 2005). One approach is to provide students with adequate opportunities to exhibit their learned ability. This is typically attempted in several stages. First, the instructor provides students with multiple examples; second, these examples are followed by intermediate verification opportunities in homework and quiz problems; finally, these are followed by test or exam problems. The utilization of games and simulations in the class provides such an alternative assessment methodology, allowing the instructor to evaluate each student's ability to apply concepts prior to traditional testing.

Recognizing the inherent anxiety of students toward statistics courses, Pan and Tang (2004) examined the effectiveness of innovative instructional methods, finding that innovative instructional methods have the potential for reducing student anxiety toward statistics. A reduction in anxiety towards the subject matter may result in increased transfer knowledge and better future application and success. Moreover, some innovative instructional methods such as the game method we propose have the added value of fostering retention of meaningful material through repetition. (Reynolds and Glaser, 1964).

To help students gain a better understanding of basic probability concepts, we have incorporated different activities into the classroom to provide fun and innovative ways of learning. One of those activities is the popular television game, "Deal, or No Deal."

THE GAME

In the game, "Deal, or No Deal," on NBC, the host presents the contestant with the option to select one of 26 identical briefcases. Inside each briefcase, is a monetary value ranging from one cent to a million dollars. The contestant selects a briefcase, the contents of which becomes the contestant's to keep but the briefcase remains sealed with its value hidden until the end of the game. Then the contestant begins sequentially revealing the contents of the remaining briefcases. Of course, the contestant's odds of having a high dollar value hidden in "his" briefcase either increase or decrease with each subsequent revelation. After revealing a fixed number of cases, the "Banker" offers to buy the contestant's briefcase for a specifically offered price. This leads the host to ask the question, "Deal or No Deal?" If the contestant accepts the deal, the game ends and the contestant is shown the contents of the selected briefcase, revealing if the contestant made a good deal or not. But when the typical contestant turns down the offer in favor of the chance at higher winnings, the game continues and more cases are opened. As each case is opened, the "Banker" can change the offer price for the contestant's briefcase or completely withdraw the offer to buy, leaving the contestant with whatever value is in "his" briefcase.

From a purely statistically based logical standpoint, the offer should be accepted when it is equal to or greater than the contestant's expected value. The expected value is simple to calculate, because each case has an equal probability, and is thus simply the sum of the remaining dollar amounts divided by the remaining number of cases. In our in-class application, the students typically do not realize this and calculate the probability for each case a few times before realizing the equal probabilities. This is another good learning aspect of the game.

In the television version of the game, the Banker typically offers a dollar value significantly below the expected value. Most likely this is based on the assumption that the goal of the program is really to keep the contestant playing the game, and thus making it more interesting and intriguing for television viewers. Although it would be a pleasure to have our students participate on the air, it seems impractical for that to work. Fortunately, NBC has an online version of the game that closely follows the play of the live televised game. The site can be accessed from the NBC homepage, following links to the Deal or No Deal site.

In the online game, the briefcases are displayed similarly to how they are presented on television (less the beautiful models standing next to each case). The contestant chooses one briefcase and then must open six briefcases thus revealing six dollar values not contained in the contestant's chosen briefcase. After six briefcases have been opened, the Banker makes an offer. When our students play this version of the game, we add a rule that the student cannot accept the offer unless it is at least equal to the expected value. Thus in the midst of playing the game students must demonstrate their understanding of expected value and show they are able to perform the requisite calculation. This keeps the students playing the game for a longer time and also increases the beneficial repetition aspect of the learning.

In using the game, we use the in-class computer and projector so that the entire class can see the game as it unfolds. In the classroom example, a volunteer can be called on to play the role of the contestant, or a student can be hand picked much like a real contestant for the expected "show value." The instructor plays the role of host, providing direction as well as walking the students through the calculations. Once the example has been played out,

we assign each student to play the game for homework, keeping with the added rule of play until expected value is offered. We also remind the students that they may never get an offer as high as the expected value, which is okay.

LEARNING APPLICATIONS

Part of the assignment is to play the game and have some fun, but there is learning in this game. After each offer is made, we require the students to list the dollar values remaining in the game, and then make an estimate of what they think the expected value should be. Next we have the students calculate the expected value based on those remaining values. Since the game is set to offer lower than expected values in nearly all cases (in one class while showing the students how the game is played, we had a situation where the two remaining dollar values were half a million and one million dollars, and the offer was \$375,000), the students typically must decline the offer and continue to open cases.

The value of the exercise does not have to end with learning a little about calculating expected value. The data can be used later in the course when covering regression analysis. Students can take the Banker's offers from all of the homework games, and try to find linear or even nonlinear methods in an effort to find the Banker's model.

Another learning avenue using this game is in the development of students' ability to think critically. Das (1994) argued for adopting critical thinking as an objective of management education. He cited Ennis (1987) as defining critical thinking as "reasonable reflective thinking that is focused on deciding what to believe or do" (p. 10). Halpern (1999) described critical thinking as "purposeful, reasoned, and goal-directed." It is the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions. The faculty of our business school concur that one of the more important, though frequently lacking skills, for our students to obtain is the ability to think their way through a problem. With this need to improve the critical thinking skills of the students, we need more methods of developing those skills. As Elder (2005) noted, having only a small number of faculty focused on critical thinking within the university does not lend itself to a successful program of critical thinking. Adding an identifiable critical thinking component to an introductory statistics course ensures that the importance of critical thinking skills is introduced and tested at the early stages of a business major's college career.

Taking whatever approach is possible in creating a successful process of critical thinking seems to fit the consensus agreement in higher education and in the business community that successful workers tend to be the ones capable of problem solving and making informed decisions. While some may question that use of a game show in the development of students' critical thinking skills, Halpern (1999) concluded that critical thinking skills could be identified, taught, and learned, without regard to the underlying academic field of study.

There are several elements of the game that can assist in improving student critical thinking skills. The mere excitement and energy experienced through playing a game can help students to develop their ability to think clearly while being overcome with adrenaline and feeling the pressure of being forced to make an informed decision while others are watching. Far too many students show this lack of ability in answering questions when they are asked seemingly simple questions following a student presentation. If a student cannot easily provide a clear and meaningful answer to a question related to a project that they should have spent enough time researching to fully understand, how will they answer questions the questions that their future managers will need answered? In addition, the determination of whether the Banker's offer is reasonable and should be accepted offers another discussion point and opportunity to develop critical thinking skills.

CONCLUSIONS

Using the "Deal or No Deal" game simulation in an introductory statistics course provides an entertaining, innovative method for stimulating interest in the subject matter while enhancing understanding and transfer knowledge capabilities. With this alternative learning activity, instructors are able to introduce multiple concepts meaningfully and assess student understanding of those concepts through means other than traditional testing. Utilization of games and simulations, such as the "Deal or No Deal" concept, provides an instructional avenue that removes the fear factor traditionally seen in the introductory statistics course and allows students to have a hands-on avenue for learning that applies the otherwise fear-inducing concepts in a setting to which the students can relate. By repeatedly playing a game with which the students are familiar, students benefit from the repetitive aspects of the method, without the tedium of traditional paper and pencil worksheets or exercises. This in turn allows the

instructor to meet multiple goals: motivating learning, illustrating complex concepts in a meaningful way, enhancing transfer knowledge, and providing alternative assessment methods.

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EVALUATION AND ASSESSMENT OF TRAINING EFFECTIVENESS

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ABSTRACT

One of the many training challenges is the determination and assessment of the effectiveness of the completed training. In the design and development of the training program, the trainer must identify the needs of the trainees, and the methods appropriate for meeting those needs. A pre-training needs assessment is a logical approach to understanding the needs of the trainees, and provides a means of identifying learning outcomes and objectives suitable for the target learners. Understanding the needs of the target audience is especially important when designing, developing and providing product level training for a client. This study determined and measured the effectiveness of training provided to special education teachers and administrators for the use of software in the development Individual Education Plan (IEP). The pre-training/post-training evaluation measured the changes in the trainees' level of understanding of the software after completion of the training program.

INTRODUCTION

Software Technology, Inc. (STI) is a developer and distributor of educational systems support software, and is located in Mobile, Alabama. One of the many components of the operation is the training and support division, which is responsible for training customer users. These users are typically administrators and educators within the customer school district. Evaluation of the training is a fundamental aspect of any learning situation. Utilizing both quantitative and qualitative methods for evaluating the effectiveness of the training programs provides a more reasonable and useful result, by working the strengths of both practices. Measuring the effectiveness of the training and the level of learning are important elements of training. There are several methods for measuring or evaluating training effectiveness. Questionnaires can provide feedback from the learners about their perceptions of the training and what they think they have learned. Questionnaires can also provide good feedback about the actual presentation and methods used. This can provide information for improving the methods of presentation that would improve the level of learning as well.

Another method that can be used to evaluate the learning is to utilize a pre-training post-training assessment of the learners. The pre-training measures the incoming knowledge and understanding that each student had prior to the learning activity. The post-training measures the knowledge and understanding that the students have after the learning activity. The difference between the pre-training and post-training scores is the measure of what has been learned from the learning activity. The training strategies can be described as how the trainer presents the material to the trainee. Was the trainer easy to follow and understand? Was his/her voice pleasant to hear? Was the trainer patient and ready to review? According to McBain (2004), charisma trainers usually portray a communication style that maintains good eye contact, facial expressions and animated speech, which all help the trainer to capture the trainee's attention. These are just a few of the different aspects of the training strategy that must be considered when looking to develop or implement a training package.

Needs assessment is the process of determining what the actual learning need or needs of the organization. An important understanding of the prior knowledge that the trainees have before participating in the training program can provide insight into the direct needs of the particular training group, and can provide the trainer with a way of customizing the training to meet those needs. Knowing the level of knowledge and understanding of the trainees before the training event could save quite a bit of time and effort.

METHODOLOGY

This study focused on the effectiveness of training teachers to use Setsweb software for development of Individual Education Plans (IEP). The study targeted three specific areas of training: needs assessment, training methods, and evaluation of training. The study used four school districts with approximately 15 teachers in each of the training sessions. Each school district was assessed as to their needs prior to training and their first use of the software product. Ibrahim (2004) suggests that having prior knowledge about the trainee allows the trainer to be more familiar with the trainees, and can better provide a suitable and effective training program. The training was designed with the intent of meeting the majority of the training needs as identified through the needs assessments. The study used a form of rapid prototyping in the design of the training program. The rapid prototyping helped reduce the total design time by allowing the training team to complete certain tasks concurrently rather than sequentially (Richey, Morrison, and Foxon, 2007).

The effectiveness of the training was measured by the perception of the teachers trained, and their access to and questions of the helpdesk in the month following training. The helpdesk logs and documents each call and question, so data was available to analyze the specific questions raised by teachers after training. A diagnostic assessment of the trainees provided an evaluation of the needs of the trainees prior to the training program. This included questions regarding the level of computer experience each teacher had, prior exposure and experience with the software package (skills), years of experience in special education (knowledge), problem areas of the software, and what each trainee expects to get out of the training (abilities).

One of the pre-training interventions discussed by Machin (2002) is receiving information about training. Citing Cannon-Bowers, Salas, Tannebaum and Mathieu (1995), Machin (2002) noted that providing the trainees with accurate information pertaining to the training program allows them to better establish realistic expectations. Following that same concept, this study takes information from the trainees, using it in the form of a needs assessment, to develop the training in a manner best suited for the group of trainees. School administrators and special education teachers were sent needs assessment questionnaires prior to training to evaluate the perceived needs of the school personnel. These questionnaires provided the trainer with some initial input from the schools and their teachers related to their own perceived understanding of their overall needs. The STI training and development department evaluated the questionnaires and determined the best strategy for the development of the training material and program for each school district.

The trainer worked with the training department to evaluate the needs assessment information and revised available training programs to develop new, "customize" training programs as needed to provide the trainees with a training program designed specifically to meet their unique needs. The trainer presented the material and software to the trainees using combinations of lecture, PowerPoint presentations, and hands-on demonstrations. Using the learner centered classroom environment approach of the Plan, Implement, Evaluate (PIE) model of designing instruction (Newby, Stepich, Lehman, and Russell (2000) as discussed in Gustafson and Branch (2002)). This study incorporated the student input and expectations into the design of the training program, as well as in each of the three phases.

Each trainee received a copy of the training manual, to assist in reaching solutions to potential problems that may be encountered after training. This manual provided a systematic process, giving the trainees the opportunity to follow along with the trainer, and served as the first method of trouble shooting any problems. The trainer demonstrated the proper method of inputting the Individual Education Plan (IEP), which was followed by an opportunity for the trainees to demonstrate their learning of the materials.

Once the training program was developed for the given school district, the trainer went to the school district, and provided the training to the teachers on the software product. During the course of training, the trainer solicited feedback from the trainees on the overall impression of the training program. Langdon (1999) notes that feedback is one of the four main components of training, so having feedback from the trainees is an important aspect of determining the effectiveness of the training program.

After training, trainees completed an evaluation form to provide insight into the teachers' perceptions about the training, its value and effectiveness. The feedback from the trainees was used to assess and evaluate the quality of the training, as perceived by the customers (trainees). Examples of the types of questions and information that each trainee were asked through the questionnaires include pre and post training information regarding the trainee's perception of their level of understanding of the system prior to training, and their perceived understanding after

completion of the training intervention. This gave me the perceived increase in knowledge and understanding for that trainee.

After training was completed, the trainees had access to the help desk of the software provider through a toll-free telephone number. The trainer tracked and monitored each support call from each school district in the test group using the appropriate corporate call log. The number of calls and the magnitude of the support issue were used to assess the effectiveness of the training program for each school district. Qualitative evaluation of the trainees' perceived increase in knowledge and understanding will come from the questionnaires.

RESULTS

Group 1

Group 1 consisted of three system administrators, two special education coordinator and seven special education teachers. This district had prior experience with entering data for special education students into a database. Based on the Training Evaluation Form, trainees' knowledge prior to the training was between seven and eight on a 10-point scale (1 low, 10 high). Trainees' perceived knowledge after the training was between eight and nine on a 10-point scale. Trainees' rated the training materials a nine, trainees wanted copies of the forms used in the support training as well as in the training user manual. Trainees' rated the trainer a ten. Trainees found the pace of the presentation of software was most beneficial to the training, but felt they follow up training might be needed. Trainees' found the most difficult part of the software saving and printing and entering data.

Group 1 entered four support calls entered to the support trainer. The calls that entered had to do creating and IEP. The trainees felt a little nervous when creating the IEP, but wanted a little of reassurance from the support trainer. The trainee explained that the district contact person was not available for assistance with the issue. The support trainer also shared with the trainee to always refer to training user manual as a back in case that the support trainer is not available or district contact administrator.

The second support call that was entered was to saving the data properly in software. Support trainer guided customer through the process of entering data and selecting the correct keys to save the data. Before getting of the phone, the support trainer asked the trainee to refer to the training user manual that was handed out during training. If the trainee was unable to locate their copy of the user training manual, the support trainer could email a copy, but support trainer shared there is a copy of the company's website.

The third support call entered had a problem with the goals and benchmarks, the trainee wanted to know if they could enter their own. Support trainer verifies that the user either can create their own goals and benchmarks or can copy the ones from the State Department website. In the fourth call, the trainee wanted to review the printer options available to within the program. Support trainer asked the trainee to log into the software on their computer workstation, select the student, click on the Process, go to File and Print, this will give the user the option to select Print Process or print to PDF. Trainee was trying to print from the wrong menu.

Group 2

This group consisted of 15 staff members with five to seven years of computer experience. Trainees were one system administrator, two special education coordinators, two general education teachers, six special education teachers, two speech therapists, and two teacher assistants. Based on the Training Evaluation Form, trainees' knowledge prior to the training was between seven and eight on a 10-point scale (1 low, 10 high). Trainees' perceived knowledge after the training was between nine and ten on a 10-point scale. Trainees' rated the training materials a ten, trainees felt the documents great to refer back to. Trainees' rated the trainer a 10, trainees was very cheerful and made the training exciting. Trainees' found the documentation of the training user manual to be most beneficial to the training. Trainees' found the most difficult part of the software finding the goals and benchmarks.

Group 2 had only two support calls entered for as follow up from the training. The first support call entered was a concern with selecting the correct caseload. The support trainer walked customer through the process of assigning the correct caseload assignment. The trainee was selecting the wrong icon when trying to assign the caseload assignment to a teacher. The second service support call entered by the trainee had a problem with saving the data. Trainee was trying to save the data entered, but was selecting the correct keys that was reviewed during the training session. Trainee assumed the software would automatically save the data entered. The support trainer reminded the trainee that when enter the data, the user should select the f10 button for saving the data.

Group 3

Group 3 training group was very familiar with entering data into a database. The group consisted of 15 trainees with two system administrator, two special coordinators, one superintendent, two state department workers, two education coordinators, and the remaining eight were speech therapist, special education teachers and office assistants. Even though there was a concern about the varying levels of computer experience and comfort level, the trainer was reassured of the familiarity of creating IEPs. Based on the Training Evaluation Form, trainees' knowledge prior to the training was between three and six on a 10-point scale (1 low, 10 high). Trainees' perceived knowledge after the training was between seven and nine on a 10-point scale. Trainees' rated the training materials a ten, trainees were very appreciative of documents. Trainees' rated the trainer a ten, trainees felt the trainer patient and very responsive to the needs of the trainees questions. Trainees found the pace of the presentation of software was most beneficial to the training. Trainees' found the most difficult part of the software enter data and finding the appropriate caseload.

Group 3 had only one support call enter from the training session that was presented. The service support call entered had to do with the entering of the data. The trainee wanted to know if there was a limited amount of data that could be entered on the IEP form. The support trainer shared with the trainee that word wrap was used throughout all the forms within the software. As long as the user was typing and periodically saving the software would continue to save the data.

Group 4

Group 4 was the most challenging group of all the groups. The majority of the teachers had very little experience with computers. The teachers mostly used the computers for email and working with students in the computer lab. This group consisted of one system administrator, one superintendent, two special education coordinators, one general education teacher, five special education teachers, two speech therapists, two teacher aides, and one office assistant. The questionnaire addressed the comfort level of working with computers, trainees agreed with score of two and three based on 4-point scale. Trainees were asked if they had experience entering data on the computer, trainees responded between one and two. Trainees were asked if they had experience creating IEP's for students, trainees responded with one and two. Trainees were asked of if they feel like they can improve computer and software skills, trainees responded with an overwhelming four.

Trainees were asked what level of skill for entering data would be, trainees responded between very low and low. Finally, trainees were asked their role within the institution, trainees ranged from system administrators, special education teacher and other. After analyzing the group pre-training and speaking with district coordinator, group 4 would require a more of hands-on, constant review, and mostly patients. This training would be a test to see how well the trainees would respond to the instruction is best suited for the group. The training design team decided that a review a few of basic computer skills with the trainee to familiarize them with the database would proceed the training session for this group.

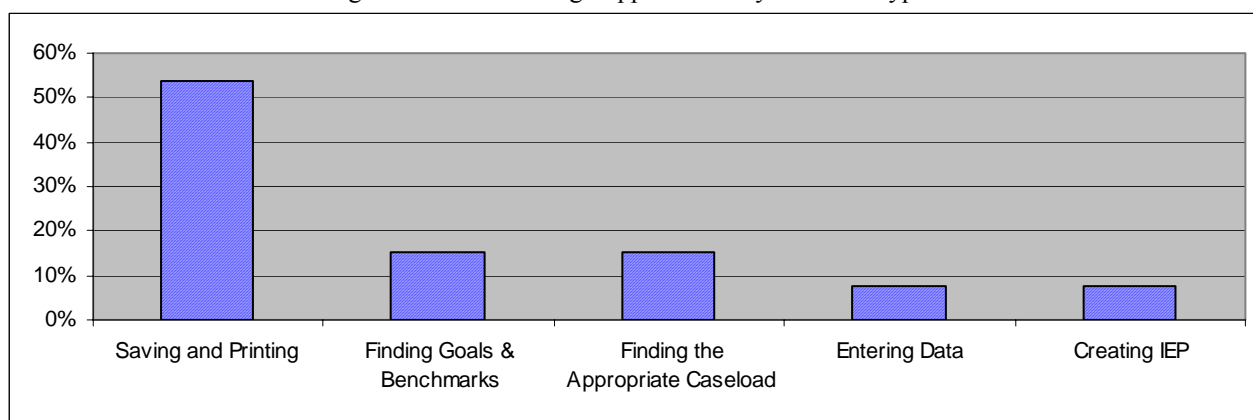
After reviewing the comments from the questionnaire, the support trainer felt that the job was successful, but believes this district would be calling into support for additional questions. Based on the Training Evaluation Form, trainees' knowledge prior to the training was between four and seven on a 10-point scale (1 low, 10 high). Trainees' perceived knowledge after the training was between seven and nine on a 10-point scale. Trainees' rated the training materials a ten, trainees were very appreciative of documents. Trainees' rated the trainer a ten, trainees felt the trainer conducted the training at a good pace and responded effectively to questions. Trainees found the pace of the presentation of software was most beneficial to the training. Trainees' found the most difficult part of the software saving and printing and entering data.

