Volume 14, Number 4

Printed ISSN: 1095-6328
PDF ISSN: 1528-2643

ACADEMY OF EDUCATIONAL LEADERSHIP JOURNAL

Michael Shurden
Editor
Lander University

Nancy Niles
Editor
Lander University

The *Academy of Educational Leadership Studies Journal* is owned and published by the DreamCatchers Group, LLC. Editorial content is under the control of the Allied Academies, Inc., a non-profit association of scholars, whose purpose is to support and encourage research and the sharing and exchange of ideas and insights throughout the world.

Authors execute a publication permission agreement and assume all liabilities. Neither the DreamCatchers Group or Allied Academies is responsible for the content of the individual manuscripts. Any omissions or errors are the sole responsibility of the authors. The Editorial Board is responsible for the selection of manuscripts for publication from among those submitted for consideration. The Publishers accept final manuscripts in digital form and make adjustments solely for the purposes of pagination and organization.

The *Academy of Educational Leadership Journal* is owned and published by the DreamCatchers Group, LLC, PO Box 1708, Arden, NC 28704. Those interested in subscribing to the *Journal*, advertising in the *Journal*, submitting manuscripts to the Journal, or otherwise communicating with the *Journal,* should contact the Allied Academies' Executive Director at info@alliedacademies.org.

ACADEMY OF EDUCATIONAL LEADERSHIP JOURNAL
EDITORIAL BOARD MEMBERS

ACADEMY OF EDUCATIONAL LEADERSHIP JOURNAL

CONTENTS

LETTER FROM THE EDITORS

Welcome to the *Academy of Educational Leadership Journal.* The editorial content of this journal is under the control of the Allied Academies, Inc., a non profit association of scholars whose purpose is to encourage and support the advancement and exchange of knowledge, understanding and teaching throughout the world. The mission of the *AELJ* is to publish theoretical, empirical, practical or pedagogic manuscripts in education. Its objective is to expand the boundaries of the literature by supporting the exchange of ideas and insights which further the understanding of education.

The articles contained in this volume have been double blind refereed. The acceptance rate for manuscripts in this issue, 25%, conforms to our editorial policies.

We intend to foster a supportive, mentoring effort on the part of the referees which will result in encouraging and supporting writers. We welcome different viewpoints because in differences we find learning; in differences we develop understanding; in differences we gain knowledge and in differences we develop the discipline into a more comprehensive, less esoteric, and dynamic metier.

Information about the organization, its journals, and conferences are published on our web site. In addition, we keep the web site updated with the latest activities of the organization. Please visit our site and know that we welcome hearing from you at any time.

Michael Shurden
Editor
Lander University

Nancy Niles
Editor
Lander University

APPLYING LEARNING ORGANIZATIONS TO THE CLASSROOM

Ann-Lorraine Edwards, State University of New York at Oswego

ABSTRACT

This article is intended to address a common challenge experienced by teachers in higher education -- how to blend theory into practice in the classroom. It is premised on the development of a semester-long business simulation project that emphasizes learning business knowledge and skills. More specifically, the project is designed to help students develop all business aspects in an effort to help revitalize New Orleans by building a first-class hotel and convention center in the wake of Hurricane Katrina. In addition to applying the principles of management learned throughout the semester, students are expected to develop cross-functional teams and are empowered to establish systems of sharing information to guide the project's success. The assignment reflects the challenges and rewards of applying a learning organization model to the 21st century workplace, and culminates with an oral presentation to local business executives who help with the final grading.

INTRODUCTION

This article is intended to address a common challenge experienced by teachers in higher education -- how to integrate theory with practice in the classroom. One of the key problems facing recent college graduates (and their employers) is the lack of key management competencies needed for the 21st century workplace (Mill, 2007). The root cause may be traced back to passive learning environments, minimal student engagement, and inconsequential collaborative learning in the classroom environment.

The topic is significant for many reasons. First, according to employment recruiters who were surveyed, "communication and interpersonal skills, leadership skills, the ability to work effectively within teams, analytical and critical thinking skills, adaptability, people and task management skills, and self-management skills" are among the most important competencies for four-year business school graduates entering the workplace (Calloway School of Business, 2004). Second, these competencies are particularly significant given the changing organizational structure and key workplace challenges facing businesses today – challenges that include globalization, technology development, knowledge management, ethics, and workplace diversity (Nelson & Quick, 2006).

Third, according to a report by ASTD, managers are asked to take undertake certain tasks without receiving proper training. Such tasks include project management, leadership, problem-solving, teamwork and managing people, among others (ASTD, 2009). Presumably, employers may have assumed that having these skill sets were necessary requirements in order for a student to graduate from a four-year college with a degree in business management. Not surprisingly then, U. S. employers spend billions of training and development dollars, annually, to help their employees develop and/or improve essential competencies.

Fourth, today's workplace challenges require changing the way in which commerce is conducted. The hierarchical structure of the 19th and 20th centuries, designed to create stability in the workplace, is in direct conflict with the rapid and constant changes evolving in today's business organizations (Lawler and Worley, 2006). Yet, current management and leadership practices – influenced in part by complacent attitudes – reflect a focus on maintaining the status quo (Kotter, 1996; Lawler, 2006). The result is that the United States has become a less competitive nation. We in academia must prepare to offer our youth new and better learning constructs. Failure to do so may very well contribute to the continued erosion of the national – indeed the world – economy.

This conceptual paper proposes introducing college students to a learning organization model which, according to Daft, and introduced by Senge is "an attitude or philosophy of what an organization can become" (Daft, 2005). It is premised on the idea of operating with the intent to solve problems as opposed to focusing primarily on organizational efficiency. In recognizing that change is constant, one version of the learning organization invites employees to look for problems and empowers them to find solutions to those problems by working in teams and by sharing information across the board (Daft. 2005). The implications for converting to a model such as this are immense for both business and academia.

REVIEW OF THE LITERATURE

Undergraduate students earning degrees in business and other disciplines often are unprepared with the competencies required to make a solid contribution to the organizations that employ them (Mill, 2007). In an attempt to help employees develop or improve in these essential competencies as well as in other areas, each year employers spend billions of dollars on training costs. Depending on the area of training, with the costly post-graduation expenditure, the desired results may not always be productive, in part because some employees may lack training both in the need to learn and the ability to do so methodically. One might therefore make the case that a comprehensive learning process is perhaps the most important competence on which all other management competencies rest.

DEFINING ACTIVE LEARNING

Because of its signal importance, the concept of learning warrants precise description or definition. One such definition is that it is "a change in behavior acquired through experience" (Nelson & Quick, 2006). In this definition, the concept of "experience" implies not inertness but, instead, activity, doing, engaging action; and that, furthermore, it is through such activity that the best learning takes place, for it may involve the application of theory to practice. This is ideally what a student should strive for in his/her education and learning at the university level. During this process, it would be helpful to remember that the term "university" is based on the universe with a focus on higher learning, rather than strictly theoretical or pragmatic learning.