Group 4 had six service support calls entered as a follow up from training. The first three service support calls entered had to do with saving the data within the software. The trainees would type the data into the software but was not selecting the save button or the trainee had just got up from the computer without saving therefore receiving an inactivity log out which loses the data entered. The support trainer reviewed with the trainee the importance of following the same steps that were instructed during the training. The support trainer asked the trainee to refer back to the user-training manual as a reference. The fourth call entered through service support call concerned the goals and benchmarks and how to enter. The fifth service support call entered questioned the caseload assignment and who in the district was responsible was changing and adding. The last call entered through support service was a

problem printing the IEP forms. The support trainer walked the trainee through the process of selecting which IEP form they wanted to print.

The percentage of support calls by problem type is illustrated in Figure 1. Saving and Printing problems accounted for more than half of all support calls after training. Finding Goals and Benchmarking, and Finding the Appropriate Caseload each represented approximately 15 percent of the remaining problem calls. Thirteen support calls following training were tracked for these groups.

Figure 1 - Post Training Support Calls by Problem Type



CONCLUSION

Evaluation of training effectiveness is important to any organization, particularly those who provide the training program as an extension of the product. Application of needs based training assessment provides more target specific training material and program. Minimization of the help desk calls following the training event will indicate that learning and transfer have occurred (Weldy, 2007). Measuring training effectiveness using both qualitative and quantitative methods enables the training department to evaluate the true effectiveness of the training program and learning outcomes of the customer/client trainees.

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USING SIX SIGMA CONTINUOUS IMPROVEMENT METHODS FOR BUSINESS SCHOOL ACCREDITATION COMPLIANCE

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ABSTRACT

The application of the Six Sigma philosophy and methods has extended beyond the manufacturing arena over the last few decades. While once limited to production of manufactured goods, the concepts and tools of continuous improvement are now applied to services and other processes throughout the organization. Like many other types of industry, the quality of higher education is "controlled" through accreditation organizations. These organizations develop requirements all institutions must comply to be accredited. While the concept of applying continuous improvement to the development of courses and curriculums is not new, the application to the actual accreditation compliance is a newer concept.

INTRODUCTION

The push for continuous improvement has been the driving force of competitive business for more than a decade. Six Sigma, the operating philosophy of continuous improvement, is characterized as being a "breakthrough" strategy, as improving processes, as reducing errors, as providing measurements for change, as being focused on return-on-investment, and as team-based (Maes and Jeffery, 2005). It is often thought of as including the entire collection of quality improvement tools that are applied in the DMAIC cycle of continuous improvement. Simply stated, DMAIC stands for define, measure, analyze, improve, and control. Since quality is seen as a business metric, DMAIC has been adopted as standard protocol (Maes & Jeffery, 2005).

Practitioners have taken the tools typically associated with six sigma and have adapted them to other disciplines and areas of research and application. ReVelle (2003) used process maps in the improvement of workplace safety; Gillespie, Woodford, and Chow (2008) present a case where continuous improvement tools were applied in the needs assessment of training and job analysis of a machinist; Maes and Jeffery (2005) explained how six sigma could be used in organizational development interventions; and Jeffery and Bratton-Jeffery (2004) used Quality Function Deployment (QFD) in integrated training models. Murgatroyd (1991 & 1993) recommended the application of total quality management principles in education and schools, and Stimson (2003) suggested the application of ISO criteria for improved public school systems. At the micro level, Witkin and Altschuld (1995) suggest a method of cause analysis for needs assessment they call fishboning, which is merely the application of the Ishikawa fishbone diagram for cause and effect analysis.

The application of quality methods in higher education has been growing over the last decade. Bugar (1994) proposed the use of QFD in the design of higher education courses, while Bier and Cornesky (2001) suggested the application of QFD in curriculum development. Canic & McCarthy (2000) discussed the use of service quality concepts in higher education to help in identifying and meeting customer needs. Classroom applications of quality and six sigma methods have also been presented in growing numbers. Maguad (2003) suggested the use of total quality to achieve continuous improvement in the classroom. Grygoryev & Karapetrovic (2005) provided an example of using SPC to measure and monitor teaching and learning performance in the classroom. Bailey, Chow, & Haddad (1999), and Chang & Chow (1999) showed applications of using the balanced scorecard as a method of continuous improvement in business and accounting education.

Evaluation and assessment of educational systems using the Baldrige National Quality Award criteria is one method of determining compliance to a set of standards for continuous improvement, but as Miles, Hazeldine, & Munilla (2004) noted, the accreditation of business schools through the Association to Advance Collegiate Schools of Business (AACSB) has made changes to its methods of reaccrediting member schools by assessing their

systematic performance and ongoing processes along three areas: 1) total quality management, 2) continuous improvement of performance measures and outcomes, and 3) systems and processes that will manage the relationships between the institution and its stakeholders. Others provide additional insight into the applications of quality management concepts and continuous improvement methods in the overall accreditation and assessment process (Brennan & Austin, 2003; Chiti & Karlen, 2001; and Ewell, 2000).

SIX SIGMA AND CONTINUOUS IMPROVEMENT

Compliance to standards is nothing new. Industries are regulated by government agencies which provide regulations and audit to assure compliance to those regulations. In academia, the regulating agencies for accreditation are user-developed groups that work together to develop an ever-improving array of standards deemed necessary in achieving an acceptable level of academic values. Miles, Hazeldine, and Munilla (2004) note that the changes in assessment and evaluation methods utilized by the AACSB for re-accreditation reflect this trend in all regulatory systems to embrace the concept as well as the need for continuous improvement.

Six sigma methods have been used to achieve compliance for a number of years. Chow, Bowman, and Wittenberg (2007) showed that six sigma tools could be applied to meet FDA regulations in medical device design and manufacturing. The same style of six sigma application can lead to understanding the standards for accreditation, meeting the requirements, and maintaining compliance between accreditation visits. Temponi (2005) reviewed the application of continuous improvement in academia, noting that accreditation agencies of higher education are requiring continuous improvement in the standards for accredited member schools.

To better prepare for upcoming accreditation visits, university business schools should consider applying continuous improvement methods specifically in the area of accreditation performance. Tools and methods employed by six sigma practitioners that could readily be applied for compliance to accreditation standards include, but are certainly not limited to, benchmarking, matrix management, brainstorming, documentation, cause and effect analysis, experimental design, and in a larger sense, the DMAIC cycle itself. While many of these tools may have been used with success in other areas of higher education, the direct application to performance to accreditation standards takes their application one step closer to a complete implementation of the continuous improvement mentality: using the methods and concepts in everything.

Tools of Six Sigma and Continuous Improvement

The application of benchmarking for accreditation compliance would serve two purposes. First, it would provide an insight into what other accredited institutions are currently doing that might be addressed and implemented for improvement. Benchmarking also can provide reinforcement as to what the accreditation group may be considering in their own efforts of continuous improvement. Moreover, what the assessment teams find in other universities could soon be considered a standard to which all schools will be measured.

Matrix management is another area to which institutions can look for compliance efforts. Many schools will utilize matrices as a method of reporting. The AACSB requires using tables and matrices for reporting information such as faculty sufficiency and intellectual contribution, as well as standards worksheets. These applications of matrices can be adapted to be used to breakdown each standard required and document compliance to that standard (Chow, 2007).

Another application for meeting standards is the utilization of brainstorming. Brainstorming is a method of bringing together a group to extract as many possible ideas as possible. This method can generate potential solutions to problems related to accreditation when there are known and identified shortcomings to standards. The ideas generated from brainstorming can be further processed through affinity analysis, which provides structure to the ideas, and enables them to be sorted into workable groups. After sorting, the ideas can be assessed and prioritized, ranking those that will likely provide the most success.

Documenting performance to meet standards is yet another area that the business school can implement six sigma methods in the compliance to accreditation standards effort. With the size and scope that most business schools will have, documentation can become a difficult task. An implemented six sigma system lays the groundwork for systematically documenting performance, thus providing a thorough and complete record for the institution. While many schools may have a specific database in place to input each element of performance to meet the required standards for each department and faculty member, the initiation of such a data system with the continuous improvement structure will assure that inputting information in the system becomes a part of everyone's

performance process. Having everyone committed to regularly inputting data into a standardized documentation system assures that when the time comes for compiling all of the necessary records required for accreditation or re-accreditation, the information is already collected and readily retrievable.

Cause-and-effect analysis might not seem a reasonable method for assuring accreditation compliance, but it can become a useful tool when the school falls short of meeting any of the required standards. An example is the case of faculty members not meeting the AACSB requirements of being Academically or Professionally Qualified. In such cases where a member falls short, a specific corrective action plan is developed identifying each task that the faculty member will accomplish to regain qualification. The development of this action plan should lead administrators to perform cause-and-effect analysis to determine how and why any faculty member did not maintain this qualification.

Another six sigma method for continuous improvement that can be effective in meeting accreditation standards is experimental design. Business schools might implement experimental design in efforts to evaluate instructional approaches and programs as part of a formal assessment procedure. Goldstein and Ford (2002) proposed such applications in determining the more successful approach for training or instruction. Experimental design can also provide a structured model for assessing performance of departments to goals, and faculty performance to requirements.

The DMAIC Cycle of Process Improvement

The overall DMAIC process of continuous improvement can also be readily adapted to fit the needs of the academic practitioner. Using the step-by-step process of the cycle, each stage of the cycle provides an opportunity to further the improvement process. In the Define Stage of the cycle, administrators can take a comprehensive look at each of the standards for accreditation, in conjunction with the school's mission and produce a clear and concise description of what each faculty member's role should be, what each departmental goal should be, and how each will be measured for completion.

The Measure Stage of the cycle provides administrators with the development of the measurement methods and techniques to be utilized in assuring compliance to accreditation standards. It is at this stage that administrators must determine not only what they will measure, but also how they will measure it. If, for example, the criteria for faculty to maintain the status of being Professionally Qualified are determined to be a combination of several possible accomplishments, defining the measurement of those accomplishments can solve the general problem of how to equate the combination of different variables.

In the Analyze Stage of the cycle, administrators and faculty evaluate the information available relative to the measured and identified objectives. In this cycle, the goal is to find the relationship between what the school is currently doing and what is needed to comply with standards. An analysis of the information may find that faculty members maintain qualifications by working together on research projects, so that the resulting presentations and publications benefit more of the faculty. This would enable more faculty members to maintain qualification. If the analysis reveals that assessment methods are inadequate for evaluating teaching performance, administrators need to understand the relationship between the assessment method implemented and the results seen in student performance.

During the Improve Stage of the cycle, the administrators implement the identified changes necessary to achieve or maintain accreditation. These changes might include changes to processes or systems used by the school. In some cases, a change in faculty development might be needed to assure that faculty members are maintaining qualifications. Systemic changes and process changes are often necessary to make lasting improvements.

In the final stage of the cycle, the Control Stage, administrators must assure that every change and every improvement made during the cycle is maintained. Analyzing trend charts can provide meaningful information on the overall status of the school; applying control limits and other trend-identifying methods can assist administrators in spotting potential problems before it is too late. Identifying shifts in processes can lead to investigations of oncoming issues that can be identified and resolved before real damage occurs. An example might be monitoring faculty qualifications on an annual basis. This monitoring process may detect when a faculty member falls behind schedule in maintaining qualifications. The result is that the administration can identify the issue while there is still time to re-qualify the faculty member. Corrective action can be taken so that faculty member can regain qualification before the five-year review cycle is completed.

A final example of how business schools can utilize the DMAIC process for control is in implementing a true continuous improvement philosophy. This change in cultural mindset will require that the institution continue to strive for progress, even after the accreditation is awarded. It assures that both the faculty and the administration

maintain the efforts and improvements made in meeting the accreditation standards, so that when the re-accreditation process takes place again, the school won't have to restart the process. Six Sigma effectively will keep the school from letting its guard down.

CONCLUSIONS

As business schools move forward, the need to continuously improve and evolve will continue to grow. With accreditation groups requiring more quality management related principles and concepts, business schools must work to establish and maintain systems of continuous improvement that will keep them ahead of the ever-changing requirements. Accreditation is an accomplishment far too important to take lightly, and far too valuable to underemphasize. Accreditation compliance can provide a school with credentials that potential students will value. Failure to meet accreditation standards or losing accreditation may have a larger and very negative impact.

Application of quality principles, six sigma philosophies, and continuous improvement methods in higher education is not simply a matter of remaining up-to-date; it can provide a means to assuring compliance to accreditation standards. Assessment and evaluation of the overall educational system, against set criteria will continue to provide schools with meaningful information about their current status. When those criteria are meshed together with the accreditation standards, compliance to those standards will be much easier to accomplish and to maintain.

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LATINO HIGH SCHOOL STUDENTS' PERCEPTIONS OF BILINGUAL APPROACHES TO ENGLISH LANGUAGE EDUCATION

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ABSTRACT

This study investigated English language learners' perceptions of their experiences in bilingual and immersion classrooms in a southeastern Florida high school. The study gives voice to students' perceptions of the effectiveness of educational approaches for developing English language proficiency. Results revealed that the students preferred an immersion approach over bilingual education, as immersion is perceived to develop the English language skills they needed to succeed in college.

GOODS AND VIOLENCE: DOES TRADE INFLUENCE CIVIL WAR?

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ABSTRACT

Some authors assert that the rate of growth and structure of trade matters for the initiation of civil war. We find their arguments limited and unconvincing. To remedy these shortcomings we investigate trade, globalization, and their influence on civil war. The “greed” based explanation of civil war is based upon the “feasibility hypotheses,” which asserts that rebellion against the central government occurs when feasible—that is economically feasible. Clearly a certain level of income is necessary to begin a civil war. We explore how trade raises income and how it can be a mechanism for civil war financing. We test this by examining imports, exports, the level of globalization, and the type of globalization. The magnitude of rebellion is used as dependent variable signaling the breakdown of government control. This paper adds to the literature by unpacking the trade component of “greed” or the feasibility hypotheses, as measured by trade and globalization.

INTRODUCTION

Civil war and ethnic conflict tend to be mirror images of each other. In recent history most ethnic conflicts have escalated into civil war, while most civil wars have some sort of ethnic component. While coalitions of ethnic groups may seek the overthrow of an oppressive majority or a minority may just rebel the end result is generally the same—politically motivated violence. In this paper we explore how trade, globalization and political violence tend to create conditions where ethnic conflict and civil war becomes feasible. Conflict initiation is a phenomenon dependent upon multiple factors, with each anchored in the economic feasibility of conflict.

REVIEW OF THE LITERATURE

Globalization is the starting point of this paper's argument. Noble Prize winner Joseph Stiglitz provides us with thorough definition of globalization. Stiglitz contends that globalization is:

“Fundamentally, it is the closer integration of the countries and peoples of the world which has been brought about by the enormous reduction of costs of transportation and communication and the breaking down of artificial barriers to the flows of goods, services, capital, knowledge, and (to a lesser extent) people across borders. “(Stiglitz 2003)

This definition encompasses the whole of the globalization debate by touching upon some of the main drivers of the phenomena, namely trade, communication and knowledge dissemination. While commonly perceived as the creation of one market globalization encompasses multiple facts which are not necessarily interrelated. Therefore globalization is a collection of factors each acting independently yet in many instances interactively. For example, trade tends to go hand in hand with capital flows but capital need not assist in the expansion of the knowledge base. The present work sees globalization as a mechanism that not only enriches nations, but one that spreads culture and political ideals. Globalization is seen as a mechanism that creates conditions of feasibility for ethnic conflict and civil war. To be sure, globalization tends to increase trade, income and perhaps alienation of ethnic groups who are not the recipients of the benefits of globalization.

An ethnic conflict/civil war covers a wide-range of conflict behaviors and factors. We define an ethnic conflict or civil war as a conflict between communal groups that identify themselves in terms of their ethnicity as opposed to class, geographic location, etc. The terms minority and ethnic minority are analogues to each other. For the purpose of this work, we use each interchangeably. Being a minority refers to being part of a group that is outnumbered within society. In general minority groups in semi-democratic governments often run the risk of being seriously affected by discriminatory state policies or by natural situations to the extent that conflict behavior is perceived as useful or necessary step to protect the ethnic group. Most minority groups in the world today are minorities based on ethnicity.

The politicization of ethnicity has created new and greater levels of conflict in the world since the 1980s, based in part on grievances over present inequalities that may be legal—as was the case in Sri Lanka. Conversely, they may be based upon “ancient hatreds” or past conflicts what have simmered below the surface. Groups within one state looking at the activity of kin groups similarly situated in adjoining states may notice successful conflict behavior which could become a catalyst for an initiation of conflict behavior aimed at securing economic political or cultural goods. Thus, ethnic conflict behavior may be a protest or rebellion where at least one party to the dispute is an ethnic group. For the present research rebellion is measured as rebellion starting with simple banditry can lead to guerilla warfare and protracted civil war.

The role of economics in civil war initiation is studied by focusing on greed versus grievance and the “feasibility hypothesis” (Collier & Hoeffler 2007). To be sure civil war and ethnic conflict has one unique feature, namely the emergence of an armed group who initiates and sustains armed operations against government forces. How that groups is raised and supported is important for its success.

The greed argument asserts that rebels seek individual wealth as motivation to join and fight against government forces. Rebel recruitment increase where there is opportunity for large personal profits (Weinstein 2005). The composition of the groups will subtly change and refocus on material gain as opposed to ethnic grievances. This reasoning is echoed by others who find that private gain is more important than identity based grievances (Gates 2002; Grossman 1991, 1999). While greed is important in many respects its weakness is that it forms a poor basis for sustained rebel operations.

The grievance hypothesis states that ethnic groups have specific grievances such as past/present discrimination or are not benefiting from economic development. This line of argumentation is similar to the “ancient hatreds” which notes that when authoritarian governments fall past grievances are played out violently between ethnic groups which in some instances lead to civil war. The likelihood of rebellion is not significant when discrimination is present, nor do they find evidence to support the “ancient hatreds” argument (Fearon & Laitin 2003). While there is some reason to suggest that past actions by one group do in fact inflame ethnic differences and hatreds the data does not support such actions escalating into full scale ethnic conflict or civil war.

The feasibility hypothesis simply states that rebellion will happen where it is economically feasible. While governments must finance their defense through taxation or sale of various commodities, rebel groups are more limited. Rebel groups may attempt to tax the local population these efforts would put an undue strain on the population from whom the rebels seek support. Thus, rebellious groups will seek some sort of revenue stream to finance their rebellion. Others assert that rebellion will occur where it is economically and materially feasible to occur (Collier, Hoeffler & Rohner 2007). This constraint limits the ability of groups to initiate rebellion but also allows the researcher the opportunity to model the interactions necessary for conflict feasibility.

One source of funds for civil war is natural resources. In general, natural resources used to fund civil wars and ethnic conflicts tend to be non renewable. Easily transportable and transferable commodities are preferred by most rebellious groups. Studies of high-valued natural resource demonstrate how diamonds have produced conditions conducive to have influenced ethnic/conflict civil war (Ross 2004 a; Ross 2004 b). More recent research has shown that the incidence of conflict rises if the nation had specific commodities especially diamonds and/or petroleum (Ross 2006). However, one should note that the mechanisms which conflict was initiated can differ from commodity to commodity and nation to nation. This particular nuance of civil war/ethnic conflict is not tested in the present research, due to data limitations. However, of particular interest to our research is evidence that exports and perhaps imports affect ethnic conflict/civil war. Legal commodity export prices may be adversely affected by globalization and the terms of trade. Economic shocks caused by price fluctuations may be the catalyst for ethnic or regional groups to engage in conflict behavior. Ethnic conflict increased in Eastern Congo as the price of the mineral ‘coltan’ used by cellular phone manufactures increased significantly (Hayes 2002).

The feasibility hypothesis seems to be the best explanation of civil war/ethnic conflict. This paper tests this argument by examining trade and the role it plays in these sorts of conflicts. By analyzing trade, globalization and how they relate to civil war/ethnic conflict as measured by rebellion this work illuminates this aspect of the feasibility hypothesis.

DATA

The data for this study consists of three parts. One set of data deals with globalization, which is obtained from KOF globalization data, which includes variables on economic, social, cultural, and political globalization (Derher 2006). A weighted average of these measures is used to create an overall globalization index. The other set of data is deals with trade. Import and export data are obtained from World Trade Organization. Finally, rebellion data are

obtained from Minorities at Risk dataset (see references). Rebellion data are divided into categories from zero, no rebellion, to high of 7. Each rebellion represents an incident by a specific ethnic group. The classes of rebellion can be seen in Table 1, below:

Table 1: Average Level of Rebellion

Response	Frequency	Percent	Valid Percent	Cumulative Percent
None Reported	2007	61.3	62.9	62.9
Political Banditry	637	19.5	20.	82.9
Campaigns of Terrorism	177	5.4	5.6	88.5
Local Rebellion	164	5.0	5.1	93.6
Small-scale Guerilla Activity	101	3.1	3.2	96.8
Intermediate Guerilla Activity	53	1.6	1.7	98.4
Large-scale Guerrilla Activity	34	1.0	1.1	99.5
Protracted Civil War	16	.5	.5	100.0
Totals	3189	97.5	100.0	
Missing	83	2.5		
Totals	3272	100.0		

MODEL

This work utilizes an ordinal model to analyze the relationship between trade and civil war. We find evidence that the feasibility hypothesis is supported by the data. The model is of the general form:

$$Y = \alpha + \beta X + \varepsilon$$

Where Y is a vector of dependent variable, which is a categorical data with eight classes. The matrix X is a collection of trade, globalization, and related socioeconomic explanatory factors. Since the response variable is ordinal the assumed underlying distribution function for error is a logistic function with variance $\pi^2/3$.