Senge (2006) points out that, to many of us, learning represents the "taking in of information". He himself defines learning as "a shift of mind" (Ibid.,), and is in agreement with Nelson & Quick (2006) that learning results in behavioral transformation, as opposed to maintaining the status quo. However, today's educational system operates using a passive learning format reliant on regurgitation of information rather than fostering original thought. While this approach may have had utility centuries ago, today it is ineffective in preparing our youth for entry into the modern workplace. Further, many of our current learning texts are antiquated, and promote passivity in the learning process. The status quo as it pertains to current points of reference do not, and cannot, accommodate the expanded knowledge base that has been brought about by the advent of the Space Age, scientific knowledge and technological knowledge (Lawler & Worley, 2006).

Academia must necessarily further stimulate college students to embrace the college learning experience in a meaningful way. To accomplish this, professors and course directors need to create more courses, projects, and classroom environments conducive to active learning. It appears inadequate for one to argue that all learning is by nature merely active for the literature strongly advocates the need to go "beyond reading, writing and discussions to engaging in higher-order thinking skills such as analysis, synthesis and evaluation" (Bonwell and Eison, 1991). Similarly, research on adult learning principles reveals that adults learn better and retain more information when they are actively engaged in the process (Kestner & Ray, 2002; Pfeffer, 2007). In light of points raised above, the initial response to new teaching techniques and new information often meet with adverse reaction, and even with awkwardness; yet, students who practice this technique are able to acquire knowledge along with acquiring specific skill sets (Kestner and Bowman, 2002). Active learning may be promoted through various techniques such as cooperative learning, debates, role playing, simulations, and peer teaching (Bonwell and Eison, 1991). Indeed, it may be possible to use different techniques in a given course, or spread over courses or, more especially, in project work. In the past, apprenticeships and other work-based learning activities have provided practical experience for better preparing students to become managers and industry leaders (www.findarticles.com). The demise of the apprenticeship program in the U. S. educational system has contributed to the lack of workforce preparation among our graduates at all levels of learning.

It is an approach that may need to be revisited, despite the possible expense associated with these programs.

While it may be difficult for some to embrace the learning organization model, innovative teaching strategies such as the one described in this article will enable our future leaders and managers to alter their mindsets in favor of creating pragmatic business solutions. Under the existing model, students are externally motivated by grades to memorize and regurgitate course content for test-taking purposes. This approach fails to promote long-term retention of information. In essence, graduates may find themselves ill-equipped to make the link between theory and practice when required to do so (Ibid.).

Although the initial response to new teaching techniques and new information may be met with frustration and even awkwardness, with practice students are able to acquire theoretical knowledge while simultaneously learning and applying specific skill sets for future reference in the workplace (Kestner and Bowman, 2002). It should be noted that initial introduction of these new strategies may be labor intensive for the instructor.

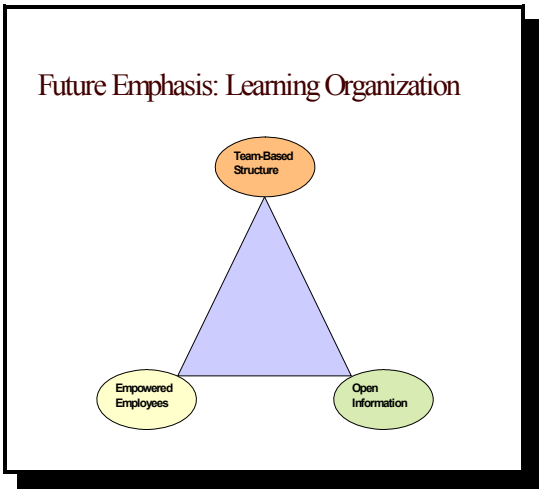
EMERGENCE OF THE LEARNING ORGANIZATION

Introduction to the learning organization model posits that individual learning fosters the ability to adapt to rapid changes in the workplace. This newfound ability to adapt as individuals serves to influence team performance which ultimately results in the organization's capacity to adapt to change more readily. Subsequent improvement in organizational performance means that the organization can now become more competitive (Kotter, 1996).

As discussed earlier, a key competence for managers is the ability to learn. It is therefore important to know how to operate within a community that facilitates the learning process. Such a community is known as a learning organization and may rely on a team-based structure, open sharing of information, and empowering employees to make decisions and solve problems (Fig. 1). As Daft points out, this is not the only construct for a learning organization model, but it is the one referenced in this article.

A useful discussion of the learning organization model receives attention and focus from Peter Senge who explains what it is, how it is formed, and its use as necessary and vital in the learning process of students. In *The Fifth Discipline*, Senge purports that today's managers tend to stymie an organization's accomplishments due to a habitual mindset left over from the days of the Industrial Revolution when work was completely structured. In borrowing a page from J. Edwards Deming's philosophy, Senge reiterated that "We will never transform the prevailing system of management without transforming our prevailing system of education. They are the same system" (Senge, 2006).

Fig. 1 - Elements of a Learning Organization



Source: Management (2005). Daft, R. L.

Senge (2006) identified the elements comprising this prevailing system of management. They include: 1) *Management by measurement* that focuses primarily on short-term objectives; 2) *Compliance-based cultures,* otherwise known as management by fear, that promotes the notion of getting ahead by pleasing the boss; 3) *Management outcomes* which refers to holding employees accountable for meeting management targets (whether or not doing so is feasible based on existing processes and structures); 4) *Seeking right answers vs. wrong answers*, a concept premised on technical problem-solving; 5)*Uniformity* which views diversity as a problem to be solved rather than embraced, and which therefore encourages superficial agreement as a means of overriding conflict; *6)Predictability and controllability* which points to management's focus on three primary functions - planning, organizing and controlling at the expense of leading or motivating employees; and *7) Excessive competitiveness and distrust* which indicates that desired organizational performance is achieved by promoting competition, rather than collaboration, between people (Senge, 2006,xiv).

Senge (2006) asserts that this old system of management is destroying our business organizations as well as our educational institutions. Both environments discourage independent thought in favor of rewards received from the teacher or boss for reinforcing what they want to hear, as opposed to doing what is best for the organization (Senge, 2006). This rather out-dated system often places greater importance on satisfying individual preferences rather than organizational requirements, and may be grounded in complacency and self-deception (Kotter, 1996; Arbinger Institute, 2002). According to the Arbinger Institute (2002), there is nothing more common in organizations than self-deception, otherwise known as insistent blindness. Indeed, the current global economic crisis may be reflective of this prevailing attitude that has resulted in failed financial institutions, sub-prime mortgages, a major Ponzi scheme, and other financial debacles with

catastrophic economic consequences for the individuals and organizations involved. It may be one reason why U. S. President Barack Obama, in an unprecedented move, recently fired General Motors (GM) Chief Executive Rick Wagoner who had been with the company for over three decades. Under Wagoner's leadership, GM "…piled up billions of dollars in losses and sought government loans to stay alive" (www.suntimes.com).

Along similar lines, one may argue that the U. S. educational curriculum has been 'dumbed down' to such an extent that it promotes passivity in all aspects of our lives, including our propensity for learning. The new work environment requires individuals who are willing and able to think critically, creatively, and ethically to solve problems and pursue opportunities from which the masses will benefit. To begin addressing this prevailing system of management that Deming identified, we as a society must begin thinking for ourselves again.

LEARNING CAPABILITIES

As pointed out earlier, creating a mind shift is crucial at a time when 21st century business managers must deal with constant change, driven in part by the rapid pace with which knowledge is being created, technological innovations occur, and global markets expand. To help nullify the prevailing system of management referenced earlier, Senge identifies three core learning capabilities that individuals and organizations must embrace rather than leave learning to chance. These include: 1) fostering aspiration; 2) developing reflective conversation; and 3) understanding complexity (Senge, 2006).

The awareness of these three core learning capabilities will not only assist in acquiring fundamental theory, but it may also present an opportunity for developing requisite competencies by applying theories learned during class lectures. Developing this fundamental ability to learn is key to promoting life-long learning for the nation's citizens, and especially its college graduates. Again, life-long learning should be regarded as an essential competence in light of rapid and ongoing changes in the workplace (Kotter, 1996). A brief explanation of each of these three capabilities follows.

FOSTERING ASPIRATION

Fostering aspiration encompasses two disciplines: personal mastery and shared vision/teamwork. The first discipline, personal mastery, clarifies the things that really matter most to us (Senge, 2006). The second discipline, that of shared vision and teamwork, emphasizes the propensity for learning to occur in teams. As Senge and others point out, "teams are the fundamental learning unit in modern organizations…unless teams can learn, the organization cannot learn" (Ibid.). Teams therefore produce extraordinary results for the organization even as individual members experience more rapid growth than might otherwise occur (Senge, 2006).

The team-based structure recognizes constructive interdependence (Kotter, 1996,169) as the earmark of a successful team enterprise – whether it is formal or informal, self-directed or cross-functional. In the case of self-directed teams, an organization requires that they be prepared to operate with a high level of autonomy and creativity (Dyer, 2007). However, it is the propensity for these self-directed teams to also work across functions that will ultimately drive an organization's success. As part of their class projects, most students are generally assigned to work in self-directed teams, which take into account Tuckman's theory of group development and the accompanying stages of forming, storming, norming and performing (Nelson & Quick, 2006).

But it goes beyond that for organizations must, of necessity, operate using the cross-functional team approach. The cross-functional team structure promotes an awareness of the need for systems thinking, an understanding of how each part, or each department, contributes to the whole (Senge, 2006). Today's business environment requires that different departments work collaboratively to attain the organization's bottom line. Indeed, the business literature is filled with examples of corporate entities whose failure to do so caused employees their jobs, and over time, may have cost the organization its very existence given the sheer waste of an organization's resources.

Foy defines a cross-functional team as "a group of people with a clear purpose representing a variety of functions or disciplines in the organization, whose combined efforts are necessary for achieving the team's purpose" (Foy, 1994). Peele (2006) offers a more comprehensive definition in describing the cross-functional team as

> "a core organizing methodology to enhance performance, creativity and innovation. In an effective team, persons drawn from a variety of functional specialties come together for a limited duration to solve a problem or complete a task. Improved problem-solving, business processes redesign, and product and service development result from the synergistic combination of functional specialties in cross-functional teams" (Ibid.,).

There are several advantages of working in cross-functional teams that include:

> " i) an accelerated rate of speed for accomplishing tasks; ii) an organization's ability to solve complex problems; iii) an emphasis on customer focus for both the employees and the clients/consumers; iv) creativity which invites people of various backgrounds to contribute to the problem-solving process within the organization; v) organizational learning, given the sharing of information and skills, and cultural backgrounds that allow the organization to grow, and finally, vi) a single point of contact for decision-making pertinent to the customer" (Foy, 1994).

Such advantages take into account the disciplines of personal mastery along with shared vision and team work.

Reflective Conversation

The second of three core learning capabilities referenced by Senge is the Reflective Conversation, which speaks to two additional disciplines – mental models and dialogue. Mental models are defined as deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action. Very often, we are not consciously aware of our mental models or the effects they have on our behaviors (Senge, 2006). The learning organization also depends on di*alogue, or the sharing of information* at all levels – between and among executives, middle managers and front-line employees. This discipline, along with team-based structures, fosters empowerment which is, itself, rooted in the sharing of information (Dyer, 2007). Dyer defines empowerment as "…simply gaining the power to make your voice heard, to contribute to plans and decisions that affect you, to use your expertise at work to improve your performance --- and with it, the performance of your whole organization." Dyer further explains that "empowered people need to give and receive many kinds of information, to know how well they are performing and what is expected of them….people need to know what is going on in the organization and how their work dovetails with others (Ibid.,). Indeed, we see a clear relationship between team-based structures, open information, and empowered employees.

Understanding Complexity

The third of Senge's three core learning capabilities is Understanding Complexity, which introduces the fifth discipline known as systems thinking, defined earlier as an understanding of how each part, or each department, contributes to the whole (Senge, 2006). An attempt has been made to fold these three learning capabilities into the semester-long team project.

METHODOLOGY

This article offers one illustration of teaching principles of management course by incorporating a class project that depends in large part on aspects of the learning organization model, in combination with several active learning techniques. This project emphasizes active, student-centered learning with a focus on introducing a version of the learning organization with its focus on building collaborative teams, sharing information across teams, and empowering students to actively participate in the learning process. The basis of the activity is a semester-long team assignment that is best accomplished by using the cross-functional team approach. It is intended to

mirror the modern workplace where collaboration, within and across teams, must occur to ensure the organization's success.

The learning organization of the 21st century requires that management educators coach skills – especially the ability of learning how to learn – and apply that knowledge constructively. Classrooms using active learning techniques are best equipped to coach these skills. Instructors may find this strategy helpful in constructing other courses by creating a challenging and engaging classroom environment intended to promote active learning. Naturally, instructors can replicate the exercise allowing for adjustments they deem appropriate to their circumstances (Nikolai, 2006).

An overview of the team assignment

The School of Business at this state-operated university offers a course designed to introduce students to fundamental management principles and concepts. Students in this course section were informed that the class would be taught using a student-centered framework rather than a teacher-centered framework. As well, students were advised that they were considered to be members of an active learning classroom environment which meant that not only would they be introduced to theoretical management concepts but they would have the opportunity for pragmatic application of those concepts. They also learned that for the entire semester, the class would simulate a corporate environment, and that their behaviors needed to reflect such an environment, as a means of being held both responsible and accountable for their personal success and that of the project. As with the business environment, class attendance was not optional and neither was class participation, since both were essential to running an active learning classroom. Students were informed, also, that there would be a team-based, semester-long project where the class itself operated as one large hypothetical business organization divided into four distinct teams or "departments", each representing one of the four functions of management: planning, organizing, leading and controlling.