Present study is interested in ascertaining the relationship between rebellion and trade. Identifying the determinants of rebellion is not an objective of this study, which has been addressed extensively (Collier & Hoeffler 2007). As expected many of the socioeconomic factors are correlated and the presence of one variable usually excludes one or more other variables. Therefore, whenever inclusion of other variables reduces the explanatory power of trade variables they are excluded. Table 1 represents the selected models with import and export data in each model.

An increase in trade increases productivity and efficiency of trading partners (Krugman 1990). The increase in productivity and efficiency results in increase in welfare and standard of living of the citizens of each trading partners. The benefits of trade will be shared by trading partners according to the indifference curves of their citizens towards the imported good. This also determines the terms of trade which is easier to follow and to quantify. Obviously, no country would be made worse off as a result of trade because the country would refuse to engage in trade under those conditions. Similarly, although the citizens of a nation will benefit from increased trade the benefits are not uniform and not necessarily universal. Obviously, the importing and exporting firms and their owners and workers are the primary beneficiaries of any trade. Equally easily it is possible to demonstrate that the exporters are the main winners and the firms that have to compete with import may or may not benefit from the new order. However, the benefits eventually will bestow to other segments of the society. How each individual would use his or her share of the new found improvement in standard of living depends on individual taste and preference. In the case of rebels, the preference is to invest the new resources to further their cause.

Two other variables are included in these models. They are gross capital formation and population. The expectation is that higher capital formation would reduce rebellion. More populated countries are more likely to have ethnic groups and hence greater violence and rebellion.

RESULTS

The results are depicted in Table 2. The two models are identical except for the trade variable. One includes exports while the other includes imports. The signs for exports and imports are positive supporting the claim of increased rebellion when either one increases. This supports the feasibility hypothesis as there are the necessary economic resources to fund a rebellion. Attempts to include both exports and imports in the same model were not successful. Similarly, net trade (exports – imports) or total trade (exports + imports) failed the tests of significance.

Economic globalization and political globalization both are significant and have the expected sign, negative and positive, respectively. Gross capital formation is not significant in either model. The level significance is 11.8% in both model I and II. The only surprise comes from population variable. Although the hypothesized relation with rebellion is positive, the observed coefficient is negative in both models, albeit significant only in the second model. This could be due to the fact that some of the most populous countries such as China and US do not have any rebellion during the study period. In a follow up study this can be accounted for to bring the underlying effect.

Table 2. Trade Influence on Rebellion with Eight Levels of Rebellion

Factor	Model I	Model II
Export	1.89 (1.91)*	-----
Import	-----	2.25 (1.96)*
Economic Globalization	- 0.57 (-13.38)***	-0.57 (13.38)***
Political Globalization	0.12 (2.50)**	0.11 (2.07) **
Gross Capital Formation	- 0.92 (-1.62)	-0.88 (-1.56)
Population	- 4.69 (1.62)	-5.52 (-2.01)**

Levels of significance corresponds to *** less than 0.01, ** less than 0.05, and * less than 0.10.

CONCLUSIONS

This work has sought to examine the relationship between trade and civil war/ethnic conflict, by examining the feasibility hypothesis of political violence. The feasibility hypothesis asserts that rebellion will only occur when and where it is economically and materially feasible to do so. This argument is based upon the assumption that a rebellious group needs sufficient, material, logistics, arms and personnel to carry out a coordinated program of political violence aimed at toppling the government. Our findings support the feasibility hypothesis. We find that increased imports as well as exports increase rebellion. This clearly indicates that some form of rebel financing is occurring with these two processes. While economic globalization tends to lower rebellion we see this as a function of trade openness as opposed to actual trade flows. That political globalization increases rebellion can be seen in the fact that more politically integrated nations may have more rebellion since rebel groups will want to have their cause publicized by the media or bring it to the attention of other governments. Clearly nations with have diplomatic relations with more states are vulnerable to rebel groups who seek to publicize their cause to various nations. This is considerably easier when more diplomats are in the country. In sum, this works suggest that the feasibility hypothesis is an efficacious argument in analyzing the growth and success of rebel groups in situations of civil war and or ethnic conflict.

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INFLATION TARGETING AND NEW EU ENTRANTS: IS THERE MONETARY UNIFORMITY?**Joseph J. St. Marie***The University of Southern Mississippi***ABSTRACT**

Of the five newest entrants into the EU who have an explicit policy of inflation targeting for their respective central banks, is there policy uniformity within this group? We test this proposition by examine the five new entrants who inflation target—Slovenia, Latvia, Lithuania, and Slovakia. Theoretically for entrance into the EU the interest rates should be relatively uniform. This paper seeks to determine if there is a difference in interest rate targets between the high income (Slovenia) entrant and the lower income entrants (Latvia, Lithuania, and Slovakia). Our test instrument is the Taylor Rule. The Taylor rule is a monetary policy reaction function that takes into account historical interest rates, inflation, and economic output to examine interest rate policies. This paper calculates Taylor rule coefficients for each country then compares the high income countries to the lower income counties.

INTRODUCTION

This paper explores inflation targeting in new European Unions members. Monetary policy uniformity is one of the economic goals of the EU based upon the utility of price stability, for all members. New members may or may not have policies that are in accordance with the European Central Bank. This work analyzes new EU member monetary policy through the benchmark Taylor rule.

NEW EU ENTRANTS

Recent entrants into the EU are from all parts of Europe, having differing social, economic, and political histories. In this study we examine five nations that cluster in three European regions—Slovakia, Slovenia, Latvia, Lithuania. To be sure the legacy of Soviet style socialism has shaped the economic development of the central European states of Slovakia and Slovenia as well as the Baltic nations of Lithuanian, and Latvia. These nations that are in various stages of economic development suffer from the inefficiencies of planned economies during the Soviet Era and have embarked on the painful and difficult process of restructuring to meet the demands placed upon these small open emerging economies. Slovakia and Slovenia occupy a unique status as they are small open economies that have to a large extent restructured after Soviet rule. This mix of accession nations chosen for their structural and regional diversity and data availability represent a diverse sample that will allow monetary policy to be analyzed.

THE TAYLOR RULE

In early 1990s a simple rule equation for analyzing monetary policy became popular (Taylor 1993). The term “rule” tends to imply some sort of deterministic function lacking flexibility. While this may be the case in some situations, Taylor envisions a rule that is flexible enough to give monetary policy makers some discretion, yet maintain credibility and price stability, “[W]hile no rule will literally last forever, if a policy rule is to have any meaning it must be in place for a reasonably long period of time.... Policymakers need to make a commitment to stay with the rule if they are to gain the advantages of credibility associated with a rule” (1993). Taylor benefits from the works of the others when he asserts that monetary policy rules which rely upon the exchange rate or on the money supply generally tend to have poorer results than models whose basis is on prices and output (Bryant, Hooper & Mann 1993). Thus, Taylor builds this rule on the factors of price and output. Flexible exchange rates tend to dampen inflation—a component of the Taylor rule—thus making the rule predictions less volatile. However, this also places the onus on central banks and their policies rather than a fixed exchange rate system where political pressures can influence policy, especially during election years. To insulate central bankers, etc. is an important notion when estimating reaction functions by central banks, and is important to maintain central bank independence and thus credibility, both internationally and domestically.

Taylor present the field with a policy rule he characterizes as one, “that captures the spirit of the recent research and which is quite straightforward” (Taylor 1993). Thus we find the following formulation and coefficients.

$$r = p + .5y + .5(p-2) + 2 \quad (1)$$

where

r = the federal funds rate,
 p = the rate of inflation over the previous four quarters
 y = the percent deviation of real GDP from a target.

That is,

$y = 100(Y - Y^*)/Y^*$ where
 Y = real GDP, and
 Y^* = is the trend real GDP

The rule presented by Taylor in equation 1 is the original iteration that presumes that interest rates will rise if the inflation rate rises above the 2 percent target or if the GDP rises above the trend GDP. Furthermore, if both the inflation rate and the target rate are the same, the interest rate would be 4 percent, since the components are additive.

Taylor rule is a well constituted instrument for designing and implementing stable monetary policy. As such, it has received scrutiny from academics. We note two studies in particular that are of particular interest for the present study.

Soon it became evident that the Taylor rule has mixed results when compared to Fed decisions when inflation was high but had better results when inflation was brought under control (Judd & Trehan 1995). The increasing correlation with the rule and actual results may actually be based upon backward looking policies that corresponded to rule recommendations. Others after examination of the Federal Reserve argue that the Taylor rule can account for 87 percent of policy decisions when based upon quarterly nominal funds rates, while only accounting for 52 percent of quarterly changes for the period 1970 to 1997 (Judd & Rudebusch 1998).

Clearly the rule does correspond to the Fed goals for macroeconomic stability and growth. Given the evidence that the Taylor rule is a sufficient benchmark recommendation for Fed monetary policy we can assume that the rule will also be as useful if not more so when used as a benchmark recommendation for inflation targeting.

THE MODEL

Taylor (1993) observed that the following equation provides a reasonable approximation for the short term funds rate for United States.

$$r = p + .5y + .5(p-2) + 2 \quad (2)$$

Where:

r is the federal funds rate
 p is the rate of inflation over the previous quarters
 y is the percent deviation of real GDP from a target
 $y = 100(Y - Y^*)/Y^*$
 Y is the real GDP
 Y^* is the GDP trend (Taylor 1993)

Another interpretation of Y^* is that it reflect the level of output that an economy would produce if the prices and wages were not sticky. When prices and wages adjusts to economic realities there would be no under or over-production and the economy would be at (full-employment) production capacity. Under this scenario, the monetary authorities would not be able to influence the output (Clarida, Gali & Gertler 1997).

Taylor states that “The federal funds rate rises if inflation increases above target of 2 percent or if real GDP rises above trend GDP” (Taylor, 1993). Then he observes “This policy rule has the same coefficient on the deviation of real GDP from trend and the inflation rate” (Taylor, 1993). More generally, for any given inflation target and potential GDP, when the inflation exceed the targeted rate or if the output gap is positive then the Federal Reserve increases the interest rate to reduce the inflationary gap. On the other hand if the output gap is negative then the Fed reduces the interest rate to stimulate the economy.

In practice there have been several modifications to the original Taylor Rule. The simplest one is an algebraic rearrangement which yields:

$$r = 1.5p + .5 y + 1 \quad (3)$$

From equation (3) researchers have concluded that the inflation targeting has been more important during the study period than output targeting. Other simple modifications include using the logarithm of inflation and / or output gap (Maria-Dolores 2005); use of Hodrick-Prescott filter instead of regression to calculate the potential output; use of actual deviation instead of percentage deviation of real GDP from a target, to name a few. A more serious generalization of the Rule is the modification of its orientation. While Taylor (1993) used the rate of inflation over the previous quarters others use the lead variables or forecasts of interest rate, output, and inflation (Clarida, Gali & Gertler 1997). The latter is known as forward-looking, while the former is known as backward-looking approach. Another major expansion of the Rule is the acknowledgement that the central banks have a tendency to avoid monetary shocks. The gradual adjustment is represented as a fraction of lagged values of interest rate. Using lagged variables introduces first order autocorrelation into the model. Hence, they employ the generalized method of moment (GMM) using an instrumental variable technique. Following common practices they used the lagged values of the variable, here inflation (CPI) and output, as instruments. They state “[B]ased on our casual sense of the way central banks operate, we choose a horizon of one year.” In empirical analysis they use lags 1-6, 9, and 12 for both inflation and output, as well as for additional variables that they incorporate one at a time.

Other researchers have modified the model by tinkering with the calculations of inflation rate, interest rates, optimal output, targeted inflation rate, and the inflation and output gaps (Maria-Dolores 2005). Here the common practice of formulating Taylor rule models is followed (Arestis & Chortareas 2006).

$$r_t = \beta_0 + \beta_1 r_{t-1} + \beta_2 \text{Inf}_t + \beta_3 \text{OutputGap}_t + \varepsilon \quad (4)$$

Where

r_t	is the nominal interest rate
Inf_t	is the inflation rate in time t
OutputGap_t	is the output gap

In the above formulation the output gap is calculated according to Clarida, Gali & Gertler (1997), which is different from Maria-Dolores (2005). However, instead of using the regression trend line the Hodrick-Prescott filter is used. Since direct and reliable inflation rates are not available the CPI is used as the inflation measure (Clarida, Gali & Gertler 1997). The formulation of equation (2) introduces autoregressive lags. Simple regression models are not appropriate for this type of relationships but there are few examples of their use (Arestis & Chortareas 2006). Using regression analysis with such models increases the probability of type II error, i.e. the null hypothesis is false, but is not rejected erroneously (Intriligator & Bodkin 1996). This is the direct result of the bias of Durbin-Watson test towards 2 under these conditions. Furthermore, the presence of the lagged dependent variable in the model violates the assumption of independence of explanatory variables and the error term rendering regression estimates biased, inconsistent, and inefficient (Intriligator, Bodkin & Hsiao 1996). The customary solution is the method of instrumental variables, which is usually implemented through GMM. In implementing instrumental variables the choice of variables and the numbers of lags differ from study to study. In this study a variety of lags are checked for their possible contributions. The endogenous variable is estimated using lags 1-6, 9, and 12 for both inflation and output, and lags 2-7, 10, and 13 for interest rate.

DATA

Data for all countries span from 2001:1 to 2006:12. The Consumer Price Index is used for inflation, which is obtained from the sources, respectively. The industrial production index (IPI) is used to represent the output. The IPI are filtered through the Hodrick-Prescott procedure to obtain the potential output. The difference between the de-trended output and the IPI is used as the output gap.

RESULTS

The table below presents the results from our econometric models using the instrumental variables technique.

Table 1. Policy tools for inflation targeting, output targeting, and interest rate smoothing.

Country	Inflation	Output Gap	Adjustment rate	Adjusted R ²
Latvia	-.003 (.23)	3.309 (2.84) ***	.958 (44.35) ***	98.47%
Lithuania	.016 (2.48) **	.369 (.73)	.880 (22.66)	92.32%
Slovakia	-.008 (.53)	2.76 (1.19)	.92 (13.48)***	96.73%
Slovenia	-.77 (3.13)**	2.99 (1.07)*	.79 (12.56)***	98.13%

T values are in parentheses. Levels of significant are * <.1, **<.05, ***<.01.

The inflation targeting coefficient is significant for Lithuania and Slovenia. Only one of the significant variables is negative (Slovenia). All the significant coefficients for inflation targeting are fairly small, with the exception of Slovenia (in absolute value). Latvia does not have a significant output gap coefficient but has a highly significant coefficient for inflation, which indicates that it does target output. The only other country with a significant output gap coefficient is Slovenia, which is the only country for which both inflation and output gap are significant. This implies that Slovenia's data does not necessarily support one tool or the other. Overall, the evidence indicates that Lithuania is targeting inflation, while Latvia is targeting output. The case of Slovenia is mixed since both coefficients are significant. Some researchers compare the magnitude of the coefficients to determine the orientation of policy. Based on this interpretation Slovenia becomes an output targeting nation. However, it is not clear what is the justification for this argument. Only Slovakia has coefficients that are insignificant. It would be worth while to study this country in more detail. The coefficient for adjustment rate for the countries with a coefficient larger than one are very close to one (1) and the differences (all less than .026) is due to random error. A similar argument applies to Latvia, whose value is just under one (1), albeit the gap is higher. Therefore, in Latvia the adjustments to interest rates are done instantaneously and without delay. A common factor among all these countries is high values of the adjusted R-Squared.

CONCLUSIONS

This research contributes to the extant literature on monetary policy and reaction function rules by examining several EU accession countries. We find that relatively small open economies can target output as in the case of Latvia. We also find that some countries such as Slovenia seem to have a mixed targeting mechanism. Such a mixed mechanism would be indicative of the "two pillar" strategy used by the ECB to determine monetary policy. Such a finding is interesting as it implies that recently independent countries like Slovenia are using similar factors as developed nations to determine policy.

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GLOBALIZATION: IS IT MORE THAN TRADE?

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ABSTRACT

Globalization is characterized by open markets and trade but this is only a thin definition of globalization. While trade is certainly important other forms of globalization are equally important for many nations. Cultural hegemony and Westernization is seen by many as destroying indigenous cultures and social relations. Furthermore, political globalization can affect how a population acts in regard to political hegemony and influence. This paper explores the relationship between trade and other forms of globalization. We ask the question: do higher levels of trade actually increase other forms of globalization such as political, social, and cultural globalization. We also control for income to determine if a certain level of income is optimum for increased globalization and trade. This study explores aspects of globalization not found in the political science and economics literature.

INTRODUCTION

This paper asserts that globalization is not a one dimensional phenomena or action but a multi-faced process that is not only economic but political and cultural as well. Trade as a wealth creator allows for increased incomes between trading partners and with increased incomes generally comes more trade. We assert that trade is not only a purveyor of increased national income but it is also expands globalization in not economic ways, such as the spread of culture and political influence. We test our propositions with a quantitative model and provide surprising conclusions.

GLOBALIZATION

Joseph Stiglitz provides a thorough definition of globalization. Stiglitz asserts that globalization is:

Fundamentally, it is the closer integration of the countries and peoples of the world which has been brought about by the enormous reduction of costs of transportation and communication and the breaking down of artificial barriers to the flows of goods, services, capital, knowledge, and (to a lesser extent) people across borders. (Stiglitz 2003)

On the social/cultural level Stiglitz notes that:

“Globalization encompasses many things: the international flow of ideas knowledge, the sharing of cultures, global civil society, and the global environmental movement.”
Stiglitz (2007)

Clearly globalization is a multi faceted phenomenon that encompasses more than economics but also politics, information and culture. This paper explores how other aspects of globalization are affected by trade.

ECONOMIC GLOBALIZATION

The impact of globalization on income inequality and poverty is varied. In general consensus revolves around the following notions:

Trade is often a source of growth

Growth is on average good for increasing income in developing nations

Foreign Direct Investment is correlated with economic growth

Short term capital liberalization can have adverse effects on income

Staged liberalization can help alleviate negative impacts on income

Education and health care are important factors ensuring the poor benefit from globalization

Poverty measures should include education and health as well as income

Elite control of an economy or political apparatus have negative impacts on income

Political reform is needed in many developing countries.

Individual studies have addressed these facets of the globalization poverty nexus with relatively uniform results in regards to income. Correlations between levels of globalization and poverty in so far as globalization reduces poverty and increased the income of the poorest social groups have been observed (Heshmnati 2005). I more detailed studies findings indicate that by including structural factors, that poverty is reduced where per capita income rises, however, results for overall poverty are mixed (Hertal 2003). Others find a convergence in quality of life indicators; however, indicators for income lag behind. In lower income countries the poorest tend to have highly specialized income sources as well as household consumption patterns (Kenny 2005). Thus the lags may be more difficult to overcome in that income for the poor rises on a lagged basis, yet, economic growth attributed to globalization does tend to reduce poverty.

By using an analysis of globalization trends in economic growth and inequality scholars have found that poorer countries have higher growth rates than rich countries, furthermore the number of global poor has decreased as has global inequality (Dollar 2004). Moreover, there is no general trend toward higher income inequality within countries and wages, yet wage inequality tends to be rising globally. The policy component of income inequality asserts that the poor are more likely to share in the economic gains from globalization when government policies assist individuals in increasing their skills (Harrison (2005). This alleviates many income inequalities brought on by globalization. Another finding is that globalization is less important for alleviating poverty than is productivity growth, which in turn can raise wages in specific sectors (Easterly 2005). To decrease poverty all sectors of the economy must increase productivity, a task beyond the capabilities of some developing nations. The literature on Globalization and inequality show that globalization does assist in increasing incomes and lowering overall poverty. However, caution should be used as these findings note how government policy and productivity are important components of increasing incomes. Globalization does help the poor; however it may take time. For our purposes this literature demonstrates how globalization does increase income yet may also create social displacement and disillusion if globalization does not increase their income. Income is but one aspect of trade and the globalization phenomena.

CULTURAL AND POLITICAL GLOBALIZATION

Globalization it has significant effects on local cultures. Clearly the spread of wealth and popular culture can affect individual conceptions of the world and change local cultures. Some see “McDonaldization” or the process where the productions, managerial and marketing principles of the fast food chain, come to dominate global economies and cultures (Ritzer 1997). Others see globalization bringing a cultural imperialism or “McWorld”. This culture would be a homogenous form that globalization forces on porous nations. Jihad is the cultural response to capitalism and modernity fostered by globalization (Barber 2003). Many societies see the cultural imperialism of globalization as a threat to their traditional way of life and social structures. Resistance, to such imperialism even armed resistance becomes an option. Thus, resistance to globalization and its homogenization tend to be violent as we have witnessed in many cities. Those who advocate peaceful policies tend to be eclipsed by those who advocate violent means of attacking globalization. An alternative to cultural globalization and homogenization, is the concept of cultural “hybridization” or “creolization” which is a process of cultural mixing, blending many aspects into a hybrid culture (Pieterse 2003). An example of “hybridization” would be Israel where East European and Middle Eastern cultures have meshed in the Jewish state. A renewal of the Hebrew language and a Creole culture has emerged, which provides cultural, political and economic identity.