To ensure the project's success, teams were to operate cross-functionally. While team projects are the norm in most business schools, working in cross-functional teams is less common, presumably because of the sometimes chaotic process that may accompany this type of learning. Typically, there is no interaction with other teams, an approach that the author contends is unrealistic in today's business organizations where different departments, as part of a larger system, must share information across functions. Development of this new skill necessitates a level of constructive interdependence with which students are unfamiliar, but one that is realistic (Kotter, 1996).

The overall objective of the assignment was to formulate a business case. The intent was to find an initiative that would act as a catalyst to spur the revitalization of New Orleans, post-Katrina. Specifically, the assignment required creating a (hypothetical) first-class hotel and convention center that catered to the needs of business and leisure travelers. The project was motivated by the general manager of a major hotel chain who had successfully helped to revitalize an urban area by creating

a first-class hotel and conference center in that area's historic downtown district. During the time the assignment was being developed, Hurricane Katrina had just impacted New Orleans, so the timing was purely serendipitous.

As a class, students worked together to create this hypothetical hotel and convention center with a reputation for offering the highest levels of customer service. Ultimately they would "pitch" their creation to actual corporate executives who would role play the collective decision of whether to hold a conference or trade show or other business venue there (See Appendix A). Through networking efforts, it was possible to identify corporate leaders in the surrounding community who would support this learning endeavor by taking time out of their work day to participate in the grading of the project.

In order to carry the project through to completion, students worked under the assumption that they had adequate funding to "create" this facility. Second, to help keep the project manageable, the class was asked to focus on creating only two departments within the hotel (i.e. Front Desk Operations, Food & Beverage, Housekeeping, Security, Convention Center, etc.,). Each of the four functional teams was required to become conversant with the specific concerns of these two departments from that team's own functional perspective. Third, students (and corporate guests) were asked to remember that, while the hotel's other departments were no less important than the two that had been selected for study this was not to be viewed as a course in hospitality management.

Establishing Trust in the Classroom

Since this is an unconventional way of both teaching and learning, it was necessary to minimize any feelings of intimidation students may have experienced. Hence, as an ice-breaker, and a way of establishing a level of trust, on the first day of class, individual students were required to go to the front of the classroom, briefly introduce themselves to the class, then return to their seats. It was one approach to removing them from their comfort zone in a non-threatening way while being introduced to this new learning paradigm. It was also a way for the class and the professor to become familiar with names and faces.

To further promote buy-in to the active learning process, students were introduced to the concept of team teaching on the first day of class, which entailed asking a few of them to explain and demonstrate their favorite hobbies to the class in three to five minutes. They were then asked to teach the instructor and other students these techniques which ranged from weight lifting, to fishing and hunting to martial arts, to German and Spanish phrases. This exercise accomplished several objectives which included a willingness to: 1) demonstrate personal mastery of a particular subject; 2) change their mental image of the learning process by recognizing that it is possible to learn from, and teach each other; 3) create dialogue rather than discussion; and 4) operate within a

student-centered (i.e. involvement) classroom culture rather than the typical teacher-centered (i.e. consistency) culture familiar to most bureaucracies (Senge, 2006; Daft, 2005).

Team Selection for the Semester-long Assignment

In an effort to maintain some objectivity in the team selection process, the Reflected Best-Self (RBS) exercise model was used in an effort to help students create an awareness of their individual and collective strengths, with an eye toward learning how to manage to those strengths for the organization's benefit. Liesveld defines strength as "a combination of natural ability, education, and training that produces consistent, near perfect performance in a specific task" (Liesveld, 2005). Moreover, the RBS exercise, which relates to Senge's element of personal mastery, suggests that individuals manage tasks best when using their strengths rather than expending an inordinate amount of time and effort to improve their weaknesses (Roberts et al, 2005). Paradoxically, in our society, people tend to focus more on improving weaknesses although this may lead to inadequate results in both individual and organizational performance (Liesveld, 2005; Roberts et al, 2005). By trying to improve a lesser talent, individuals may be ignoring more productive talents and some fully developed strengths. The result is that their work efforts may become counterproductive, thereby compromising management operations (Liesveld, 2005). In a turbulent workplace, this results in a waste of resources that could deprive an organization of its competitive advantage (Kotter, 1996).

The RBS exercise requires that students identify and e-mail six to ten individuals (i.e. parents, siblings, best friends, significant others, etc.) who know them best. These individuals are asked to select *one* "best" quality of that student, and provide an account of how this student demonstrated that particular quality. Students have one week to collect these responses and to bring them to class where they have a full class period to review their own emails for the purpose of developing a profile of themselves based on their presumed strengths. At the end of the exercise, many of the students discover that they are unaware of their own individual strengths as revealed in the opinions and perceptions of those who know them best. From this exercise, the student may develop a new level of self-appreciation and self-awareness as a positive force. In essence, their own mental model of themselves undergoes a transformation.

At the end of the class period, these profiles were collected by the instructor for the purpose of objectively assigning them to one of four teams reflecting a particular function of management. It should be noted that no efforts were made to place students according to any other variables such as personality, academic achievement, grade point average, or registration as a business major. This practice was reflected in recent research literature as exemplified in the work of Nikolai (2006).

Team contract assignment

Each of the four teams completed a team contract for the purpose of determining team roles and goals, communication processes, and strategies for managing conflict. The team contract represents operational plans by which a department or organization would operate regardless of the specific project being addressed (Daft, 2005).

Establishing peer teaching teams

As mentioned earlier, students are encouraged to assume responsibility for their learning. Unlike the more passive learning environment that depends on lectures, detailed assignments, and regurgitation of material for testing purposes, active participation is encouraged by having students learn and impart key management concepts to their classmates. This approach assumes additional responsibility for learning. For instance, it requires that students read the textbook – at least the chapter for which they are responsible. This was critical since workplace literacy is a serious concern that can cost U.S. companies $60B annually in lost productivity (Baynton, 2001). Secondly, because they must deliver the lecture in (self-selected) teams of two or three, they have to focus on comprehending and delivering the material from which the class would benefit. Additionally, given the importance of effective communication in the workplace, they would have an opportunity to begin honing their public speaking skills. Not only were they able to use this experience to gauge their effectiveness in public speaking but it also became clear that they must be absolutely comfortable with the material before they could proceed with the project and ultimately, the executive presentation later in the semester.

ASSESSMENT AND EVALUATION PROCESS

Students' grades were incumbent on meeting the criteria that was introduced in the syllabus on the first day of class. The grading rubric identified each criteria and its value in determining the final course grade, as follows: attendance (10%); class participation (10%); team contract (10%); semester-long team project (40%); peer teaching (10%); peer evaluation (10%); quizzes (10%).

Evaluation by executives

Class periods generally ran for either 55 minutes three times per week throughout the semester, or for 80 minutes two times per week. Earlier in the semester, 15-20 minutes of class time was allocated to discussing the project. Two-thirds of the way through the semester, half the class period was lecture-based (including peer-teaching) and the other half was devoted almost exclusively to developing the project. Two to three speakers per team were chosen to participate in

the executive presentation, for a total of eight to twelve speakers. In the two or three classes directly preceding the final presentation, students were required to conduct a 'dry run' rehearsal with all teams present. The larger class provided critical feedback to the presenters. This was crucial since the executive evaluation constituted 40% of each student's course grade.

On the day of the presentation, invited executives provided feedback on the project based on their ability to assess and qualify the presentation. The panel of executives has included the President & CEO of an area bank, the General Manager of a major hotel chain, the Vice-President/COO of a major multinational corporation, and an entrepreneur. Most recently, former students familiar with this learning technique have also served as panelists and so offered a unique perspective to grading the presentation. In short, the executive panel determined the effectiveness of students learning outcomes. It was a totally objective approach and somewhat realistic in scope as their feedback reinforced the need for building skills in order to improve an organization's performance.

In the final class period the presenting teams of students - and two moderators –performed their respective roles (i.e. covered the salient points of the project from their team's perspective, observed time limitations, and were cognizant of any technology challenges associated with their presentation). A presentation protocol (see Appendix B) was provided as a guide. Presenters were required to dress in formal business attire while the rest of the class dressed in business casual attire.

Once all four teams had delivered their respective presentations, all presenters appeared together in front of the panelists for a 15 minute Q & A session. This required that they think on their feet. At no point did they have any idea as to the types of questions that would be posed, but given the extent to which active learning had occurred, they felt adequately prepared to offer an appropriate response. Through this event, an observer perceives students' willingness to operate with synergy, composure, and poise. The presentation to executives was chosen, in large part, to help in retaining a level of objectivity in the grading process, particularly since the instructor had provided extensive coaching to the students. Additionally, students felt that they had more to lose with respect to receiving feedback from business professionals and prospective employers who understood the importance – and benefits of – this new learning technique (and the associated competencies) that they reportedly sought from their own employees.

Peer Evaluations

Peer evaluations were essential for determining the participation levels of individual team members, and their contribution to the learning process. Peer evaluations were also a critical factor in determining each student's final grade. Each student was asked to evaluate his/her teammates and him/herself, with respect to: attendance, dependability, quantity and quality of work, contribution to decision-making and problem-solving, and of course, teamwork. At the end of the evaluation form, each student allocated to each of his teammates the percentage points they felt were

representative of the effort put forth toward the project. They also need provided a narrative in support of the team 'grade' they awarded to their respective teammates. These forms were submitted to the instructor via email and held in strictest confidence. Thus, as the research seems to indicate, this approach increased the likelihood of students providing the appropriate feedback without fear of retribution from their teammates (Dommeyer, 2006). The peer evaluation constituted 10% of each students final grade, again serving as motivation that each team member would carry his/her weight in an effort to contribute to the team's overall success.

ANALYSIS

Team Building

In short, there were no less than nine teams that contributed to the project's overall success. Further, none of these sub-teams operated in isolation. This is key, given that in the general workplace environment, "managers state that it is not uncommon to be on three or more teams at a given time. Students develop better understanding of the complexities, challenges and advantages of working effectively in a group" (Chapman & VanAuken, 2001).

By the end of the semester, nine sub-teams had emerged including the four teams representing the four management functions: Planning, Organizing, Leading, and Controlling. The presence of several sub-teams contributed to the project's overall success. These sub-teams included the liaison team, the peer teaching teams, the team of presenters representing each of the four management functions. There was the team of individuals who coordinated and developed uniform PowerPoint slides for the final class presentation. And there was the team of executives who served as panelists. This point was almost lost by the class, but was addressed following the presentations when the class discussed learning outcomes and the emergence of an organic structure that could adapt to the needs of its participants.

Challenges of working within and across teams

One of the many challenges of the project was getting students accustomed to working across teams, via a liaison member. As the semester progressed, the liaison team (or a member of the class) felt comfortable requesting of the instructor, class time to update the class or seek their input in making key decisions. This was comparable to having a staff meeting. And as the four core teams began to recognize the significance of the liaison members, they developed more effective communication strategies. It was interesting to watch dynamics go from reluctance and even resistance among and between team members, to cooperation, and even collaboration.

Another challenge of the project was team size. There were, on average, between 36 to 40 students per class each semester, so nine or ten students comprised each team. This made meeting

times outside of class difficult for some, given their other scholastic and personal commitments and responsibilities. It was also difficult in that students were accustomed to working in teams of three to four students, so this was, at best, somewhat overwhelming initially. In the future, it may be helpful to use meeting management technology such as *Wiggio* or *Blackboard*.

As well, teams took the initiative to meet with the instructor for help in clarifying expectations of their teams operations. Sometimes, this required that the instructor meet with them for half an hour before a class began, or later in the day, or well into the evening hours when their schedules permitted. All in all, their willingness to seek assistance demonstrated their burgeoning commitment not only to learning, but to achieving excellence in the learning process. During these meetings, it was possible for the instructor to observe team dynamics as well as answer questions or provide added direction.

SUMMARY AND CONCLUSION

That active learning has taken place is apparent as revealed by the facility with which the students made their presentations. In "pitching" their hotel to the executive panel, presenters were able to explain, concisely, their understanding of various management concepts as applied to this project. The evidence is indisputable that many of them developed strong presentation skills along with a commitment to working in both self-directed and cross-functional teams. Indeed, through coaching and active learning practices, they themselves witnessed the importance of integrating theory and practice and more importantly, the significance of the learning organization. Past learning experiences focus on the hierarchical construct – tell me what to do and give me a grade.

This exercise has taught them the value of analysis and critical thinking, and the importance of learning how to learn together (Senge, 2006). In a rather simple way they were able to demonstrate the disciplines of personal mastery, shared vision and team-building, changing mental images, and systemic thinking. They have, individually and collectively, demonstrated the development of key competencies such as learning, teamwork, leadership, effective communication, and critical thinking skills. And they have also developed an understanding of the learning organization model and its utility in today's business environment. In their feedback, the panelists expressed their appreciation for the caliber of students and their obvious commitment to the learning process.

When asked what they were able to take away from this unique learning approach, several students reported that they have learned much more about themselves and their strengths, and that this awareness would be applied to the rest of their academic careers as well as to their future management positions. Many of the students were able to 'find their voices' and 'trust themselves' to make decisions on behalf of the team – the learning community.

Several students initially resisted, or were intimidated by, the student-centered classroom approach. In fact, some students initially thought that they were being punished for being asked to

actively participate in the classroom environment, and were somewhat hesitant to trust the process. However, when given the option of abandoning the project virtually every student voted to continue with it. When infighting occurred among teams, students were asked to consider the following the scenario. "If this was your $100,000/year salary, and you had disruptive department members, what would "you" do?" With that in mind, they experienced a level of empowerment that did not necessarily call for their first option -- firing the individual from the team, or for the instructor to take corrective action. Rather, they realized that, despite the frustrations, each individual was both responsible and accountable for the outcome of the project. Penalties were registered when it came time to conduct peer evaluations and since these were completed and submitted to the instructor in confidence, students felt empowered to truthfully evaluate their peers without fear of reprisals.