Political globalization can be seen as the spread of political ties with other nations. This can be accomplished through diplomatic contact, membership in international organizations, in particular the United Nations and its affiliates. When a nation increases its trade it has an interest in maintaining diplomatic contacts with its trading

partners as well as joining global forums such as the UN and WTO. Political integration is in essence political globalization. Countries will seek more ties as they integrate further into the global economy.

DATA

The data for this paper comes from the KOF Index of Globalization (Dreher, 2006). This data set is comprised of 95 countries from 1970 to 2003. The index measures globalization on three primary factors—economic globalization comprising actual trade and FDI flows and trade restrictions. A second measure is Social globalization comprised of measures on personal contact, information flows and cultural proximity. Political globalization is measured by a countries participation in diplomatic missions and international organizations.

There are four measures of trade, which will be used with each globalization, individually. The trade variables are imports, exports, total trade, and net trade. Total trade is the sum of imports and exports and measures the overall trade. Net trade is equal to exports minus imports. It is often used as a measure of net contribution of foreign trade to a nation's economy. Finally, the countries are divided into four groups corresponding to the classification of income levels by the United Nation.

MODEL

The present study utilizes a model of the form:

$$Y = \beta_1 T + \beta_2 I + \varepsilon \quad (1)$$

Where:

Y is a measure of globalization
T is a measure of trade
I is income level

There are four models, one for each of economic, social, political, and cultural globalization. Since there are four trade variables and four globalization measures there are 16 models. The income variables are used in all models to control for the effect of income level on globalization.

Table 1 depicts the results for each of the globalization model. Each column represents different globalization measure and is used as dependent variable. The rows depicts the factors. All variables are significant in models using economic, social, and political globalization at levels less than 0.001. Two factors in cultural models are not significant. All the significant factors are positive indicating that an increase in the corresponding variable would result in an increase in the corresponding globalization measure.

Table 1. Imports and Globalization

	Economic	Social	Political	Cultural
Import	8.28 (4.98)* **	3.76(30.31)***	5.68 (30.58) ***	7.27 (30.14) ***
Low	1.94 (76.51)* **	0.30 (16.00) ***	1.32 (46.72) ***	-0.13 (0.37)
Lower Mid	2.59 (104.75)* **	0.42 (22.45) ***	1.47 (53.20) ***	0.02 (0.07)
Upper Mid	3.23 (115.91)* **	0.63 (30.43) ***	1.70 (54.60) ***	0.18 (4.59) ***
Upper	3.93 (124.13)* **	1.64 (69.54) ***	1.98 (56.07) ***	1.40 (30.50) ***
Adjusted R ²	94.69	81.10	84.82	56.33

Table 2 shows the results for similar models with export replacing the import variable, other things remain the same. The results are very similar; the same factors are significant, and all are positive. Furthermore, the coefficients are very close to the previous model indicating similar effects.

Table 2. Exports and Globalization

	Economic	Social	Political	Cultural
Export	8.86 (4.6)* **	4.07 (27.78) ***	7.02 (33.37) ***	7.52 (26.13) ***
Low	1.94 (76.46)* **	0.30 (15.72) ***	1.32 (47.74) ***	-0.11 (0.13)
Lower Mid	2.59 (104.68)* **	0.42 (22.03) ***	1.46 (54.19) ***	0.01 (0.15)
Upper Mid	3.23 (115.64)* **	0.63 (29.53) ***	1.68 (55.10) ***	0.18 (4.30) ***
Upper	3.93 (124.16)* **	1.63 (66.36) ***	1.89 (53.52) ***	1.41 (29.28) ***
Adjusted R ²	94.68	80.35	85.49	53.59

In Table 3 total trade is used with the income levels. Here again there is no major difference among the models. The coefficients for total trade are different than the coefficients for import or export. Nevertheless, they are all positive and significant at 0.001 level.

Table 3. Total Trade and Globalization

	Economic	Social	Political	Cultural
Total Trade	4.40 (4.87)* **	2.01 (29.61) ***	3.23 (32.40) ***	3.80 (28.70) ***
Low	1.94 (76.49)* **	0.30 (15.91) ***	1.32 (47.38) ***	-0.01 (0.35)
Lower Mid	2.59 (104.72)* **	0.42 (22.29) ***	1.46 (53.84) ***	0.002 (0.07)
Upper Mid	3.23 (115.77)* **	0.63 (30.04) ***	1.68 (54.99) ***	0.18 (4.39) ***
Upper	3.93 (122.27)* **	1.63 (67.64) ***	1.92 (54.52) ***	1.38 (29.50) ***
Adjusted R ²	94.69	80.89	85.26	55.34

The results of using the net trade are very different than the results for other models. In particular, all coefficients for net trade are negative. This would have been different had the net trade was calculated as import – export instead of the other way around. Other results are very similar to the previous models with one exception. The coefficient for net trade is significant at less than 0.05 instead of 0.001.

Table 4. Net Trade and Globalization

	Economic	Social	Political	Cultural
Net Trade	-1.57 (3.06)**	-6.82 (16.31) ***	-4.20 (6.44) ***	-1.56 (19.59) ***
Low	1.94 (76.38)***	0.30 (14.93) ***	1.33 (41.34) ***	-0.0001 (0.00)
Lower Mid	2.60 (104.84)* **	0.44 (21.74) ***	1.51 (48.04) ***	0.05 (1.30)
Upper Mid	3.24 (116.40)* **	0.69 (31.50) ***	1.77 (50.22) ***	0.28 (6.67) ***
Upper	3.99 (145.31)* **	1.96 (87.44) ***	2.50 (71.61) ***	2.01 (46.94) ***
Adjusted R ²	94.66	77.22	80.24	49.39

CONCLUSION

The above tables indicate significant support for the hypothesis that trade increases the various forms of globalization. First, imports, exports, total but not the net trade increase all forms of globalization. Clearly the highest increases are in economic globalization where we expected the greatest correlation. It is also no surprise that those countries that belong to the higher income groups see greater increases. This finding clearly demonstrates how higher levels of income are correlated with both trade and increased globalization and indicates that export-led industrialization strategies may in fact be advantageous strategies for lower income nations.

Social globalization tends to be less influenced by trade than overall globalization. Social globalization includes such measures as telephone traffic, tourism and the media in general. The findings indicate that while social globalization tends to increase with trade that those nations who are wealthier tend to benefit most from the effects of trade and social globalization. While hardly surprising these findings indicate that the infrastructure investment on the components of social globalization is important for economic development as measured by increased trade. Clearly the policy implication would be that developing nations can increase tourism, trade, and overall income by becoming more globalized in social aspects. While social globalization may be detrimental to authoritarian governments it seems to have been embraced by many governments as a way to increase economic and social integration with wealthier nations.

Political globalization measured by the political involvement a nation has with other nations and the rest of the world is also increased by trade. While wealthier nations are more integrated politically we find that there is less variance in the coefficients for this measure than some others. This would indicate that political globalization is much less a function of trade than of a country simply attempting to foster diplomatic recognition. In the case of poor countries the expense of maintaining embassies and diplomatic relations is offset by the increases in international aid that flow to such countries. Having diplomatic relations also pays benefits to a nation by allowing a poorer nation to align itself with more powerful nations and gain benefits from this sort of association. Access to most favored nation trading status is a powerful tool for increasing a country's exports and thus national wealth.

Cultural globalization is the laggard in this model. Trade does increase cultural globalization but much less than the other forms of globalization. This may be due to the fact that culture is a difficult concept to measure or that developing nations simply see their culture under siege by larger, wealthier nations who seek some sort of cultural hegemony. One can also note that the coefficients for the lower and lower-middle income countries are not significant in many cases.

In conclusion, this work has demonstrated that trade is intimately linked with globalization but not just economic globalization but political, cultural and social globalization as well. The implications are that the effects of globalization will continue to expand as long as trade expands and lesser developed nations turn to trade as a way to increase national wealth. The lagging aspect of cultural globalization needs to be addressed by nations and firms who provide FDI so resistance to the benefits of trade and globalization are not rejected by the poorest nations.

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UTILIZING OPEN SOURCE SOFTWARE TO OPERATE SMALL BUSINESS

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ABSTRACT

It is widely recognized that information technology resources are critical to the success of most businesses today. The challenge for small business in relation to technology, however, is the same challenge that small businesses face in all other applications; the allocation of limited capital resources. By using open source software and small businesses can have access to high-quality information technology resources that perform equivalently to commercial distributions and are also compatible with the most popular applications. An overview of these software packages and strategies for their deployment in the small business environment is detailed in this paper.

INTRODUCTION

Most computer users are familiar with commercial software licenses through which an individual or organization pays a fee to legally use a piece of software. Whether a single license, end user license, site license, or some other specific type the key definition remains that these licenses require the user to pay for using the software. For the new business or small firm the fees associated with purchasing software licenses can be prohibitive, but at the same time access to technology is a requirement for the company to function (Burgess, 2002). The purpose of this paper is to provide readers with both the conceptual and practical application aspects of implementing open source software solutions for their businesses.

OPEN SOURCE DEFINED

Open source software is not just free software. To be open source a program has to not only be distributed without license fees but also make its source code, the programming that makes the application function, freely available (Bessen, 2005). This is different from freeware software which provides free access to the program but not the source code.

Why is access to source code important? The access to source code allows a community of developers to simultaneously work at improving open source programs or fixing errors discovered by users. By doing this open source programs can be much more quickly repaired and extensions and plug-ins can be much more quickly developed than in commercial software where the users must wait for the distributing company to make changes and then distribute those changes. For popular open source applications this means that a wide community of developers are constantly working on new things for the program and users can benefit from frequent updates and additions (Mockus, Fielding, and Herbsleb, 2002). With these characteristics in mind, what are the advantages of a small firm moving to open source applications?

ADVANTAGES OF MOVING TO OPEN SOURCE

The most apparent advantage of open source systems is that of cost. While it is not the place of this paper to discourage the use of any specific commercially distributed software packages it would be interesting for readers to look at the total cost of licensing for all of the software packages being used in their businesses. Of particular interest would be the money invested in programs that have to be available but are rarely used; basically a measure of the utility achieved from investment in certain programs. These costs are not an issue when utilizing open source solutions; if a program is only used once a year then that doesn't pose any problem of utility, it was free to acquire and is free to sit until it is needed.

Avoiding initial licensing costs of software is only the beginning of the cost advantage for open source software. When a company hires new employees, opens new office locations, or simply wants to extend access to technology to existing employees there are additional acquisition costs for commercial software. The cost often does not end with the initial purchase of the software. Over time, new editions are released and to stay current

organizations must purchase those new editions, which means reinvesting in software that they already own. In either case, the lack of cost for open source software eliminates the burden of paying for additional licenses.

These same benefits extend beyond the office environment. With the expansion of most people's workdays into the evening and the need for many people to take work home or on the road with them these employees need access to the same software at home that they have access to in the office. With the lack of expense and the ability to freely distribute open source software companies can give CDs of open source software to employees for their use at home or, even more simply, just provide employees with a list of web sites from which they can download the software. This gives employees the ability to work from any location with the same software that they use at work, thus eliminating any potential concerns about file format compatibilities and other issues encountered in working with multiple software packages.

Another very important aspect to open source programs is that because they are freely distributed, versus being marketed for a profit, they do not have any reason to maintain proprietary file compatibilities. So, for many popular open source programs, they can both read and save in the formats of the most popular commercial competitors for the software. This allows users of open source software the freedom to work with their choice of software but still retain the ability to communicate with users of commercial software packages by saving in the proper format to send to those users.

Yet another advantage to working with open source applications is that many of the most popular are cross-platform compatible, working with Windows, Mac, and Linux operating systems. Not every program has multiple versions, but all of the software introduced in this paper will fit in the cross-platform category. This is related to being able to send software home with employees in that because of the cross-platform compatibility employees can have their choice of operating system at home and still have access to the open source software solutions being used at work. At the time of this writing, February of 2008, it is unclear how well open source programs will adapt to the move to Windows Vista, but historically transitions have always been made to new versions of operating systems.

THE UNIQUENESS OF SMALL BUSINESS

The study of Business recognizes small businesses as being unique. Due to size, staffing, and often competitive position in the market small businesses must be managed and operated differently than larger firms. Capital availability, liquidity, and availability of human resources all contribute to make open source solutions a very viable alternative for small businesses.

Capital availability and liquidity in small firms both speak to the need for small businesses to operate as efficiently as possible while maintaining their effectiveness. With the cost advantages of open source software already covered here there is an obvious reduction in monetary expenses realized in using open source solutions. With the first part of the efficiency and effectiveness equation satisfied the focus moves to the second. Is using open source software in a business environment effective?

If working from the concept that the purpose of technology is to make complex processes more simple then open source software is effective. The various packages that will be presented as useful business software later in this work all provide the software user with the ability to simplify their work by using technology instead of performing the same functions with older technology. The most simple example of this is drafting documents with a word processor instead of using pen and paper or a typewriter while a more complex example is being able to create and edit a company web site with a what you see is what you get (WYSIWYG) editor versus writing HTML code in a text editor.

The next consideration for many small businesses is the availability of human resources. While in an ideal world every company would have a full-time information technology (IT) director, perhaps even with a staff of technology support personnel, this is a difficult goal to realize. For small businesses the problem is two-fold. First, qualified IT personnel are a scarce commodity and as such are expensive to hire, if they can be found to hire at all. Second, because of size, many small businesses do not have a large enough volume of technology resources to require a full-time IT support person. With part-time help, particularly qualified part-time help, difficult if not impossible to find it is usually left to the small business to find the most competent employee to fill the role of IT director and desktop support technician for the company in addition to their other duties. So in this environment how do small businesses manage their IT resources? All too often the answer is that they take the configuration of their systems out of the box and leave it, until something breaks at which point either outside help is acquired or the business is forced to do without the resource. In either case it is expensive; contract technical support has a high monetary cost and being without needed technical resources reduces operating efficiencies. As a final consideration,

employees often require training on how to use software packages. Who will conduct this training in a small business? Without a human resources professional doing this as part of their regular job duties, a position that many small companies can not afford to staff, it is left to co-workers to take time away from their own work to train others. While there are tutorials available for commercially distributed software these are very rarely free and can be very expensive.

Open source applications can, in part, help to remedy the problem of human resources for small business. As is the case with the frequency and quickness of problem resolutions and updates the solution to support and training for open source software can be found in the community of users that support the open source effort (Lakhani and von Hippel, 2000). The popular open source programs have active threaded discussion boards for users that cover almost every question imaginable. These forums not only have searchable threads to quickly determine if someone else has already asked a question and received an answer, they are also usually populated by active supporters of the software who will quickly provide answers to new questions that come up on the forums.

Closely related to the support solution is the training solution. Users and developers of open source software are, by definition, competent users of technology. In the open source community the most knowledgeable of these users are often also developers who have a desire to improve software and explain it to others. Because this community exists with open source software many of the popular programs have extensive tutorials posted online for anyone to access and use to learn about the software. Properly reviewed and deployed these tutorials can serve a large portion of the technology training function for a small business, freeing other employees to do other things while people engaged in training work through tutorials at their own pace.

With the advantages of open source software explained the next logical step is to look at what the options are for open source programs to use.

OPEN SOURCE PROGRAMS FOR BUSINESS

There are three categories of software that need to be addressed for business applications: productivity software, communications software, and media software. Productivity software includes the full spectrum of office suite applications, from word processing to databases, communications software ranges from basic web browsing to digital telephony, and media software includes functions ranging from photo editing to web site creation and editing. Currently available applications will be presented by category, including links to download locations.

Productivity Software

Probably the most frequently used piece of software in most businesses is the office suite. Fortunately for open source software users there are multiple open source solutions available for this, including the best known and most widely used, OpenOffice. OpenOffice is available for Windows, Mac, and Linux systems and is a full-featured office suite, including a word processor, presentation creator, spreadsheet, database, and drawing program. The main site for the program is www.openoffice.org but at the time of this writing that release is not yet compatible with Microsoft's Office 2007. The solution is to download the Novell release of OpenOffice, which is available from the Novell download site at http://download.novell.com/index.jsp?product_id=&search=Search&families=3402&version=&date_range=&keywords=&sort_by=&x=24&y=8. For Office 2007 compatibility it is necessary to download and install two files from Novell; the OpenOffice program itself and also OpenXML translator. OpenOffice has a long history of updating and improving in response to their community's requirements and it is reasonable to assume that the main OpenOffice.org release will be Office 2007 compatible in the future, but for now it is good for users to have access to a release that works today.

Communications Software

The next category of software to explore is communications. Probably the most familiar applications in this category are web browsers and e-mail clients. Two of the very popular open source products for these applications are both distributed by Mozilla (www.mozilla.org), the Firefox browser and Thunderbird mail client. Both of these applications are full-featured and Firefox in particular has a broad array of plug-ins and extensions that improve its functionality, as is often the case with open source software packages.

In addition to web and e-mail connectivity open source programs can be applied to managing the full range of voice communications as well. Asterisk (www.asterisk.org) provides users with calling system management across the full range of applications, up to and including management of the latest voice over IP (VOIP) calling systems.

Media Software

Media software is another category of software that more and more businesses need access to but many small businesses believe is too expensive to purchase. Whether preparing layouts to send to advertisers or generating their own customer-relations media companies today rely on media to provide a public face of who they are and what they do.

The first item in the realm of media is the production of websites for the company. Website creation is easier today than ever before, and most computer users can quickly learn to create online content using a WYSIWYG interface. A leading option in the open source world is Kompozer (www.kompozer.net). Kompozer runs as a simple executable without requiring installation onto a computer, so it can be used from a thumb drive or other removable media if necessary. It has a full range of advanced web authoring capabilities, including support for forms, cascading style sheets (CSS), templates, and an integrated file transfer protocol (FTP) file management system. For more advanced users the program also includes the ability to edit tags or to edit and compose in HTML.

To support online content it is often very helpful to be able to edit photographs or create images for use on the site. This type of work most often involves a digital image editor and there is an excellent open source program for this called the GNU Image Manipulation Program, commonly called the GIMP (www.gimp.org). GIMP offers all of the commonly used basic image editing tools such as adjusting brightness and contrast, cropping, adding text, drawing tools, and others. It also provides users with many advanced features found in professional level programs such as multiple layers, filters, and editing masks. There is even a plug-in available to use GIMP for the creation of image maps, which can be very valuable for business sites to provide customers with an intuitive interface for locating store locations or other features. This is a very brief introduction to all of the things that GIMP is capable of; there are very few things that are possible with commercial digital image editors that are not possible with GIMP either as a standalone program or with additional plug-ins that have been developed by the open source community.

While GIMP can certainly be used for the creation of original digital images these can often be more easily done with a vector graphics program than with a digital image editor. The open source solution for this is a program called Inkscape (www.inkscape.org). For the business user Inkscape can be an excellent tool for creating logos or other media objects for use in media.

To move from virtual to paper media there are two widely accepted options. The first is to use a word processing program to create newsletters, sales mailers, and other print documents. If a user wants to employ a word processing program for this purpose then OpenOffice can suffice. For more advanced or more professional publications, however, a dedicated desktop publishing program is preferred. For open source users Scribus (www.scribus.net) is the most well-known option. Scribus supports a full range of desktop publishing features and is compatible with professional formatting options for publishing and printing.

By using multiple selections of open source media software even the smallest companies have the capability to produce their own, integrated, online and print media solutions. This brings options to small firms that only a few years ago were limited to companies with much more extensive resources.

CONCLUSION

Open source software is a valuable, potentially profitable tool for many types of users, including small businesses. Through its use, a small business can improve its productivity while also conserving much-needed financial resources for other expenditures. As just one example of the use of open source applications, this paper was written in OpenOffice, web resources were accessed via Firefox, and the author's web site was developed in Kompozer. With the appropriate integration of open source software into an organization computer resources can be seamlessly coupled with external resources based on commercial products.

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DEMONSTRATIVE DECISIONS: MAKING ATTITUDES HAPPEN

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ABSTRACT

Social learning theories (Bandura, 1977; Vygotsky, 1978) suggest that attitudes are "caught" rather than taught as students recall particular learning experiences and influential teachers' behaviors (Beers, 1996; Hoewisch, 2000; Jarvis, 2003; Ruddell, 1995). Research has demonstrated that attitude impacts achievement (Kush, Watkins, & Brookhart, 2005; Roettger, Szymczuk, & Millard, 2001), so consideration of affect should be foundational to instructional design.

Using a mixed methodology research design, this paper presents both statistical analysis of pre- and post-course survey instruments and students' narrative comments in order to examine the impact of a literacy course on students' dispositions and to compare differing course delivery (onsite versus online). Additionally, it identifies instructor behaviors and course activities reported to have most impacted attitude. The paper seeks to inform teacher preparation programs, specifically regarding course design and delivery, and to offer validation of the importance of modeling, learning communities, and authentic experiences within education courses.