Finally, the instructor who is committed to creating this student-centered classroom experience may find it difficult to resist providing students with what might be considered obvious direction. To do so would be to defeat the purpose of empowering them to develop and trust their own decision-making and problem-solving abilities and to have those decisions validated by an objective party. Despite the stresses and frustrations, by semester's end, the majority of students commented that they enjoyed and appreciated the opportunity to learn the principles of management using this method. Further, they learned more about working effectively in teams.

This particular class activity has been offered for five consecutive semesters, and involved seven sections of this course. Over time, adeptness in using this approach has resulted in overall improvement of the executives' score for the project – from an initial score of 8 out of 10 to the most recent score of a resounding 9.5 out of 10 points. The experience has, in fact, empowered the students to take on actual fund-raising projects as a direct result of this effort. One group of students, at the end of the semester, actually sought to do fund-raising for Hurricane Katrina victims. Because of the policies and legalities involved in fund-raising for out of state organizations, they focused instead on local fund-raising efforts. Indeed, as Senge expressed it, a "shift of mind" has occurred by virtue of this type of learning experience. In time, the prevailing system of management may be altered by transforming the prevailing system of education.

In conclusion, the human constructs in the workplace, such as teamwork, is a very fluid aspect to business, both on the personal and organizational levels. It must be established that the idea of teamwork is actually the sharing of strengths. In order to establish this level of co-operation, one must examine one's own situation and make an honest determination as to whether they are fully equipped to function efficiently as an independent unit. This means that aspects of health, desires, and resources are all functioning efficiently and effectively. Once this has been determined, then individuals of like mind can agree to a project with a level of commitment that may be determined by an equitable percentage of effort from each individual. The structure is then established with the correct procedures in place to make the enterprise a success. This means that each individual remains secure in their unit and therefore has no fear of loss because of the structure agreed to. This

is a concept of UNITY that can be demonstrated in different facets of business or life. In other words, Empowerment + Empowerment = UNITY.

Given President Barack Obama's recent call for educational reform, academicians have an obligation to develop the human capital that will once again help to create a competitive America. We must commit to transforming our educational institutions by introducing a more active learning process *en masse*. This is critical to preparing future managers and leaders to work in a constantly changing environment. It is our responsibility to lead change by promoting the discipline of lifelong learning (Kotter, 1996; Senge, 2006; Lawler & Worley, 2006). The urgency to develop relevant workplace competencies is immediate.

ACKNOWLEDGMENT

The author wishes to thank Dr. John Huonker of SUNY Oswego, and retired educator, Dr. Alexander Edwards, for their contributions to this article.

REFERENCES

A report to stakeholders: on the condition and effectiveness of postsecondary education. Part three: employers. *Change*. 34 (1) 23-38. Jan-Feb. 2002. ED639448. *ERIC Digest*. ERIC Clearinghouse on Higher Education, Washington DC: George Washington University.

Arbinger Institute (2002). *Leadership and self-deception: getting out of the box*. San Francisco, CA: Berrett-Koehler Publishers, Inc.

ASTD, "Asked to perform, but not trained." (n.d.) Retrieved June 29, 2009 from http://www.astd.org/NR/rdonlyres/75E995AD-0736-4970-935D-605F06841270/20164/LXBNewsletter_Jan09.pdf

Baynton, D. (2001, May). America's $60 billion problem. *Training*.

Bonwell, C. C; Eison, J.A. (1991). Active learning: creating excitement in the classroom. ED340272. *ERIC Digest*. ERIC Clearinghouse on Higher Education, Washington DC: George Washington University.

Chapman, K. J.; VanAuken, S. (2001). Creating positive group project experiences: an examination of the role of the instructor on students' perceptions of group projects. *Journal of Marketing Education,* 23(2), 117.

Daft, R. L. (2005). *Management*. (Seventh Edition). Mason, Ohio: Thomson-Southwestern.

Dommeyer, C. J. (2006). The effect of evaluation location on peer evaluations. *Journal of Education for Business*, 82(1), 21-26.

Dyer, W. G. (2007). *Team-building: proven strategies for improving team performance* (Fourth Edition). San Francisco, CA: Jossey-Bass Publishing.

Foy, N. (1994). *Empowering people at work*. England: Gomer Publishing

Kestner, P.; Bowman, R. L. (2002). *The conflict resolution training program: participant's workbook*. San Francisco, CA: Jossey-Bass Publishing.

Kotter, J. (1996). *Leading change*. Boston, MA: Harvard Business School Publishing.

Lawler, E.; Worley, C. (2006). *Built to change*. San Francisco, CA: Jossey-Bass Publishing.

Liesveld, R. (2005). *Teach with your strengths: how great teachers inspire their students.* New York: Gallup Press.

Mill, R. C. (2007). Meeting the needs of business: are we teaching the right things? *Journal of College Teaching & Learning*. 4(8), 7-12.

Nelson, D.; Quick, J. C. (2006). *Organizational behavior: foundations, realities and challenges* (Fifth Edition). Ohio: Thomson South-Western.

Nikolai, Loren A. (2006). How to integrate a business plan into your introductory accounting course. *Journal of Accounting Education.* 24(2/3) 72-84.

Peele III, Henry E. (2006). Appreciative inquiry and creative problem solving in cross-functional teams. *The Journal of Applied Behavioral Science*, *42*(4), 447-467.

Pfeffer, J. (2007, Jan/Feb). What's right and still wrong with business schools. *BizEd*. 42-48.

Roberts, L. M.; Spreitzer, G.; Dulton, J; Quinn, R.; Heaphy, E.; Barker, B. (2005). How to play to your strengths. *Harvard Business Review*, 83(1), 74-80.

Senge, P. (2006). *The fifth discipline: the art and practice of the learning organization.* New York: Doubleday/Currency.

Wayne Calloway School of Business and Accountancy. (2004). A Report on Recruiters' Perceptions of Undergraduate Business Schools and Students.

APPENDIX A
TEAM PROJECT ASSIGNMENT, MGT 2XX – BUSINESS ORGANIZATIONS

To assist in the revitalization efforts of New Orleans by creating a first-class hotel and conference center catering to both business and leisure travelers.

Methodology

1. Students are learning about the four functions of management: Planning, Organizing, Leading and Controlling.

2. As a class, students will be creating a privately-owned, full-service, first-class hotel and convention center located in New Orleans, LA. The "departments are comprised of the four management functions, listed above. Each "department" or team has between 6- 9 team members.

3. For the purposes of this assignment, the class will focus on one aspect of hotel management, Food & Beverage Services. Students will also need to work as cross-functional teams.

    a. Planning Team: i) provide an over view of the need for this type of hotel and convention center; ii) discuss the opportunities it will present to the stakeholders; iii) establish the overall image of the hotel; iv) discuss revenue generation; and iv) consider issues of social responsibility.

    b. Organizing Team: will examine the staffing and resources necessary for your operation to be effective.

    c.. Leading Team: will establish the culture and image of the hotel from an employee and client perspective.

    d. Controlling Team: will establish standards of performance and monitor accordingly.

Final Project

As their final project, students will need to do an Executive Presentation on what makes for a first-class hotel, and why potential clients should choose to do business with them. The panelists will be executives from various organizations and will determine the final grade for the project based on the presentation and a Question and Answer session.