INTRODUCTION

In creating learning experiences for students, Allen (2003) cautions educators to remember, "...sometimes we have to meet our students where they are, not where we think they should be" (p. 62). Although this researcher had made the assumption that teacher candidates would possess positive attitudes towards reading, previous experience as a literacy teacher-educator indicated that preservice teachers did not, in fact, generally display this anticipated positivism. At the end of a required literacy course, Mallory (name changed) reflected: "I never really enjoyed reading until I took this class...I definitely think that this class helped me to be more enthusiastic with reading....the crazy ideas you had made it more fun as well." Based on this comment, the study was predicated by the anticipation that preservice teachers' existing attitudes towards reading could be modified by means of intentional social modeling strategies (Applegate & Applegate, 2004; Bandura, 1977; Langer, 1997; Lave & Wenger, 1991; Rosenblatt, 1995; Vygotsky, 1978) within a children's literature course, including course design, specific activities presented in the class, and the behaviors of the instructor for it.

Given current trends towards technology integration, corollary research questions were suggested. If a literacy course positively impacts preservice teachers' attitudes towards reading, what about the mode of delivery of that course? Could social modeling strategies have the same kind of effect in a classroom environment that was not face-to-face? What instructor actions and/or literacy class activities might impact teacher candidates' affective behaviors in either/both an onsite and an online course?

Research indicates that elementary students' achievement is dependent upon a combination of what has been called "skill and will" (Franklin, 1993; Garrison & Hynds, 1991; Guinn, 2002; Mariage, 1995; Taylor, Pearson, Peterson, & Rodriguez, 2003). Because additional studies suggest that positive teacher attitudes, modeled enthusiasm, and shared experiences with text are crucial to promoting learning (Asselin, 2000; International Reading Association, 2003; Mizokawa & Hansen-Krening, 2000), it becomes imperative that teacher preparation programs consider ways to ensure that future teachers display positive attitudes and demonstrate the enthusiasm necessary to help their students achieve success with reading.

THE STUDY

Research Questions

Specifically, this research study sought to answer the following questions.

What are the changes in preservice teachers' attitudes

before and after completing an online literacy course?

before and after completing an onsite literacy course?

What is the relationship between preservice teachers' attitudes toward reading before and after the completion of an online versus an onsite section of a required literacy course?

What is the impact of instructor (teacher) influence on preservice teachers' attitudes toward reading?

What specific literacy class experiences influence preservice teachers' attitudes toward reading?

Methodology and Instrumentation

The study used a mixed methods approach (Patton, 2002) in which both quantitative and qualitative data were collected and analyzed. Using quantitative methodology, the researcher obtained empirical pre- and posttest data by means of the Adult Survey of Reading Attitudes, or ASRA (Smith, 1990); this data was used to address the first and second research questions. Qualitative data was collected by means of narrative student pieces in which respondents detailed their perceptions about the course experiences and personality traits that had most impacted their dispositions towards reading; this data was used to address the third and fourth research questions. Quantitative data was compiled across three of the five dimensions of reading attitude as defined by Smith (1991) and analyzed for statistical significance. Qualitative data was analyzed using an inductive approach (Patton, 2002; Wolcott, 1990, 1994) across the same three ASRA subscales.

Participants

Participants in this study were representative of the undergraduate population of students at a university in the Pennsylvania state system who had preliminarily declared elementary education as a major. Subjects for the study were selected utilizing convenience sampling based upon those enrolled in two sections of a children's literature course, a prerequisite course for all students wishing to make application to the College of Education at this university. The researcher acted in a dual role as instructor/researcher. One of the sections was structured and listed in the course catalog as a traditional face-to-face classroom situation; all class meetings were scheduled to meet in a university classroom. The other section was structured and listed in the catalog as an online hybrid course; three face-to-face meetings were specified and scheduled at a satellite campus. Those students who had enrolled in one section or the other and who agreed to participate in the study (following a detailed explanation of procedures and informed consent documentation) were selected as subjects. The onsite section of the course was composed of twenty-five students; eighteen students were enrolled in the online section of the course.

Data Analysis

The first part of this study evaluated a dependent variable (preservice teachers' reading attitudes) based upon an independent variable (participation in a children's literature course) by means of an intra-group pre- and posttest design. The same pre- and post-instrument was used assess the impact of two levels of the independent variable (a face-to-face or online Children's Literature course) on the dependent variable (students' attitudes toward reading). This instrument, the ASRA, was comprised of a Likert scale (5= "strongly agree" to 1= "strongly disagree") and contained 40 items across five subscales, each subscale representing a dimension of reading attitude as detailed and defined by M. Smith (1991). Prior to the start of data analysis, the researcher determined that three of the five ASRA subscales most directly related to the research questions guiding the study. Therefore, only data from the Reading Attitude and Enjoyment, from the Social Reinforcement and from the Tutoring subscales were analyzed. Repeated measures t-tests were run for each of the three selected subscales for each course section (online or onsite) to test the first research question regarding affective changes before and after an online or an onsite literacy course. Each t-test resulted in a statistical measure of pre- and post-course relationship within each section (online or onsite) for the three relevant subscales of attitude. Additional quantitative data analysis was conducted to test the second research question regarding attitudes before and after the online versus the onsite literacy course. An independent-measures t-statistic was run on data from each of the three applicable ASRA subscales to determine if significant pre- and posttest differences between the online or the onsite respondents could be determined for any or all of the relevant subscales.

Because research questions 3 and 4 referred to subjects' perceptions of teacher influence and activities during specified sections of a literacy course, it was determined that post-course qualitative data would best address them. Qualitative post-course data was subjected to an inductive narrative analysis suggested by Patton (2002); required narratives from each course were analyzed in an attempt to determine patterns (Garson, n.d.) and systematic relationships (Wolcott, 1994) within the spontaneous responses. The researcher sought to identify and to code quotes regarding teacher actions and behaviors (research question 3) and specific children's literature course experiences, activities, and interactions (research question 4) influencing preservice teachers' perceptions regarding reading attitude and to use these comments "...to describe what actually happens to people...and what they say about what happens to them" (Patton, 2002, p. 476).

Results

Research question 1 addressed preservice teachers' reading attitudes before and after the completion of an online section of a required literacy course (1a) and before and after the completion of an onsite (face-to-face) section of a required literacy course (1b). There was a statistically significant increase on the Reading Activity and Enjoyment attitude subscale among online participants ($t=2.68$, $df=13$, $p<.05$) as well as onsite subjects ($t=4.16$, $df=24$, $p<.05$). Although there is no statistically significant evidence that that participation in an online children's literature course changed preservice teachers' attitudes towards the Social Reinforcement of reading ($t=1.62$, $df=13$, $p<.05$), this same subscale was significantly impacted among face-to-face subjects ($t=2.49$, $df=24$, $p<.05$). Course participation did not significantly impact preservice teachers' attitudes for the Tutoring subscales either in the online ($t=.07$, $df=13$, $p<.05$) or the onsite sections of the class ($t=.97$, $df=24$, $p<.05$).

Research question 2 addressed the relationship between the pre- and post-course reading attitudes of students participating in an online section of a required literacy course and those of students participating in an onsite (face-to-face) section. Results indicate no statistically significant evidence that participation with one type of course delivery (online versus onsite) affected preservice teachers' attitudes towards any of the specified subscales—Reading Activity and Enjoyment ($t=.78$, $df=37$, $p<.05$), Social Reinforcement ($t=.49$, $df=37$, $p<.05$) or Tutoring in or of reading, $t=(-.40)$, $df=37$, $p<.05$).

In order to analyze the impact of and what kinds of instructor behaviors and/or literacy course activities preservice teachers perceived to have influenced their reading attitudes (research questions 3 and 4), qualitative data obtained from post-course (onsite and online) narratives was analyzed using an inductive narrative analysis approach (Corvellec, in press; Garson, n.d.; Patton, 2002; Wolcott, 1990, 1994). After reading the narratives several times and recording quotes and comments onto note cards, the researcher worked reciprocally between recurring regularities in the narrative data and an emergent classification system both to verify the meaningfulness of the categories and to verify the accuracy of data placement within them (Patton, 2002). Relevant ASRA subscales had previously been set as an authorial framework (Corvellec, in press) and were subsequently utilized as themes for the narrative analysis. Specific quotes from the qualitative narratives were then examined and cross-classified into two additional groupings specific to research question 3, instructor (teacher) influence, and 4, literacy class activities. The emergent groupings and representative quotes within them evidenced students' perceptions about the attitudinal impact of the required literacy courses.

DISCUSSION AND CONCLUSIONS

This research examined pre- and post-course attitudes towards reading displayed by preservice teachers enrolled in two sections (one online and one onsite) of a required literacy course. Using a mixed methodology research design, this study analyzed both empirical data obtained from three pertinent subscales of the Adult Survey of Reading Attitudes, or ASRA, (M. Smith, 1991) and qualitative data extrapolated from required reflective writing pieces. Data from the pre- and post-course ASRA instruments were subject to statistical analysis; this research also utilized narrative analysis to examine the post-course writings so as to identify those specific course activities and instructor behaviors perceived by the preservice teachers to have most affected their reading attitudes. Statistical analysis confirmed that intentional course design and delivery of both online and onsite literacy classes did significantly impact respondents' attitudes in terms of Reading Activity and Enjoyment. Participation in an onsite section was also determined to significantly impact respondents' attitudes with regards to the Social Reinforcement of reading; however, no statistically significant result was obtained on the Social Reinforcement

subscale in the online section. Neither online nor onsite course delivery significantly impacted respondents' reading attitudes as displayed on the Tutoring subscale.

Qualitative narrative analysis of preservice teachers' assigned writings was consistent with previous studies indicating that social modeling, learning communities, and authentic experiences with literature most influence students' dispositions towards reading. Narrative analysis also provided subjects' perceptions about those specific course activities and teacher behaviors believed to have most affected attitudinal change including: animated instructor behaviors, read-alouds, course activities with clear implications for future classroom practice, collaborative projects, textbook choice, and a palpable sense of collegiality. Because these activities and behaviors are replicable, future teacher education courses may be intentionally modified to attain similar results.

Certainly effective classroom practice, elementary or post-secondary, should incorporate authentic activities and teaching strategies designed to be more than "fun." On the other hand, if learning and high levels of engagement can occur simultaneously, students are far more likely to make long-term connections between text and their worlds. Respondents' statements intimate that the creation of a sense of joy about reading— a positive disposition— is fundamental to the teaching profession. One of the children's literature students put it this way, "The hidden purpose of reading that I found out through this class was that it should be fun. If you're not having fun with it, then you're not doing it right." Demonstrative decisions about authentic and relevant teaching and learning acknowledges the intimate interplay between experience, attitude, social engagement, and fun. "This class reassured me that it's okay to mix fun and learning and that it's okay to be silly sometime, too."

One of the preservice teachers stated: "This is the best college reading experience that I have ever had....Basically, all of my reading experiences in college have been negative, except for this class. I feel that by my other classes being boring and this class being amazingly fun, the purpose and joy of reading has come to me clearly." This research suggests that engaged teacher-readers produce engaged student-readers, and that social modeling and authentic and highly motivating literacy activities influence the attitudes of both. Teacher education programs have the opportunity— perhaps even the obligation— to be advocates for positive reading dispositions. This study has examined ways to do just that.

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CHOOSING THE RIGHT TEXTBOOK - AN AGENCY PROBLEM

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ABSTRACT

Textbooks form the backbone of most university courses. Yet the way in which these essential course components are selected remains far from transparent. We employ a simple agency framework to uncover the inherent conflicts of interest that far too often yield sub-optimal results in such a selection. Given the incentives faced by lecturers it would in fact be surprising if the textbooks employed were actually well suited to the needs of University students.

INTRODUCTION

“We called him Tortoise because he taught us,” said the Mock Turtle angrily, “really you are very dull!” (Carroll 1974, 92)

In 1962, Gary Becker, never content to accept the prevailing wisdom of the profession, stood Marx on his head by using a metaphor to capture the way in which labour was not unlike capital. Human capital theory saw individuals as choosing to invest in education and training. By building up their mental assets, they could boost the value of their subsequent labour. Like any production process, optimum results inevitably depend, in part, on the inputs chosen. We can easily extend this analogy to teaching economics. Assuming that undergoing instruction in the mysteries of economics adds to the stock of human capital, inputs into this process deserve more than just a passing glance.

The standard inputs are instructor, textbook¹ and all the rest of the auxiliary paraphernalia which can vary widely. To be exact, the form in which the instruction takes place or what strictly speaking constitutes a text are themselves likely to appear in many guises. Whatever those appearances may be, most academic economists consigned to exploring the mixed pleasures offered by teaching an introductory course, do seem to think that the textbook chosen does in fact matter. This would be the only way to explain the occasionally pitched battles that break out over the selection of a text in economic departments through out the world. This again is nothing new².

Yet despite this unshaken conviction that textbooks matter, little solid evidence exists to substantiate this claim. The few attempts to test this proposition have been largely inconclusive. Meinkoth's (1971) study indicates a statistically noticeable but practically limited change in student performance due to changing textbooks. Any change could probably be attributed to allowing the instructor to choose his or her own text rather than having one assigned [the Jevons state of despair]. Increased enthusiasm alone, conveyed adequately to students, may be sufficient to generate any limited improvement³.

Given that the search for the best possible first year text takes on something of a search for the Holy Grail (though perhaps in the Monty Python version)⁴, I want to ask three fundamental questions:

Why do we have textbooks?

Why do instructors think that the text they choose matters?

Does the selection process yield anything like satisfactory results from the standpoint of any of the participants in this annual collegiate minuet?

Exploring these issues should provide us with some understanding of why textbooks are inevitably unsatisfactory (except perhaps to their authors and publishers).

FREE TO CHOOSE

Tweedledum and Tweedledee
agreed to have a battle;
For Tweedledum said Tweedledee
Had spoiled his nice new rattle.
(Carroll 1974, 162)

Let's for a moment extend Becker's (1962) industrial metaphor. The task of selecting inputs for a production process is not assigned randomly in the world of private enterprise. Given a sufficiently large business to allow for some specialisation, purchasing devolves upon a differentiated department. These employees act as agents to the owner of the enterprise with all the standard adverse selection and moral hazard problems inherent in any agency relationship. Even consumers may employ expert advice when dealing with a complex purchase. Financial advisors, mutual funds, in fact the whole array of available financial services available all aim to entice increased investment by reducing informational barriers. In much the same way, students rely on instructors to select the most suitable texts. One could argue that if students were themselves capable of selecting the best texts they probably wouldn't need to take a first year economics course. The assumption is that only years of training allows someone to prescribe a text much as only a similar number of years affords medical doctors the ability to safely prescribe the right medication.

I am always bothered about how textbooks are selected, because we so blithely ignore consumer choice. We are like physicians, with the students as our patients: they all receive prescriptions (in our case the name of the textbook); they buy and pay for the treatment; they use it and hope for the best. We, like physicians, check up on progress with a series of tests at intervals. The instructor/physician chooses the treatment; the student/patient pays for it (Bell 1988, 135).

The similarities despite Bell's doubts⁵ are more than entirely superficial. As in any agency relationship, either the doctor's or instructor's own objectives can conflict with the aim of providing his or her principal (patient or student) with the best value for money. The problem is aggravated in the case of a student. For pedagogical reasons one text must be prescribed to possibly more than a thousand students. Just as one size won't fit all when it comes to pills, the same applies to students. But while it is quite possible and even standard practise to customise prescriptions (to do otherwise would be to court a malpractice suit), it would be chaotic to try to coordinate a course where students are pursuing their studies via a variety of texts, much like conducting a chorus where each singer is permitted to select the key with which he or she is most comfortable. A unique outcome is unlikely to occur unless the choice of textbook is delegated to a de facto central purchasing agent. While instructors can urge students who are struggling with the favoured text to look to alternatives, only one text can dominate. Nor are students allowed a second opinion. Patients can opt to see another physician. They don't simply have to swallow the medication provided blindly. Students who are unhappy with the text chosen may find that they have nowhere else to go. Often departments will use a uniform text even when there are different lectures given by different instructors. The rationale is that students must receive the same basic instruction to prepare them for further courses. This has always been a curious argument usually made by departmental members dedicated to fighting against failing standards and what they see as a general lack of rigour displayed by many of their colleagues⁶. From a practical standpoint, some sort of common examination should be sufficient to ensure that all first year courses make similar demands on their students. To be completely realistic, even when students are allowed a choice between instructors, or are able to vote with their feet, it is doubtful that the text used casts any deciding influence on their decision. Scheduling constraints seem to dominate with perhaps reputation of and reaction to the instructor having a secondary impact.

Textbooks then are primarily aimed at those who should have little need for them, namely the instructor⁷. The student is forced to delegate the task of choosing a textbook based on the convincing justification that students are insufficiently informed to make a reasonable choice. Given the choice, students would ideally want to minimise the cost of passing their economics course. Unfortunately, they would have little idea as to which text would best accomplish such an objective. Price alone would not necessarily be a reasonable indicator⁸. Books then will be structured to find favour with lecturers in the same way that manufacturers of baby food target the tastes of parents. It is true that babies and students are the ultimate arbiters. Food that babies resist swallowing or textbooks that generate too many negative comments and poor course results will not last. The user cost of these products simply become too high for parents or instructors, more time has to be spent spoon feeding either the bawling baby or the somnambulant student.

Since publishers market primarily to lecturers (the agents rather than the users), publishers commission texts they think will sell to this target audience. This means that publishers prefer that their chosen authors pitch their books directly to the lecturers who will make the decisive choice. In fact, little if any pressure is necessary. Most textbook writers don't know how to write to their supposed target audience, first year students. If in fact they do, it remains a well kept secret. Trained economists, sitting down to write an introductory text, are incapable of putting themselves at that stage where economics is still an alien way of thinking. It's like asking a native Japanese speaker to imagine what it would be like not to know how to speak Japanese, to imagine the questions and issues that would run through the mind of a novice. Textbook authors write for those who already understand economics. A professional might scoff at a book that asked 'dumb' questions or made 'obvious' statements. The fact is that many authors seem incapable of putting themselves in the place of the typical student with no knowledge of economics. Even if they are capable in a Proustian moment, perhaps triggered by the smell of burnt coffee in their study, of recapturing their experience as a novice student of economics, odds are that they did not then represent that average student the textbook aims to enlighten. The average student is unlikely to pursue a career as an academic economist. Textbooks inevitably are written for those who do not need them, the already initiated. Attempting to do otherwise, given the economics of the publishing business, would be counterproductive. Such a text is highly likely to be dismissed out of hand as too simple. Radical departures from the norm of first year texts do not generally fare well.

Instructors are naturally inclined to the familiar. They are most comfortable with a text that resembles those on which they were themselves raised. The tyro instructor, unsure of what he or she should do opts for the low risk route. They want a text that offers no surprises and which contains nothing they don't already know. Absorbing new information or techniques is simply too time consuming given the constraints faced by a newly hired member of staff. Established staff-members are loathe to restructure their lecture notes and certainly not the course itself⁹. Simply flipping through most sample first year texts is enormously reassuring. What is found there is predictable and is easily compared with other texts which are on the market. The unfamiliar take more time and effort to judge, raising the user cost of adopting a non-standard text.

A casual examination allows some rather ineffective texts to slip through in much the same way that substituting other forms of signalling for a careful examination may also go sadly awry. A well known author or widespread use¹⁰ does not automatically guarantee quality though judging from the accompanying advertising, one would assume that it does. This stems from the way in which the user cost attached to a text so heavily influences an instructor's choice. Thus texts are packaged with an array of teaching aides all with the purpose of lowering the user cost of adopting any particular text. Test banks, overhead slides or even computer generated graphics leave an instructor with less to do. The rise of the World Wide Web means that sites for texts provide students and instructors with continual updates as well as assistance in using the textbook. Imitation is the chief driving force that shapes economic teaching and thus economic texts. Lecturers produce a version of the course they themselves took. This represents an enormous savings in time. To be original is a labour intensive procedure defined by the uncertainty of the outcome. Moreover, few novice instructors would have themselves been trained to teach in any way, shape or form. Most graduate departments would consider such activity to be too obvious to need expounding. The necessary knowledge is somehow produced by the simple act of standing up in front of a class holding a piece of chalk (or these days standing in front of a monotonous power point presentation).

The difficulties, as with any agency problem, lie in the underlying conflicting objectives of the agent (instructor) and the ostensible principal (student). Instructors interested in advancing their careers want to produce a satisfactory level of teaching output at minimum cost to themselves. The opportunity cost of pursuing teaching excellence is simply too high for most academic economists. Despite all the administrative comments to the contrary, teaching is not what boosts one's career or earns the attention let alone the respect of one's professional colleagues. Applause and subsequent financial remuneration flows from research. Teaching leaves all too little time left for more lucrative options. Excellent teaching leaves even less, condemning those who pursue this virtuous option to the bottom half of the career ladder.

For the struggling student, the textbook acts as both a complement and a substitute to the lectures themselves. Those students who find grasping ideas and information in lectures to be difficult use textbooks as a security blanket. At their own pace they can possibly puzzle out the relevant issues. Lectures for such students may be largely irrelevant. Providing this sort of fall back position reduces the risk of failure attached to the course in question. In any case, such students prefer that lectures closely follow the text serving to both condense and explicate what appears there. Other students will use the text as a way of preparing for lectures and as a handy reference to clear up points which the student is unsure about or as a source of additional information. For many students the text provides a vehicle for studying for exams. One should not forget that passing exams form the major

objective of perhaps a sizeable majority of students. Books of these students are soon transformed by a rainbow application of hi-lighter pens.

Textbooks may be the rather flimsy lifeline thrown to struggling first year students but as stated they are written and marketed to instructors. As economists we probably do get the textbooks we deserve¹¹. The question is whether this selection process, employing the instructor as purchasing agent, responds well to what a student needs in order to get a basic understanding of the subject. Here I think it is harder to answer in the affirmative. Textbooks are seemingly written without first thinking about objectives¹². Besides maximising the number of books sold, there seems very little else driving the production of most textbooks. What in fact do the authors of these very weighty tomes want their readers to end up understanding? What are the limited number of interconnected themes that make sense of all the detail crammed into these ever expanding texts? Without such linkages, the authors are writing the economic equivalent of a cookbook loaded with lots of useful how-to-do instructions and appetising graphs and figures. In fact, new editions of texts seem much more concerned with lowering the user cost attached to the text through the use of new technology rather than increasing the service flows derived from reading it. The packaging improves and the learning aids expand but what is left is still the same old collection of topics which students attack as isolated chunks of information to be swallowed whole.

The teaching in general is pretty poor because we have not defined our aims. Too frequently we undertake to give a course in economics by choosing a textbook, and perhaps a book of selected readings, and by then simply attempting to cover the book and the readings, with no aim beyond that (Burbank[1920] quoted in Brandis 1985, 278).

The problem that remains to be resolved is why instructors, despite their requisite grumbles, appear perfectly happy with the first year texts available. This acquiescence which occurs over rides an imperfectly acknowledged feeling that these books don't really seem geared to their actual consumers. If textbook publishers are simply responding to their target audience (economics instructors) and if, as does seem the case, this market is operating in a reasonable manner, it is necessary to fully understand the incentives motivating these instructors. Unless such incentives are changed, economists driven to believe in the rationality of their own choice will largely maintain the status quo. Given these existing constraints, it is possible to improve upon the current prevailing standard, to perhaps continue to lower the user cost of the texts, but innovations are unlikely to wander any distance from the generally accepted standard. As a result, too much of the change in textbooks has been mere style or gimmickry, meaning that given the obvious advances in technology, textbooks are glossier and associated teaching packages have become ever more comprehensive. This doesn't mean that they are any more effective as a teaching tool when compared to their more simple ancestors. Given the increasing risk averseness of publishing houses, as they merge into ever bigger enterprises, the support for a revolutionary text, like the first Samuelson text in the post war period, is unlikely to occur. The real possibility for a break through may come with the increasing ease of self publishing.

TEXTUAL READINGS

"Let's hear it," said Humpty Dumpty. "I can explain all the poems that ever were invented - and a good many that haven't been invented just yet." (Carroll 1974, 194).

Textbooks are the ultimate crutch tyro instructors lean on to get through their traumatic first brave attempts to bring the sweet reasoning of economic thought to the great masses of first year students¹³. Any good economist is bound to learn more than their students when working his or her way through the assigned text. Ideally though, each instructor should be required to write his or her own text. It seems reasonable to suspect that writing a course text could only improve each lecturer's teaching by forcing him or her to figure out how best to communicate with his or her students. This may fly in the face of the basic economic principle of specialisation through division of labour, but it would allow any instructor to customise the course and more particularly to force each instructor to think through essential economic principles instead of letting a textbook do the thinking. Given standard teaching loads, the demand to publish, as well as the insistence that staff undertake dubious administrative chores, all but the most self destructive instructor uses an off the shelf textbook to reduce time. It then makes perfect sense to contract this chore out to publishing firms. The weak point of such analysis is the basic inability of economists to turn out student friendly books. The publisher seems to think the problem lies in the packaging rather than the content of the package. There is much investment in computer packages, work books, multi-coloured printing and even web sites. This is why so much of what is new in textbook technology is related to reducing the preparation time for the instructor; directly by offering prepared questions, overhead slides, computer test banks and indirectly by including self-testing devices for students as well as computer tutorials. The more students can help themselves, the less

assistance instructors need offer outside of lectures, freeing up time for more financially and intellectually rewarding projects. Thus a text which students find difficult to comprehend will ultimately be judged as inadequate by an instructor if it increases demands on the instructor's time.

This bias toward user cost reduction is noticeable in the way in which publishers market texts to their target audience. Thus a 1983 advertisement for the third edition of the Gwartney & Stroup text¹⁴ promises the "most current treatment of modern economic thought in any principles text". It also promises to "bridge the gap between the ideal, theoretical 'solutions' of economists, and the events of the real world". This approach appeals to recently minted PhDs who would cringe at the idea of teaching passé Keynesian models as well as more experienced instructors who tire of trying to explain how what they teach relates to the real world. There is also a long list of auxiliary devices¹⁵, all created to assist the time constrained instructor. (It is still questionable whether all these innovations now packaged with the text actually end up leaving students with anymore understanding than their less chrome plated predecessors.) The blurb for the Ruffin & Gregory (1983) text offers much of the same. "The most important new principles text of the '80s"; "Unquestionably, the best and most modern coverage"; "the strongest text pedagogy"; "most complete pedagogical package available"; "the most analytical **Study Guide** available, testing reasoning rather than memory".

The same approach is still in evidence in the nineties. Mankiw's Macroeconomic text¹⁶, though meant for second year students gets a similar sell by its publisher¹⁷. The advertisement attempts greater verisimilitude (a word I thought I'd never get to use) by employing quotes from actual instructors. It does seem to work with washing detergents whose manufacturers are fond of quoting testimonials from users as well. As before, the quotes stress the response of students: "Students have repeatedly commented that Mankiw is the best economics text they have ever used, and not a few have said Mankiw is the best college textbook they have ever read," (surely not strong competition here). They emphasise the assistance provided to instructor: "This **Instructor's Resources** by Andrew John is an amazing piece of work. It is in a class by itself." Of course there are the auxiliary aides for the student: "I find this software package (**MacrobytesII**) excellent on all counts, and would highly recommend it to one who is thinking of adopting the Mankiw textbook." To repeat, textbooks are marketed to instructors who furthermore want to limit the time they devote to actually choosing a text. The last thing they want is to laboriously work through the whole text, let alone all the auxiliary bells and whistles. Most texts are chosen by glancing through them and comparing what they see with a mental checklist which will vary from individual to individual but is likely to be surprisingly consistent throughout the profession.

In choosing a text there is a heavily paternalistic element necessarily present. It's not a simple issue of whether students might like the text. Students want one that has attached to it the lowest user cost to themselves, which will at the same time allow them to squeak through the course. The issue for the instructor should be whether or not the text¹⁸ efficiently assists students toward the stated objective of the course. The problem is that the objective of the course is not always clear in the mind of the instructor. Most succinctly put, an objective should state the minimum level of learning a student should have grasped at the end of the course.

Like the courses themselves, the texts also seemingly lack any justification for their existence. The problem is that most texts do seem to be a collection of topics and courses are taught accordingly. Students learn to strategically memorise a few of those touched upon in the course and in this manner pass a final exam, usually one replete with choices. Only very good lecturers can successfully try to integrate what are in essence disparate pieces into a logical argument.

This is of course the way most instructors were taught. Replication is less time consuming than innovation. The mind set of most economists in regard to this approach becomes clear when there is any attempt to reduce the number of topics covered in any first year course. There are always faculty members who refuse to see how a department can put on a first year course without covering topic x or topic y. What is apparent is that trying to rate topics is a hopeless muddle, a wrong way to think about first year courses. The problem is in the initial assumption that a first year course needs to cover a set of topics rather than accomplish a simple set of objectives. There's more than a bit of rationalisation that goes on in justifying the approach one finds most convenient to teach. In this case a strong defence is concocted for utilising a formal rather than problem solving methodology. We explain our choice by claiming that tools must first be developed before problems can be resolved. But it is in fact the problems and issues that bring forth the tools. Courses could with some effort be taught that way. The key word here is effort. Given the demands on an average instructor's time, the extra effort to depart from the standard course and textbook structure comes at a high cost. It is also a high risk strategy. No one is punished for following standard procedure. Departures from the norm attract attention and thus have greater consequences. To be blunt, since teaching is not highly rewarded, an ambitious young academic would be foolish to invest a substantial amount of his or her scarce

time involved in high risk strategies to improve first year teaching. Furthermore, it is simply easier to teach a succession of models than to try to explain how to apply economic thinking. As a consequence, students do tend to complain that second year economics simply repeats first year. We respond by loftily dismissing such arguments. After all, we do go into these topics at much greater depth. In fact, the complaint reflects the profession's basic inability to teach economics at the first year level. The allure of teaching topics however undermines any attempt to actually teach economic thinking and concepts, to demonstrate how to apply economic reasoning. What we forget is that a very slim percentage of any first year class will ever go on to become economists of any type, let alone academics. We however insist on training students as if they were all headed for professional economic careers. It might even be time to rethink the training of professionals and ask whether even they leave our care with any basic economic intuition.

As pointed out, textbooks reflect the incentive system motivating the instructors. Publishers aim at a mass rather than a niche market. Most are clones of Samuelson's original text¹⁹. We have in fact a typical Hotelling (1929) location problem. Almost all texts try to stake out the middle ground. They all look alike and try to cover as many topics as possible. It seems wiser to aim for at least a small percentage of the mass market rather than gambling on grabbing a large percentage of a much smaller fringe market²⁰.

Texts which are uncontroversial and unobjectionable will tend to do the best. It is ideal to be everyone's second choice when the textbook must be decided by departmental consensus. Even when the text is ostensibly delegated to one individual, there is an implicit veto exerted in that a controversial choice will rub some colleague the wrong way. Since it is impossible to be everyone's first choice, being the perfect fall back position is optimal. Departments do change texts periodically. Sometimes it is simply to accommodate someone new taking charge of the first year course and trying to leave his or her mark on the course the easiest way possible, namely by changing the prescribed text. There is little available that doesn't closely resemble what has already been tried in the past²¹. Perhaps the slant will vary but not the basic structure or rhetorical approach. As pointed out previously, it is all based upon what an instructor thinks an economics textbook should look like, not what would perhaps be most effective. New textbooks on the market simply try to convince instructors that they do the standard formula better than the competition, have included all the latest professional fads (or at least those of a few years past) and contain all the paraphernalia which will lessen the burden of actually teaching the course. This is a classic product differentiation strategy characteristic of a monopolistically competitive market²².

Of course, given this marketing approach, textbooks in reaction have become increasingly fatter as more topics have to be included to appeal to as many potential instructors as possible. To leave out someone's pet topic risks not being adopted by a particular instructor and makes it even more difficult to get past a committee composed of the usual group of academic *prima donnas*²³. Like most word processing programs, first year text books are crammed with material of which any student will find only a limited portion useful.

All of these criticisms have been voiced for a number of years. They are not dealt with for two major reasons. Despite their protestations, most economists don't want a different type of text. The opportunity cost of adjustment would be too high. In defence of the current state of textbooks, Edwin G. Dolan (1988), a veteran textbook writer, makes some telling points about existing constraints. Quite frankly what instructors say they want is not reflected in what they do. Despite all the many times instructors may claim that they want to spend more time teaching the basics, most instructors feel quite safe in the belief that their faith will never be put to the test. Devoting more time to the basics has a high opportunity cost. It is difficult to do properly, especially in any compelling way. It is far easier, entailing less preparatory time, to get on with the graphical displays which can be demonstrated in a state of near unconsciousness²⁴.

Lastly, it is difficult to actually write a text that is a real departure. Samuelson's original took three years to complete much to his own surprise. It is no surprise that even very talented and incisive economists fail when they attempt such a daunting task. Joseph Stiglitz accurately pinpoints the problem with first year texts.

The textbooks that are available affect the nature of the principles course. But the textbooks that are available are also a reflection of the nature of the principles course and of how decisions about principles textbooks are made. And these courses are, to a large extent, a reflection of the nature of the academic economics profession in the United States today (Stiglitz 1988, 177).

In his own principles text, Stiglitz (1993) does try to overcome many of the problems he points out, to highlight the importance of information in economic analysis and to make his ideas comprehensible to a first year student. He tries to ground his approach in the solution of practical problems. Yet his text remains something of a Monet - a book that doesn't stand up well to close examination. It remains unclear on some very basic principles, like sunk cost or even opportunity cost. It lacks the overall coherency and clarity that would and should make

teaching from it a joy. There is yet a final difficulty in employing a text that departs from the norm. Despite the text, the course outline as demanded by departmental consensus still remains a collection of favourite topics that must be covered if student are to pass a standardised exam. Thus a non-standard text becomes doubly inappropriate.

WE ARE ALL SATISFICERS NOW

“Reeling and Writhing, of course, to begin with,” the Mock Turtle replied, “and then the different branches of Arithmetic - Ambition, Distraction, Uglification, and Derision.” (Carroll 1974:94))

It should be clear that the incentives of the instructor as agent don't lead to the best result for the consumer²⁵. The instructor has more demands on his or her time than simply teaching. It is perhaps a tribute to the professional standards of the economic profession that first year teaching and textbooks are not quite as bad as the incentive system would indicate. But the fact of the matter is that teaching is just another demand to be balanced against all others and one without as large a payoff as research, consulting or even administration. The instructor becomes an example of Simon's classic satisficer. Instruction has to be good enough to reduce complaints to an acceptable level. Anything beyond that is a rather noble gesture. Textbooks reflect these objectives and relative opportunity costs. There is room to do what everyone else has done better in the way that Mankiw (1997) apparently is attempting. As every publisher knows, there is always room to lower the user cost to the instructor either directly by more or less offering a ready to use course and course package, or indirectly by providing additional auxiliary aides to students. In this direction, new technology will make advances possible. Web sites will update text frequently, including corrections, additions and updates on macro data. Perhaps there might even be a changing array of relevant case studies.

It is also now quite feasible and cost efficient for publishers to customise a text for each instructor provided there is a sufficient number of students involved. In other words there would be no need to force students to buy doorstoppers of which they might use only half at most. Even more to the point, desk top publishing makes it possible for each instructor, or certainly each department to issue their own text containing exactly what they think a first year student needs to master. This could easily be updated yearly. The problem is that even if more departments were to head in this direction, the results would look surprisingly like the volumes already on the market. Perhaps economists are at heart dull and plodding and textbooks merely reflect this rather sad reality. Whatever the truth of the matter, if economists are the rational agents they profess to be, textbooks will always remain with us and these self same textbooks are unlikely to change.

NOTES:

1. The use of textbooks to convey economic wisdom goes back to the early days of the profession and is by no means a recent innovation. J. Lawrence Laughlin as a youth at Harvard in 1878 (if one can entertain that possibility) endured an introduction to the subject by Charles F. Dunbar who might be said to have inaugurated the teaching of economics in the U.S. Dunbar used a textbook. In a 1987 survey of colleges and universities teaching economics conducted by one Frederick R. Clow, “thirty of the thirty-nine respondents used a textbook as the basis of the course,” (reported in Brandis 1985, 278). If we look at the English tradition we find W. Stanley Jevons despairing at having to teach economics to undergraduates by using John Stuart Mill's Principles. This perhaps established the long running tradition of economic instructors who despair when compelled to teach from a text foisted upon them.
2. Debates of this sort seem driven by ideology or other often theoretical issues that matter to economists as professionals. Thus the new wave of post-war Keynesian textbooks met resistance from the old guard as well as politicians and businessmen sniffing out anti-free market (communist) influences.

I [Carolyn Bell] occasionally met a student who asked if it was true that the book [Samuelson] was communistic and if she would be required to read that radical, Keynes. Like the parents who prompted these questions, many economics faculty condemned the new approach, sometimes in a destructive power struggle. One highly thought of institution was still having difficulty in recruiting in the early sixties because its senior members had for so long adamantly refused to consider appointing anyone using Keynesian analysis (Bell 1988, 147).

Latter, similar strife would appear in the seventies when left wing economists squabbled with the existing old guard over mainstream texts or again in the eighties when new minted PhDs, steeped in the rational expectations literature scoffed at the old style Keynesianism of the now more elderly departmental members. It is doubtful whether any

such pitched battle has been fought from the standpoint of the ultimate consumers, the poor students condemned to work through often turgid prose.

3. Economics instructors for the most part would find such evidence counter-intuitive. All can cite cases where a text made a significant difference to a student. There are however two problems which help to differentiate any statistical evidence from our own intuition as teachers. A text may make a significant difference to a small subset of students, though too small to show up in any statistical analysis. Or perhaps even more subtly, the affect of a textbook can only be demonstrated in non-quantitative ways. Most tests rely on a student's memorisation skills and desire to achieve a passing grade in the course. A poor text may call for more effort from the student but fail to be statistically detectable in the final exam results. Understanding is more elusive as is the degree of affection students tend to develop for the subject. The Meinkoth (1971) study does indicate that the textbook used did not seem to influence the decision to take additional economics courses or to follow economic issues in the news.

4. Certainly the choice of a text is not a trivial matter to textbook publishers who seem quite willing to advance a million dollars to enterprising economists like Mankiw in hopes that the result will be the next 'Samuelson'. I limit the discussion to first year texts because the problem is most clearly defined at this level in part due to the number of students and hence the potential market for textbooks.

5. Our hope is that our physician is significantly more dutiful in maintaining a suitably high level of knowledge concerning the latest available pharmaceutical information than we, as economists, demonstrate when we flip through potential texts.

Unfortunately, I think physicians know more about the effectiveness of new drugs than economists know about the usefulness of new textbooks. We 'examine' a textbook – and we all have our favourite ways of checking a new publication – but nobody does careful research on the outcome of textbook use. Nor do we have the equivalent of the Food and Drug Administration standing watch over publishers' claims (Bell 1988' 135).

6. The underlying issue usually has more to do with departmental politics, ideology, or in fact most anything but teaching effectiveness.

7. This they share with the pharmaceutical market. Company representatives provide doctors with information about their current products as well as free samples. Doctors, like economic lecturers, rarely are well informed about the alternative medicines in the market or their possible efficacy. Though quite recently there have been some attempts to market directly to the consumer, most of the marketing budget in the drug industry still is aimed at the dispenser rather than user of their products.

8. Predictably where choice is not left to the actual consumer, textbooks do not largely compete on price. Since publishers are appealing to lecturers rather than students, the issue of price will not be decisive. Other aspects, those that meet the objectives of the lecturer, will be those more likely to be stressed. Despite this, most lecturers will give some consideration to cost, shying away from any text that deviates significantly above the average. For this reason, most first year texts will roughly cost the same. This removes the price decision from a lecturer's considerations (although there are a sizeable number of lecturers who would be hard put to tell you the cost of their prescribed text).

9. Textbooks are somewhat slow to pick up departures in economic thinking as it would cause the necessity for established instructors to discard some of their lecture notes, even to revise them drastically. We then continue teaching what we may no longer believe simply because it has been taught in the past, is easy to teach, and easily examinable. The money multiplier may have outlived its usefulness in any practical sense save its ability to use up a reasonable block of lecture time.

A second hypothesis is that the textbooks of a discipline play a powerfully conservative role in the transmission of doctrine ... The writing of textbooks is apparently not a thought-intensive activity: the modal number of changes of any sort between editions of a textbook in its discussion of the kinked demand curve is zero (Stigler 1982, 238).

10. Popularity alone cannot be an ultimate criterion or we would all be convinced that 'Barney' videos represent musical excellence.

11. An argument can be posed that if there was true dissatisfaction amongst instructors, some entrepreneurial publisher would commission a likely author to write a text that would respond to the unmet needs of the market place. This is supposedly what was done in the case of Mankiw's now almost fabled advance. Certainly there is no lack of texts to choose from. Though it is also true that only a limited number of all available texts grab the lion's share of the market. One would suspect that many of the fringe entries are mostly dependent on healthy sales in the author's own university.

Although there are many beginning economics textbooks in print – perhaps as many as two hundred – most have very little market share and are, at best, fringe competitors. Also, several of the major publishing firms in this market offer two or more principles of economics textbooks. I have not carefully investigated this industry, but casual empiricism leads me to conclude that perhaps 90 percent of the sales are accounted for by ten or so firms (Sichel 1988:179).

12. Saying this I court the opprobrium of all living textbook writers (and possibly those who are dead as well). I would still contend that they all very much resemble a cast of characters in search of a plot.

13. Interviewed for a job the author was once asked if he could teach international economics. The author in perhaps a self destructive bout of honesty replied that he had very little familiarity with the subject. ‘Not to worry,’ was the reply. ‘You can read the text while our students are either incapable of doing so or just can’t be bothered.’ Teaching what one doesn’t know has a long honourable tradition.

[It was] quite natural that the teaching of economics at that time should have depended so much on the textbooks. That, it seems, must be attributed in the main to the lack of training and preparation of the instructors (Laughlin quoted in Brandis 1985, 279).

14. This appears in the Winter 1983 volume of *The Journal of Economic Education* as does the advertisement for the Ruffin & Gregory (1983) text.

15. The textbook package, which lowers the user cost for the instructor (and only possibly for the student), is usually emphasised by the publisher.

More than just a study guide, the Coursebook contains true-false and multiple choice questions in addition to questions for discussion; almost every chapter offers an article intended to supplement the classroom teaching of important economic concepts presented in the text. Contrasting positions are presented that challenge students to demonstrate their understanding of the material. As in the textbook, the emphasis is on helping the student develop the economic way of thinking. An *Instructor’s Manual* containing teaching tips, sources for supplementary materials, and detailed outlines of each chapter in lecture-note form is available. Also, an *Instructor’s Test Bank* with over 2,000 multiple choice test questions is available on computer tape and in paperback (*The Journal of Economic Education* 1983,3).