APPENDIX B: PRESENTATION PROTOCOL

1. Moderator introduces each of the panelists: 1 minute
2. Moderator introduces/explains the project and the presentation protocol: 1 minute
3. Presentations by each of four (4) teams: Planning, Organizing, Leading, Controlling – 10 minutes for each presentation + 2 minutes for each panelist to deliberate and complete grading rubric following each presentation: 48 minutes
4. Questions from panelists to all presenters: 15 minutes
5. Panelists leave the room to deliberate privately to determine a project grade: 8 minutes
6. Panelists announce overall grade with accompanying comments: 6 minutes
7. Moderators make closing remarks and thank panelists for their participation and distribute token gifts of appreciation: 1 minute
8. Total: 80 minutes

MANAGING ADJUNCT PROFESSORS: STRATEGIES FOR IMPROVED PERFORMANCE

Ellen West, Portland State University

ABSTRACT

The use of adjunct professors in higher education is a growing national trend. This article discusses a variety of techniques for improving their performance through orientation and staff development activities. Evaluative comments from adjuncts are included as well as lessons learned and observations about best practices.

KEY WORDS: adjunct faculty; orientation; staff development.

INTRODUCTION

It was a sunny afternoon in early September. The leaves outside the conference room were just beginning to hint at the promise of fall. A dozen people, hired to teach as adjunct instructors at this business school, filed into the wood-paneled room whose big windows overlooked the city center. They brought varied backgrounds and levels of experience to the job. Some were already teaching at other institutions of higher education in the area; one was a stay-at-home mother with preschool-aged children; another was an accountant for a large firm. They met that day to learn about the business school at this large, bustling university. The orientation was designed to help them become successful in their initial ventures into the world of college teaching at this urban university.

The administration assumed the orientation program would help adjuncts connect to the business school and enhance their success in the classroom. They hoped that orienting adjuncts to the school would result in fewer student complaints and more effective student learning. Because this business school operated without formal departments, where adjuncts more traditionally find support and necessary information, development services were offered through the Associate Dean's office.

Whether they are teaching on-campus, online, or a combination of both, adjunct faculty bring enthusiasm and spirit to their teaching assignments. Many have other full-time jobs or may be retired (Berger, Kirshstein, Zhang, and Carter, 2002; Gappa, 2000; Santovec, 2004; Wallin, 2004); most are eager to share what they have learned with others and experience the intrinsic rewards of making a difference in their students' lives. Additionally, they "provide an extraordinarily rich

source of expertise that institutions might not otherwise find" (Leslie in Berger, L., 2002, p. 22). However, new adjuncts may have difficulty transitioning into teaching and imparting their practical knowledge to students; many times there are certain structural elements to a course, such as preparing a comprehensive syllabus, that students expect but for which new teachers are unprepared (Ellison, 2002).

Adjuncts also wish to be part of the university community and to experience the opportunity to develop relationships with their professional colleagues (Feldman and Turnley, 2001). Reports of feeling isolated stemming from the part-time nature of their employment have been well documented in the literature. "Instead of feeling connected to or integrated into campus life, they often feel alienated, powerless, and invisible. This is frequently due to departmental culture and the leadership (or lack thereof) of department chairs" (Gappa, 2000, p. 81). Creating opportunities for adjunct faculty to come together provides a way for them to develop connections with each other and with the university, reduces isolation, and makes first-term teaching less daunting. A great deal of learning for adults is a consequence of creating an environment in which they can learn from each other (Knowles, 1984; Knox, 1986; Tennant and Pogson, 1995; Zemke and Zemke, 1984). Providing opportunities for adjuncts to come together, connect to the school, and solve problems collaboratively were additional reasons why the administration deemed it worthwhile to help adjuncts meet and learn together.

WHY BOTHER?

The Associate Dean was convinced that orienting adjuncts to their new jobs, to each other, and to the institution would result in a better learning experience for all students, traditional and adult learners alike. It should be noted that the majority of this business school's students are older, working adults. The average undergraduate student is twenty-five years old and has more than two years of work experience upon entry to the program. The MBA students are similar in many respects. Their mean age is thirty and most work at the time of admittance with the average work experience being almost seven years.

An incident early in the Associate Dean's administrative career provided the impetus for the development of this program:

> *We interviewed her in August prior to the beginning of fall quarter. She was enthusiastic about the class; eager to work with undergraduate students; knowledgeable about the subject matter; and, most importantly, as anyone responsible for hiring part-time instructors knows, available to teach not one, but two classes during the day. A real find and at the last minute, too! I was jubilant, relieved, and convinced the subject matter specialist from her area and I had found just the person to solve our scheduling problems that term.*

When complaints started to filter into my office from unhappy students, "she seems disorganized; the course lacks structure; she's late in returning papers to us," I became concerned. When one student marched into my office demanding a tuition refund for the class, I knew I had to act. We replaced her in the middle of the term and offered any disgruntled students additional follow-up Saturday sessions the subsequent term. A few dedicated souls took us up on our offer, but most students simply finished the term with the new instructor and moved on. She should have been an ideal adjunct professor. Why did she fail? How could we have helped her succeed? I needed to devise a development program for adjuncts that would enable them to thrive and allow me to intervene when necessary.

The goals for the orientation program were to help adjuncts create a healthy classroom environment conducive to learning; to ensure retention of talented adjuncts and lessen turnover; and to solve problems before they occurred so they would not end up in the Dean's office. Given the increasing reliance upon part-time faculty by most institutions of higher learning (Wilson, 1998), the administration decided to create a structure and system that would contribute to their retention and development.

IMPLEMENTATION STRATEGIES

Integration strategies consist of three phases: the first set of activities occurs prior to adjuncts' entry into the classroom; the second set is designed to support them while they are engaged in the teaching process; and the third occurs after they complete their term assignment. These are discussed at length in the following section.

Pre-Term Strategies

The Interview

The interview provides an opportunity to meet potential teaching prospects to determine if they are a good match for the job, the students, and adjunct teaching life. The interview also provides the applicants with an opportunity to ask questions about university and life in the business school. Many who teach for the school have prior higher education teaching experience; however, for those coming from industry, the differences are usually quite substantial. "The usefulness of interviews in employee selection hinges as much on helping applicants decide whether to pursue or accept offers as it does on helping employers decide to whom they will make offers" (Kirkwood and Ralston, 1999, p. 55).

The Associate Dean always conducts the interview in partnership with a subject matter expert (SME) from one of the various disciplines represented at the school (accounting, finance, marketing, management, etc.) The SME generally asks questions specific to the discipline; and the Associate Dean poses questions concerning the applicant's philosophy of teaching, style, and what they hope to gain from the experience. Tell us about your teaching/training experiences? Why are you interested in teaching? What do you expect to gain from being in the classroom? What do you think you could accomplish in a term's time? How would your students be different at the end of your course? What attracts you to this type of assignment? What ideas do you have to engage students in relevant activities? Each person is asked to bring evaluation data from previous teaching experiences, if available, as well as a resume and references.