16. Mankiw’s (1997) attempt at writing a ‘Samuelson’ is handled somewhat more coyly in *The American Economic Review* (1998):88(1). There is only a quote from Heilbroner, “Mankiw’s style is engaging and unpretentious ... Clarity is everywhere.” This teaser is supplemented by a web site address. A visit by the author was quite disappointing in part because a password was needed to get into the inner sanctum reserved for instructors. It did though include a non-functioning glossary plus updates on economic data for the macro section of the text. However, browsing through the table of contents, which is what most would be adopters are wont to do initially, finds very little that is new. The microeconomics section, after a few brave attempts, falls back into the comfortable world of topics. The macro section looks surprisingly like a first year version of Mankiw’s intermediate text. The preface to the student has a distinct *deja vu* feel about it. Whether Mankiw has done more than write yet another ‘Samuelson’ would require a term spent teaching from it, an honour that has so far eluded this author.

17. This particular advertisement appeared in *The American Economic Review* (1994) 84(5).

18. An auxiliary qualification might also be the extent it allows more self-motivated students to advance their knowledge of the subject. But given that this subset of students may be increasingly in the minority, it would be foolish to weight this characteristic otherwise than lightly.

19. Given that Samuelson’s text has been around for five decades, meaning that students first taught their economics from that text are now in retirement, we tend to forget that it was considered revolutionary at the time. This was not only due to its incorporation of Keynesian macroeconomics but also as a result of its format and instructional methodology. It triumphed because with a few exceptions it competed against texts which were conceived decades before and were considered outdated. Samuelson’s text floated in on the swelling waves of analytical economics. The young Turks, newly minted instructors and professors, of the post-war period championed this cause. As first mover, Samuelson gained a stranglehold in the market which was only gradually whittled away by clones. It is unlikely that we will ever see another ‘Samuelson’ come on to the market. Any success would be more quickly imitated, undercutting the first mover advantage. See Samuelson’s (1997) own entertaining account of the birth of his now famous textbook.

20. We could describe this as opting for the IBM clone strategy instead of the far riskier Apple Macintosh approach.

21. Publishers, most likely, factor in such ebbs and flows. The leading texts can expect to lose a percentage of the disgruntled or of would be innovators amongst instructors, but pick up approximately the same number fleeing the other major volumes. In the sixties, the big three car companies in the US seldom responded to dissatisfied

customers since car buyers had no where else to go. While some purchasers might switch from General Motors to Ford and others from Ford to Chrysler, still others would be moving from Chrysler to General Motors. As a result, market share would not vary noticeably from year to year.

22. See Stiglitz (1988) for an interesting analysis of the textbook market as being characterised by monopolistic competition.

23. This demand by publishers that authors need to cover all possible bases has made it difficult to write texts for more specialised economic subjects. A veteran teacher of Industrial Organisation sagely commented to the author that trying to write a general text for the subject was a fool's project since instructors of the subject were so idiosyncratic that no text would possibly be satisfactory to a large number of them.

24. Again, the basis for selection, often focuses on the two 'Ts' (easy to Teach, easy to Test). The incentives in place for any lecturer make this, unfortunately, overwhelming obvious.

... if one looks at instructors' actual course outlines, one sees much time devoted to topics that are of conceivable use only to future economics majors - indifference curves, *IS-LM* analysis, and so on. Any rational royalty maximizer worth his salt knows that one of the biggest mistakes that can be made in this market is to offer the customers what they say they want (more basics, more applications) rather than what they actually want (more graphs and more models) (Dolan 1988:169-170).

25. It is obviously not as bad as the incentives of a Japanese physician who until recently got a percentage of the price of each drug prescribed. Perhaps instructors are more like American doctors who fall back on familiar, name brand drugs pushed by the pharmaceutical companies (those with the highest profit margins) rather than expend the time evaluating generic equivalents or other alternative drugs that may be equally effective at lower prices.

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USING AUTHORPOINT™ LECTURING SOFTWARE TO IMPROVE FACULTY PEER EVALUATIONS**Lewis Hershey***Fayetteville State University***ABSTRACT**

Most business faculty are time-constrained and often pressed to coordinate their schedules with peer faculty reviewers for required observations of teaching for annual performance reviews. This paper discusses a new software program for distance learning, authorPOINT™ from authorGEN Technologies, and describes a procedure for adapting it to the faculty review and evaluation process. Key benefits of the procedure include asynchronous scheduling of faculty with peer evaluators observation of teaching, a permanent record for both faculty and the peer evaluators of the event being reviewed, better control by the faculty of the selection of the event to be reviewed, and increased opportunity to review and discuss the event prior to the submission of a written evaluation of the faculty. Additional benefits for a positive transfer of technology to business classes are also discussed.

INTRODUCTION

Among the problems noted peer-reviewed evaluation of faculty instruction is the amount of time needed for a valid and constructive observation and review to take place. On the one hand, peer evaluators are often time pressed and find it difficult to schedule synchronous visits among their faculty colleagues for in-class review. On the other hand, faculty may be anxious about the fact that an in-class visit provides only a snapshot of the pedagogy implemented across the semester and be rightfully concerned as to whether a single synchronous observation can provide the best evidence of their overall teaching.

Many schools require faculty to be observed in lecture by their peers as part of one or more tools for faculty evaluation. Other tools might include review by an administrator such as the departmental chair, use of student evaluations of teaching, and the production of scholarly publications by the faculty member.

There are many problems associated with other forms of faculty instruction evaluation, such as student rating forms. For example, Anastasi & Urbina (1997) note that student rating forms have two major weaknesses: the “error of central tendency” and the “halo effect.” The error of central tendency happens mainly due to human nature. People have the tendency to let their ratings accumulate in the center of the scale rather than reaching the extremes. The halo effect happens when the evaluator’s ratings are wrongly (positive or negative) influenced by a favorable or unfavorable general opinion of the instructor. Another issue raised by Cashin (1989) relates to reviewer competency in that “students are not qualified to judge a number of other factors that characterize exemplary instruction: 1) The appropriateness of the instructors objectives; 2) The relevance of assignments or readings; 3) The degree to which subject matter content was balanced and up-to-date; and 4) The degree to which grading standards were unduly lax or severe.” Additionally, Germain and Scandura (2005) note that student evaluations of faculty teaching are biased as a function expected grade inflation.

Scholarly publications, especially if they are blind-reviewed may validate much of the work a faculty member does in bringing added value to the learning environment, but the long time frame between research, writing, and publication may deny the faculty member timely feedback for a given course or semester that might be useful in improving faculty performance in the short run. Accordingly, peer evaluation of faculty lectures has the potential of being a valuable development tool as well as an evaluation one.

Given this potential, it is surprising how little published work there is on the role of peer evaluation of university faculty lectures. Most of the extant literature refers to administrator evaluations, often of novices. For example, much of the work on assessment relates to the evaluation of undergraduate teacher trainees being supervised by university faculty. For instance, Gimbert and Nolan (2003) suggest that the role expectations between faculty supervisors and undergraduate teaching candidates can be positively influenced by changing the designation of the supervisor’s role from evaluator to professional development associate. Ebmeier (2003) identifies that teacher efficacy and commitment are positively related to the importance their supervisor attaches to their specific instructional activities. Similarly, Kilbourn et al. (2005) note that novice supervisors can more readily improve their feedback to teachers by adopting an attitude of inquiry to the teaching observation event versus a strictly evaluative perspective.

If much of the literature addresses the evaluation of undergraduates training to be teachers rather than the evaluation of university faculty, some studies indicate feedback from professionals can have a positive developmental impact on other professionals. For example, Maker, Curtis and Donnelly (2004) note that specific feedback on key behaviors from resident physicians to their attending faculty mentors helped the attending physicians improve their performance on subsequent measures of the same key behaviors. Such an approach is consistent with Glanz's (2005) suggestion that action research be used as a model for supervision as a means of helping specify what specific activities of instruction can lead to better student outcomes.

To translate the potential benefit of peer feedback to the benefit of university faculty, ideal conditions must exist that allow the faculty member to choose the best possible demonstration for the peer(s) to review. Similarly, the peer reviewer should have adequate time to consider and reflect upon the lecture under review to provide the faculty member with the most valuable feedback and evaluation. These conditions are difficult at best to create in the real-time moment of the traditional simultaneous event of one time observation and notation for evaluation that characterizes most administrator evaluations of faculty teaching. The rest of this paper suggests that the authorPOINT software reviewed here may offer an IT solution to this problem.

THE authorPOINT™ LECTURING SOFTWARE

The authorPOINT™ software is designed to capture audio/video with PowerPoint presentations while they are delivered. With authorPOINT™, faculty can capture their presentations in three mouse clicks and turn them into rich, meaningful outputs in moments (www.authorgen.com). The results are then distributed to the audience in Windows Media, Real Media and Pocket PC formats.

authorPOINT™ is a PowerPoint plug in and works inside of PowerPoint. The software requirements to record are Windows 2000 or greater and PowerPoint 2000 or greater. In practice though, I recommend Windows XP and the accompanying versions of Office, as some of the tutorials require XP level products.

The authorPOINT™ software as a PowerPoint plug in allows the user to access the authorPOINT™ features from the familiar PowerPoint interface. Essentially, it provides an easy to navigate, intuitively organized shell for displaying PowerPoint slides with other media and saving the customized organization for easy to use access later.

The authorGEN website has a page featuring several topics in a tutorial. Each tutorial opens in a new window and consists of a self-running, narrated, animated explanation of that topics features and how to navigate the authorPOINT™ software to create dynamic lecture presentations. The tutorial page also has tips for lighting your presentation to get the best video output possible.

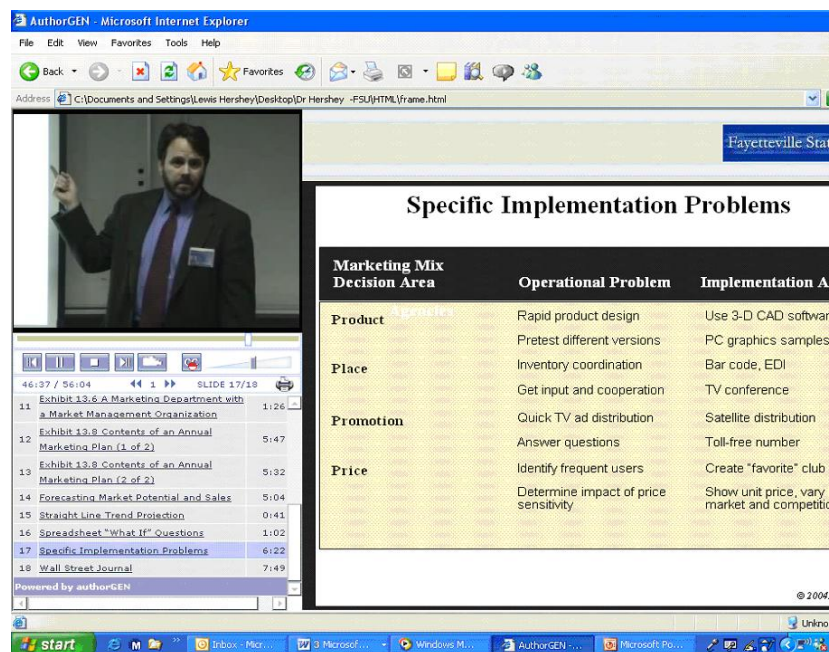
One strength of the authorPOINT™ interface is its modular approach to lecture design. For example, the authorPOINT™ software allows the user incorporate pre-recorded media into a lecture presentation. Audio and/or video files can be imported into a new or existing lecture file in PowerPoint. This feature allows professors to leverage historical data in new ways or to re-format historical data into new formats. For example, an existing 30 minute video recorded on tape might be digitized into several short, specific illustrations and then imported into an existing PowerPoint lecture on a case by case basis. In the example used for this paper though, the authorPOINT™ software was used to capture a real time lecture delivered before a traditional lecture class and then make that lecture available for peer evaluators to review the faculty member as part of a required observation for an annual review. However, the same feature might be used to distribute lectures from traditional classes to online students. One advantage of this feature is the ability to simultaneously service both traditional and online sections: Faculty need not teach both sections separately and thereby lose any economies of scale.

The authorPOINT™ software has several useful features, including the ability to capture live video and to annotate slides used in lecture. The software additionally allows for capture to output to be made available in multiple bit rates for access from the Internet consistent with the end-users connection settings. This feature expands the functionality of the software because distance learners need not be limited to locations with high-band width connections only.

Distribution of the authorPOINT™ output can be made over the web, either through the included authorSTREAM™ feature (not reviewed here) or via any FTP Server used by a host school.

The software also allows the faculty member to create a pass code to access the presentation. This feature allows the author/presenter to restrict content to authorized users, such as students enrolled in a specific course. Finally, the output can be written to either a CD or a DVD for either distribution or archiving purposes.

Figure 1. The authorPOINT™ Output Interface.



ADAPTING authorPOINT™ FOR FACULTY EVALUATION PURPOSES

A particularly attractive aspect of using the authorPOINT™ software for faculty evaluation purposes is that it requires no additional training on the part of faculty already using the software for distance education initiatives.

If a school is not using the authorPOINT™ software currently, then purchase of a license and the purchase new IT equipment will be necessary. For the demonstration lecture described here (and shown on screen in conference presentation), the entire lecture was captured with a digital camcorder and a clip-on wireless microphone. A student volunteer agreed to operate the camera to follow the lecturing faculty member for this demonstration. In practice, the school might need to provide such assistance or restrict faculty lecture to podium only presentation with a motionless camera recording. Alternatively, a tripod mounted camcorder set off to the side at about 30 degrees can capture the professor while allowing some lateral movement.

If the school offers faculty development grants for pedagogy, then an interested faculty member might develop a grant proposal for funding new ventures into the use of the authorPOINT™ software. If so, the faculty member might cost out the expenses of acquiring and implementing the package in total for developing an entire course. Under these circumstances, the proposal might include cost of license, digital camcorder, extra memory sticks (1 GB sticks recommended), a tripod, a wireless clip-on microphone, transmitter and receiver, additional lighting (if needed), and any funding for research associates to help with the recording (if needed).

IMPLICATIONS FOR PEER-REVIEWERS FOR ANNUAL FACULTY EVALUATIONS

Teaching and its evaluation is a labor intensive process and faculty evaluations by peer reviewers is a classic example of the difficulties facing time-constrained faculty. The authorPOINT™ software reviewed here was created for distance learning environments but can be adapted to the needs of faculty assessment through a procedure that enhances the assessment process. For the peer reviewer, use of authorPOINT™ over sitting in a live classroom allows for a better, more robust review of the faculty's lecture. For the faculty, use of authorPOINT™ allows for a selection among many possible lectures for review, without the necessity of being "really on" on the single day of an in-class visit. Together, these advantages can be leveraged to the benefit of both peer reviewers and the faculty by focusing on four key strengths of the authorPOINT™ interface: permanent record, asynchronous

scheduling, faculty control of the lecture selected for evaluation, and the potential to create a lecture archive. Each of these strengths is described below.

Permanent Objective Record

A key advantage of authorPOINT™ is that it creates a permanent record of the faculty lecture that is used for evaluation purposes. Once generated, this record may be paused, reviewed, replayed and accessed to specific moments to allow contemplation and consideration of how the faculty member has done. Because the faculty review is done from the digital record and not from the flow-chart notes taken in the ephemeral moment of delivery, the reviewer can get a more complete and better record of the faculty lecture. Bamberger et al. (2004) note the difficulty obtaining valid and reliable data for evaluation under time constraints, among other factors. Use of authorPOINT helps alleviate this problem. Moreover, both the faculty member and the reviewer can discuss specific aspects of the lecture both visually and aurally after the fact – something heretofore not possible for the faculty member who delivered the lecture. This aspect of the authorPOINT™ software also has implications for faculty development as well as evaluation, though development issues are beyond the scope of this paper. Still, the creation of a valid, reliable record of reference for both the faculty member and the reviewer of the lecture being evaluated enhances the potential for accuracy and limits reliance on less complete methods of generating data for the evaluation.

Asynchronous Scheduling

Another key advantage of the authorPOINT™ software is the ability to free the faculty and the reviewer from having to schedule a time convenient to both parties to “attend” the lecture. For the faculty, this reduces one source of possible adverse performance bias by eliminating the dynamic of a reviewer from the social context of the live classroom. For the peer reviewer, this feature also provides benefits. In addition to not having to schedule a visit, the reviewer will presumably choose to view the lecture at a time convenient to do so. This creates the possibility for better attention to the task of evaluation by allowing the reviewer to reduce other noise factors in the channel of communication. A quiet office, clear of other distractions and the absence of single-event social interactions created by the presence of the reviewer in the lecture allows the reviewer more focus and concentration on the task of evaluation.

Faculty Control of Lecture Performance Selected for Evaluation

A third benefit of the authorPOINT™ software is that the faculty member has the opportunity to exert more precise control over the quality of the lecture reviewed for evaluation. Live review for evaluation might be scheduled for weeks in advance but suffer on the “reckoning” day due to changes in student attendances, illness by faculty, reviewer, or both, or other external problems, such as IT failures in lecture presentation or Internet access. On the simplest level, a faculty member has the opportunity to preview a lecture intended for review, saved in authorPOINT™, and simply not submit it if the faculty member believes it is not typical of her or his best work. Alternatively, the faculty member might schedule several recordings in advance, with the intention of choosing the best lecture for evaluation to present to the reviewer. In-class, live evaluation of lecture must rely on serendipity, to some degree, to show the faculty lecture at its best. With the authorPOINT™ software, faculty can exert more control over the quality of what the reviewer is asked to evaluate.

Creating a Lecture Archive and Lecture Library of Key Topics

Finally, an additional benefit of the authorPOINT™ software is that the faculty member has the option of archiving the lectures and making them available to students. Over time, this benefit may result in a library of lectures-on-demand on a host of topics. Initially, the archive may simply help the faculty select the best of lectures by chapter. Access to such an archive can provide additional learning support for students unable to meet each class due to the increasing time conflicts of non-traditional students who often balance family, work, day-care, and community obligations with class time. Beyond chapter lectures, a faculty member may choose to archive select topics of interest, discussion of key current events, or even student presentations for use in future versions of the class as illustrations of good student work. Moreover, with the camera a ubiquitous feature of the class lecture

experience, faculty and students alike are more likely to see it as part of the normal use of IT in business education, rather than a “special event” addition that may cause anxiety due to unfamiliarity.

LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The observations made in this paper on the author’s own experiences with the authorPOINT™ software and so necessarily shares the limitations of that perspective. First, the author’s use of the authorPOINT™ software represents the first application of the software at the school and so the software lacks widespread diffusion across the faculty. It might be that the authorPOINT™ software is more appropriate for some content areas than others and only a wider diffusion of innovation across the university curriculum will reveal that possibility over time. Second, while the authorPOINT™ software may help reduce unwanted bias based upon the artificial presence of a one-time evaluator in the lecture, it is also the case that the technology for creating the authorPOINT™ lecture, especially the camera, may distract some faculty. Training and assimilation of the technology may be required for both faculty and students so that the presence of the authorPOINT™ platform is familiar and comfortable before whole scale use of the authorPOINT™ software is adopted in lieu of in-class visits. Finally, faculty, reviewers and schools as a whole may wish to experiment with a wider range of IT products before standardizing on a single platform. For example, the makers of the authorPOINT™ software also offer a synchronous distance lecturing product, authorLIVE. While we have noted the strengths of asynchronous “meeting” of the faculty and the reviewer, it may be that each school has something of a unique approach to faculty evaluation such that these and other products might be used instead of or in compliment to one another.

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TEACHERS' PERCEPTIONS OF HIGHER EDUCATION REFORM IN TAIWAN, THE REPUBLIC OF CHINA

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ABSTRACT

The higher education reforms in Taiwan intended to convert all traditional junior colleges into universities of technology. Limited time was given to carry out these comprehensive changes. The reforms increased instructors' workloads dramatically without a commensurate increase in pay. This research found there was a high agreement between the instructors' belief in the importance of additional workload requirements and their contribution to educational reforms. However, it was equally important to note that instructors believed that additional compensation, on the average of \$1500 USD per month, should be provided for the extra time and commitment. Instructors also responded that research was the most difficult area for them to fully meet, followed by additional education, teaching, advising students, and community services. Two considerations for the government may improve instructors' positive attitude toward increased workload: an additional compensation for the increased workload and funding for instructors' research publications.

INTRODUCTION

Higher education reform has played a major role in developing the new quality of educational leadership so vital to the modernizing process (Yang, 2001). The Taiwan Ministry of Education indicated that higher education reforms have been actively implemented since 1996. A junior college is being upgraded in two phases, to an institute of technology initially and then to a university of technology. Educational reform has become an important subject which both the government and the higher education system are doing their best to implement. Universities are gradually being authorized to examine the quality of instructors. Therefore, the higher education reform in Taiwan has mandated a number of changes to be implemented. The huge and rapid education reform has had a great impact on approximately 48,000 instructors ("Educational Statistics," 2008).

The role of instructors is one of the major changes being implemented in the educational reforms. The Taiwan Ministry of Education suggests that these reforms promote a greater emphasis on quality education, and also stress excellence in teaching. With these reforms, instructors' workloads have increased dramatically. Instructors are urged to obtain a doctoral degree to be a professor and being required to publish research at prescribed times. The instructors' responsibility has been expanded to include research, advising student, and community services (Lin, 2000). Instructors have been given limited time to prepare for these comprehensive changes without a commensurate increase in pay or a recognition of the work they were already performing. There may be some problems created by this gap between administration and instructors. Factors such as increased workloads without additional compensation may result in excessive dissatisfaction among instructors. As a result, this may cause a shortage of qualified instructors, diminished educational quality, and missed economic goals. More importantly, this may cause Taiwan not only to fail to improve its economic competitiveness but worse, to lose its present place in the global economy.

The purpose of this study was to analyze the instructors' perceptions of higher education reform as well as their own role within that reform. The importance of this study will provide valuable information to Taiwan's Ministry of Education in its role of educational administration and solidify the relationships with its instructors. The findings would help the Taiwan government to modify and improve implementation of educational reform as well as instructors' concerns that are hindering reform.

RESEARCH QUESTION

The general question to be addressed by this research was: How do Taiwan's instructors perceive the progress of higher education reform and their own roles within that reform?

REVIEW OF THE RELATED LITERATURE

Educational Reform

Educational reforms have been taking place throughout the world. The Organisation for Economic Cooperation and Development (OECD 2001) stated that "Teachers become more critical to the success of schooling as expectations quality increase" (p. 140). American educational system has seen at least three educational reform movements in the past twenty years (Jacobson & Conway 1990). In the United Kingdom, each year every academic has to fill in a form of self-appraisal (Gombrich 2000). Each academic is invited to submit up to four publications for assessment and that if they do not they may be invited to take early retirement. Universities are credited with the research of the staff they employ at the time of the assessment (Gombrich 2000). It is apparent that pressure on the professoriate not only to teach and do research but also to attract external grants, do consulting, and the like is great (Altbach 1991). Gombrich (2000) reported that British higher education policy over the last twenty years has been an unmitigated catastrophe. The speed with which they were attempting this change was one of the reasons for the negative result they experienced. Britain's basic higher educational system is similar to Taiwan; the role of the professor, as well as, the pressure on the professoriate has increased with the implementation of the reforms in Taiwan since 1996. Karmel (2001) reported that Universities were given grades and rewards for good performance in Australia. Universities have been under pressure for some time to improve efficiency. Kemp (2000) stated that professor productivity has certainly risen substantially over the past decade due to the education reform measures. Great Britain and Australia have seen some negative results and conflicts when they rapidly attempted to merge their binary system of technical vocational institutions and universities into a sole university system.

Instructor's Academic Workload

Another facet that is important is how these rapid and dynamic reforms change the academic role of Taiwan instructors. Dey, Milem and Berger (1997) suggested that the faculty role is changing and publication productivity is becoming an increasingly larger consumer of faculty time and energy. American professors seem to be working longer, and classroom hours have not decreased in recent years (Altbach 1999). Moreover, faculty workload continues to center around the issues of time spent on research versus time spent in the classroom (Cage 1991). There is evidence that the amount of time faculty spend with students outside of the classroom affects time spent on research and teaching. Milem, Berger, and Dey (2000) stated that it is important that schools consider different ways faculty spends their professional time indicating conflicting views about changing patterns of faculty time use.

Faculty Workload and Reward

Fairweather (2002) stated that the American Association of Higher Education Forum on Faculty Roles and Rewards encourages institutional teams to foster changes in local faculty rewards for teaching. Diamond (1993) found rewards to be the strongest correlation of faculty behavior. In America, attention to faculty workload and productivity is a growing trend (Altbach 1999). Layzell (1996) found that heavier workloads resulted in less productivity. Other studies support Layzell's finding on the reverse relationship between workload and productivity (Francis & Schiele 1996; Vasil 1996). Fairweather (1996) suggested time allocation and rewards rather than on specific measures of productivity. Linehan (2001) indicated that teacher quality is a shared responsibility through salary/benefits. These studies may relate to how instructors in Taiwan view the worth of their work, emphasizing that teaching, advising students, research, and community services are important.

Communication and Motivation

Senge (1990) claimed, "team learning builds on personal mastery and shared vision, which allows people to be able to act together" (p. 236). Fullan (1993) also proposed, "two-way, top-down/bottom-up solutions are needed in which

schools and districts influence each other through a continually negotiated process and agenda” (p. 128). People have an intrinsic motivation by getting psychic rewards from their work (Knight, 2002). Maslow’s (1970) hierarchy ranks needs theorized that a person could not pursue the next need until the currently recognized need was substantially satisfied.

Stress

Farber and Ascher (1991) indicated that school reform may intensify teachers’ frustration and has been found to be one of the sources contributing to burnout. According to Schamer and Jackson (1996), the effects of extreme or unproductive levels of stress can cause teachers to have negative attitudes toward students and to lose their idealism, energy, and purpose. Eskridge and Coker (1985) pointed out that stress can make teachers become ineffective and inefficient in their teaching roles. Phillips (1993) demonstrated that stresses can have a negative influence on schools, overall teaching performances, and the physical and emotional well being of teachers and students.

Research on educational reform in Taiwan has focused on students’ needs without paying much attention to the instructor’s perceptions of the dramatic system change of junior colleges to institutions of technology. This review of the literature examines on pertinent themes that frame this study.

METHODOLOGY

Research Design

This study was conducted by using the quantitative research paradigm and employed both descriptive and correlational research methodology. The self-administered questionnaire, including open-ended and close-ended questions, was utilized to analyze instructors’ perceptions of higher education reforms in Taiwan that have been implemented since 1996 and their roles therein. The sample for this study was nine institutions at central district of Taiwan who granted their instructors permission to participate in this study. The total number of returned questionnaires was 497 copies out of the 750 sent for a 66% return rate. The survey in this study was anonymous with participants’ identities and answers kept confidential. Discriminate Function Analysis (DFA) was used to calculate the responses of the instructors’ perceptions of higher educational reform.

Null Hypothesis & Delimitation

There was no experimentally important or consistent predictability of Taiwan’s instructors’ responses toward educational reform using workload factors. The experimental importance was defined as 70% correct predictability. The experimental consistency was set at the $\alpha = .05$ level. This survey did not have any previous use and, therefore, there is no established reliability. It was doubtful that such a survey would exist for previous use given Taiwan’s pre-reform reluctance to have instructors provide feedback regarding a governmentally implemented program. The primary threat to internal validity was that of selection, that was, intact groups were used for this research. Threats to external validity were controlled to the degree that the samples taken from the population of the institutions in central Taiwan were randomly selected and generalizable only to central Taiwan. All institutions surveyed only those junior colleges that were presently reforming or have been reformed since 1996 were considered.

FINDINGS

The demographic information for the survey participants is: The mean age of respondents was 41 years with a range of 26 to 63. The average amount of higher education teaching experience was 11 years, with a range of one to 37 years. There were 35% (175) female respondents and 65% (320) male respondents. There are 17% (82) respondents with backgrounds in Liberal Arts, 59% (282) in Science and Engineering, 19% (90) with Business degrees, and 5% (22) with differing backgrounds. The highest educational level completed is the EdD/PhD with 31% (152/489) respondents, while 64% (315/489) have Master’s degrees and 5% (22/489) with Bachelors’. The academic rank showed 65% (320) with lecturers, 14% (70) are assistant professors, 18% (90) are associate professors, and 2% (12) are full professors.

Instructors' Workload Requirement

Table 1 presents the overall percentage of responses of instructors' workload increased after educational reform from question 7.

Table 1: The Percentage of Responses of Instructors' Workload Increased after Educational Reform as Determined by Question 7

Q7	Difference	Overall
Workload increased	48%	74%

Table 2 presents the overall percentages of responses of the necessity of instructors' workloads increased regarding research, additional education, teaching, advising students, and service. Table 2 also enumerates the additional hours per week and the additional compensation toward educational reform that instructors indicated from questions 8 & 9.

Table 2: The Percentages of the Necessity of Requirements for Instructors' Workload, Additional Hours per Week, and Additional Compensation per Week as Determined by Questions 8 & 9

Workload	Necessary	Unnecessary Additional Hours/Week	Additional Compensation \$/Week	
Research	93%	7%	8	107
Add Ed	91%	9%	8	86
Teaching	85%	15%	4	76
Advising	77%	23%	3	50
Services	73%	27%	4	70
Average	84%	16%		
Total			27	389

In question 10, instructors were asked to list any areas of workload that they believe they may not be able to fully meet, as required by educational reform. 98 out of 497 instructors responded to this item. These results are summarized in Table 3.

Table 3: Workload those Instructors Thought that They May Not Be Able to Meet

Research	Additional Education	Teaching	Advising Students	Services	
Frequency	45	17	14	12	10
Percentage	46%	17%	14%	12%	10%

RESULTS AND DISCUSSION

The domain of instructors' workload clearly showed that 74% of instructors thought that their workload has increased after educational reform. There was an overall average 84% of instructors who believed that these five areas of workload increase were necessary, as opposed to the 16% of respondents that did not. Instructors believed that research and additional education (93% and 91% respectively) were the most important and necessary for the success of educational reform. Instructors also responded very positively to the necessity of the other three requirements, i.e., teaching, advising, and services (85%, 77%, and 73% respectively) for them to perform their jobs up to the benchmarks set by the reforms. These data indicated that there was a high level of agreement between the instructors' belief in the importance of additional workload requirements and that of the educational reform act. While identifying and ranking instructors' greatest increase of workload, the data suggested that research was instructors' largest increase and was the most difficult area to fully meet in their workload. The additional education was their second largest, followed by teaching, advising students, and services.

It is important to note that instructors responded that 27 total additional hours of workload were necessary per week to meet these new responsibilities. Although instructors thought advising students was more necessary than community services, they asked less increased financial compensation for advising students because instructors believed that advising students has been an obligation and the responsibility of being a college teacher. These perceptions would be supported by Knight (2002), "...psychic rewards are opportunities for fulfillment and self-actualization in the workplace are major sources of faculty motivation" (p.11). The amount of additional work and time required of these instructors indicated how critical and important these areas were to the successful implementation of educational reform.

CONCLUSION

The general question posed by this research was how instructors perceived the progress of Taiwan's higher education reform, and how they perceived their own role within that reform. Based upon the domains of instructors' workload, a much larger percentage of instructors considered their own roles a very important contribution toward the success of Taiwan's higher education reforms. These instructors appeared to be very dedicated to their profession, willing to contribute an increased amount of time and effort toward research, willing to acquire additional education themselves, teaching, advising students, and services, in order to ensure the progress of their mission. However, these data also indicated that instructors widely perceived themselves as having a substantially increased workload for which they were under compensated.

In this study the best case scenario was found: instructors who overwhelmingly agreed with higher education requirements and have increased their workload to cooperate in meeting the new expectations. This positive attitude toward increased workloads could be improved upon by two considerations from the government: a modest compensation to recognize the increased workload and an additional funding for their research publications. Instructors indicated a preference that sufficient compensation should be awarded to them. It is important to note that instructors believed that additional compensation, on the average of \$389 USD per week, or \$1500 USD per month, should be provided for the extra time and commitment extended in order to contribute to accomplishing the goals of educational reform.

Suggestions and Recommendations

Instructors are the key to the delivery of effective educational reform (Lin, 2000). The following recommendations are made on the basis of the problem statement and findings of this study in order to decrease the obstacles to Taiwan higher education reform.

The Taiwan's Ministry of Education could create a friendly way by offering an additional compensation to faculty for increased workload. With an appropriate compensation, the rating on perception would rise to a level as 70%, meeting a priori the experimental level determined to be important in this research.

Results of this study should be shared with instructors at each institution. Instructors should be made aware of perceptions which could facilitate the effectiveness of higher education reform.

A stronger communication at all levels of leadership beginning with the Ministry of Education should go through presidents, deans, and chairs. The government should increase funding for instructors' professional training necessary to improve the educational process.

The Taiwan's Ministry of Education should propose an appropriate measurement for the goals of improving instructors' qualifications. The solutions such as financial support, subsidies, decreasing teaching hours or workload will allow instructors to pay more attention to their additional education and improve their publications.

Implication for Further Research

Continued research in the area might be an investigation into how perceptions differ between instructors in the comprehensive university and university of technology. Further topics of interest include how instructors increase motivation to handle the increased workload required for higher education reform.

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Appendix

Questionnaire of Higher Education Reform in Taiwan

Please complete the following information

1. Age: _____ years old
2. Years of teaching in higher education: _____ years
3. Gender: ☐Female ☐Male
4. College affiliation: ☐Liberal Arts ☐Science/Engineering ☐Business or ☐Other _____
5. Educational background (Highest level completed): ☐Bachelor ☐Master ☐EdD/PhD
6. Academic rank: ☐Lecturer ☐Assistant professor ☐Associate Professor ☐Professor
7. Has your workload increased since the implementation of the educational reform? ☐Yes ☐No
8. Please indicate with an **N** any areas you believe are **N**ecessary for successful educational reform, and indicate with a **U** any areas you believe are **U**necessary to educational reform. Also, please list after each area the approximate average number of **additional** hours per week, if any, that are now required of you as a result of educational reform.

N or U

Average Number of **Additional** Hours/Week

_____ Research	.....	_____ Hours
_____ Additional education	.....	_____ Hours
_____ Teaching	.....	_____ Hours
_____ Counseling/Advising students	.....	_____ Hours
_____ Service	.....	_____ Hours
_____ Other (Please identify) _____	.....	_____ Hours

9. If you circled **Yes** to question 7, please indicate all areas in which your workload has increased by ranking the



following beginning with the numeral **1** to denote the area that has had the greatest impact upon increasing your workload and then continuing through all items you wish to identify and rank as contributing to an increased workload. **Do Not** rank any areas that have not increased your workload. Also, if you believe additional compensation is appropriate for any of the factors increasing your workload, please indicate to the right of that area an **approximate** amount that you believe would be satisfactory compensation for that area.

Rank		Amount of Additional Compensation \$/month
_____	Research	NTD _____
_____	Additional education	NTD _____
_____	Teaching	NTD _____
_____	Counseling/Advising students	NTD _____
_____	Service	NTD _____
_____	Other (Please identify) _____	NTD _____

10. Please list any areas of workload that you believe you may not be able to fully meet as required by higher education reform. _____



THE ROLE OF FINANCIAL LEVERAGE IN SERVICE ORGANIZATIONS

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ABSTRACT

A high level of debt to finance assets leads to a high level of financial leverage for organizations. While the borrowed funds provide an organization the additional purchasing power at a lower cost, the higher level of borrowing would increase risk for the organization. This manuscript addresses the following questions: Do highly leveraged organizations offer higher quality of service and/or have higher prices than those with lower financial leverage within the same industry? What role, if any, does financial leverage play in retail versus corporate service industries? What implications do organizations with high financial leverage offer to better market them to outside investors and other stake holders? Various financial service industries, such as banking, insurance, and investment banking would be investigated.

THE ROLE OF OPERATING LEVERAGE IN SERVICE ORGANIZATIONS**Khalid Dubas***Fayetteville State University***Amitava Chatterjee***Texas Southern University***Lewis Hershey***Fayetteville State University***ABSTRACT**

High fixed costs act as a lever to affect the earnings of organizations. Organizations with high fixed costs have high operating leverage and their earnings become highly sensitive to fluctuations in sales revenues; so a decrease in sales revenues would have a large negative impact on their earnings and vice versa. This manuscript addresses the following issues: Does higher operating leverage imply better quality of service and/or higher prices? Do corporate chains offer better quality of service than franchises? What strategies are used by highly leverage organizations to manage their demand during a low season and during a high season? What implications does operating leverage offer to help market corporations to outside investors and other stake holders? Various service industries such as airlines, hotels, restaurants, etc. would be investigated.





AUTHOR INDEX

NAME	INSTITUTION	PAGE
Agrawal, Jagdish	Mary's College of California	91
Anghelescu, Hermina	Wayne State University	7
Ardley, Jillian	East Carolina University	36
Ariza, Eileen	Florida Atlantic University	259
Asllani, Arben	University of Tennessee	82, 221
Blair, Alexander	Macquarie University	310
Boggan, Matthew	Mississippi State University-Meridian	49
Browning, Patrick	University of Southern Mississippi	
Campbell, Michael M.	Florida A&M University	192
Caudill, Jason	Carson-Newman College	300
Chatterjee, Amitava	Texas Southern University	334, 335
Chea, Ashford C.	Stillman College	208
Choi, Frances Feng-Mei	Hung Kuang University	326
Choudhari, Shobha R.	South Carolina State University	152
Chow, Alan F.	University of South Alabama	270, 274, 279
Chung, Demi	University of Sydney	310
Clark, Aaron C.	North Carolina State University	71
Davenport, Elizabeth K.	Florida A&M University	76
Davis, Donna F.	University of Southern Mississippi	13
Dubas, Khalid	Fayetteville State University	6, 226, 334, 335
Duncan, Steve	East Carolina University	131
Dupoux, Errol	St. Petersburg College/Gibbs Campus	284
Edwards, Oliver W.	University of Central Florida	17, 121
Eribo, Festus	East Carolina University	131
Ervin, Charles P.	Florida A&M University	76
Estrada, Elisa	Barry University	284
Freedman, Craig	Macquarie University	310
Garmon, Florida	University of Memphis	43
Gebhard, Susan McMillin	University of North Carolina at Pembroke	305
Ghani, Wagar	Saint Joseph's University	6
Ghorbanian, Mehrtash	Sharif University of Technology	234



American Institute of Higher Education
1st International Conference, Orlando April 3-5, 2008

Gordon, Jean	Capella University	127
Grehan, Lee	University of Memphis	62
Hall, Cathy	East Carolina University	131
Hall, Kimberly R.	Mississippi State University	23
Hale, Charles Dennis	Saint Leo University	12, 136
Hancock, Sandra	University of Florida	259
Harrison, Haskell	University of Memphis	62
Heinrichs, John H.	Wayne State University	7
Hershey, Lewis	Fayetteville State University	321, 334, 335
Hodge, Elizabeth	East Carolina University	36
Jones, Lawrence R.	Naval Post Graduate School, Monterey	217
Kamath, Shyam	Mary's College of California	91
Knowles, Brenda E.	Indiana University South Bend	145
Krickx, Guido	Mary's College of California	91
Lapp, Susanne	Florida Atlantic University	259
Lari, Alireza	Fayetteville State University	82, 203, 227
Lari, Nasim	North Carolina State University	163, 227
Lari, Pooneh	North Carolina State University	71, 247
Lathon, Elecia B.	Louisiana State University	28
Le, Thuong T.	University of Toledo	139
Li, Suhong	Bryant University	115
Lim, Jeon – Su	University of Toledo	7
MacDonald, Laurie	Bryant University	115
Maes, Jeanne	University of South Alabama	279
Mathews, Tracey	Siena College	248
Mathis, Christopher C.	South Carolina State University	152
Mboko, Swithina	St. Cloud State University	167
Mehta, Rajiv	New Jersey Institute of Technology	226
Miah, Fazlul	Fayetteville State University	187, 226
Mohn, Richard S.	University of Southern Mississippi	137
Muhammad, Crystal	East Carolina University	29
Naghshpour, Shahdad	University of Southern Mississippi	265, 285
Norman, Thomas J.	California State Univ. Dominguez Hills	109
Okech, Allan	East Carolina University	29
Prichard, Janet	Bryant University	115
Rao, Ananth	University of Dubai	175



American Institute of Higher Education
1st International Conference, Orlando April 3-5, 2008

Rao, S. Subba	University of Toledo	139
Ressler, Jamie M.	Nova Southeastern University	1
Ritvo, Roger A.	Auburn University Montgomery	240
Romano, Brynne	Charlotte-Mecklenburg School District	121
Rouse Jr., William A.	East Carolina University	29
Rushing, John	Barry University	127
St. Marie, Joseph J.	University of Southern Mississippi	290, 295
Samad, Abdus	Utah Valley University	175
Sciglimpaglia, Don	San Diego State University	87
Seed, Allen H.	University of Memphis	43
Senecal, Sylvain	HEC Montreal	139
Shabbir, Tayyeb	California State Univ. at Dominguez Hills	6
Shelley, Kyna	University of Southern Mississippi	53
Shariat Zadeh, Navid	Azad University of Tehran	234
Showers-Chow, Jill	Software Technology, Incorporated	274
Smith, John	Saint Leo University	12, 136
Smith-Hunter Andrea	Siena College	248
Swart, William	East Carolina University	131
Tashbin, Gholamreza	University of South Alabama	274
Townsend, Amy	University of Southern Mississippi	53
Truong, Dothang	Fayetteville State University	139, 227
Vaidyanathan, Ganesh	Indiana University South Bend	145
Utz, Janice	Wayne State University	7
Wallace, Jeffrey	University of Memphis	62
Walls, Cara	Orange County Public Schools	17
Wang, Ying	Mississippi Valley State University	114
Webb, Elena	Palm Beach County Schools	259
White, Charles	University of Tennessee	221
Williams, Michael	Capella University	127
Wilson, Dawn	Fayetteville State University	157
Woodford, Kelly C.	University of South Alabama	270, 279
Zhang, Guili	East Carolina University	36



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