Occasionally applicants are asked to demonstrate their classroom skills by teaching a mini class where their teaching capabilities can be more effectively assessed. This information indicates whether or not they "fit" with the teaching assignment. Conducting comprehensive interviews and providing opportunities for candidates to interact freely and ask questions better enables the Associate Dean to confirm that applicants possess the "knowledge, skills, and abilities claimed on the resume… and discover 'what kind of person' [she] is interviewing" (Kirkwood and Ralston, 1999, p. 61).

Accreditation Issues

This business school is accredited by the AACSB; hence care is taken to ensure that all new adjunct faculty qualify as either academically or professionally qualified. Romero (2008) cites AACSB standards that indicate for undergraduate business programs at least 50% of faculty should be academically qualified and that in total, at least 90% should be academically and professionally qualified (p. 251). According to one of the associate deans, 95% of the adjunct faculty hired in this business school meet these qualifications (D. Brown, personal communication, April 30, 2008).

Orientation

Once hired, new adjuncts are invited to attend an orientation convened on a quarterly basis by the Associate Dean. The original goal for this session was to review basic strategies of teaching adults (Caffarella and Knowles, 2001; Dean, 2002; Lyons, Kysilka, and Pawlas, 1999; Lyons, 2004); however, it rapidly became clear that what was needed was a review of what to expect the first week as well as an introduction to the resources available in the school rather than a discussion of techniques for teaching adults.

Representatives from the Dean's Office, the Student Services Office (advising) and the Faculty Services Office are always present at orientation; these are the three offices that have primary contact with the adjuncts. They describe the services they provide, and the adjuncts tour

their offices to see their mailboxes and meet the staff. The Associate Dean spends time talking about the mission of the business school and how adjuncts play a vital role in accomplishing that mission. The adjuncts are also introduced to the Center for Academic Excellence, a partner in the school's strategy to help faculty improve their teaching skills. The Center "promotes and supports" academic excellence among all faculty, including adjunct faculty.

Other distributed information includes: Disabilities Office services; parking ("Sorry, but no, we are unable to pay for your parking."); a checklist of administrative issues such as tax forms, teaching contracts, ordering textbooks, and photocopying; and a copy of the university's policy on sexual harassment and the availability of the Sexual Harassment Resource Network.

Midterm Evaluations

Adjuncts are introduced to midterm evaluation methods during the orientation; they are encouraged to solicit feedback from students halfway through the class and to share the results with the Associate Dean. Feedback during the term assures adjunct professors that they are meeting students' needs and expectations and gives them a chance to make adjustments before the final class evaluation is distributed during the last week of class. This process is especially helpful for those who are having their very first classroom experience.

Connecting with the Dean and Selected Faculty Members

The Dean is always invited to drop in at the orientation. He reinforces the message about adjuncts' importance to the school. A veteran faculty member occasionally attends to comment on "three important things to remember the first week of teaching." Their suggestions include ideas like: two breaks during night classes help to enhance the attention level; set an expected timeline for response to email questions; and remember that the syllabus is a contract--be careful what you include. Comments from an experienced faculty member ensure conversations are relevant, authentic, and compelling, and they provide an opportunity for adjuncts to meet more people from the school. In a follow-up survey, one adjunct wrote, "It was great to get to meet the other adjuncts and very helpful to hear from a few experienced teachers."

E-mail Distribution List

Contact information is collected and an email distribution list developed. Each new adjunct is put in contact with a colleague from the appropriate subject area (management, marketing, finance, accounting) for assistance with syllabus design and ordering books, all of which helps the adjunct become better connected to the school.

During the Term

A variety of techniques are employed during the term to help the adjunct professors stay connected to the school as well as the university.

Phone Communication

Each adjunct receives a phone call from the Associate Dean's office in the first three weeks of the term to ask how things are going and if there is any assistance that would be helpful. These calls usually result in comments that everything is going well. Occasionally a small problem surfaces--an inability to access email, difficulty assembling an online course packet--providing the opportunity to correct the situation. Regardless, this phone call reinforces adjuncts' connection to others in the school, and reminds them of the support that they have available to them should an issue arise later in the quarter.

Email

Adjuncts are sent updates about activities in the school and the university. This includes a link to a listserv from Stanford University called "Tomorrow's Professor," sponsored by their Center for Teaching and Learning in partnership with the American Association for Higher Education, the National Teaching and Learning Forum, and the Stanford Center for Innovations in Learning. The listserv focuses on effective teaching techniques. It is sent free on a bi-weekly basis to over 25,000 subscribers, mostly graduate and postdoctoral students and faculty at over 600 institutions and organizations in more than 108 countries. Many adjuncts comment that they find it quite useful.

Classroom Visits

The Associate Dean visits all the "first-termers" in their classrooms, at a time that is mutually agreeable, and talks with them about her impressions of their teaching effectiveness soon thereafter. Adjuncts are always welcome to come to her office to visit but most are too busy with other obligations to do so very often.

Midterm Evaluations

Adjuncts are encouraged, but not required, to distribute the midterm evaluation and share the results with the Associate Dean, who posts the results of her own midterm classroom evaluations on her web page. They are also encouraged to share the results with their classes if they deem it appropriate.

Effective Teaching Techniques Seminar

This workshop occurs about midway through the term. It is designed to expose adjuncts to some of the elements of effective teaching techniques for adults, such as developing learning objectives and instructional plans and the basics of effective evaluation techniques (Pregent, 1994). It also gives them a problem-solving opportunity regarding their own classroom questions and those of their colleagues. Adjuncts are encouraged to bring examples of materials they use in their classes to share with other adjuncts.

A representative from the Center for Academic Excellence (CAE) is always invited to these meetings to present information on a particular topic as well as join the discussion during the problem-solving part of the meeting. This person is an important part of the implementation strategy since the Center provides excellence-in-teaching coaching to part-time as well as full-time faculty. The Center has become an important ally in the Dean's goal of ensuring adjunct teaching effectiveness. As one adjunct wrote:

> *Because the Associate Dean of the SBA and the director of the CAE were willing to spend the time with us, I felt appreciated and important. I learned about several resources at this university and have used many of them since. I don't know if I would have ever truly learned about the CAE without that special introduction. Since I felt personally introduced to the director of the CAE, I was more eager to participate in their workshops, etc. I would not have assumed those were truly open to me without this 'special' invitation.*

This same person also indicated: "both the suggested techniques and the encouragement were great." And another adjunct commented: "I liked having access to the special seminars put on by the CAE . . ."

One discussion dealt with the challenge of teaching large classes. One of the adjuncts submitted this question: "With 50+ students, what do you do to personalize instruction? Get to know your students individually? Even learn their names?" This discussion spawned many creative answers.

In another meeting, adjuncts discussed a mini case about a fictitious part-time instructor who had received student criticism regarding misspelled words on e-mail correspondence, failure to relate required readings to class lectures, and a lack of connection between what was covered in class and what was being tested. They talked about what advice to give this adjunct and in the process discovered that most of the people attending the meeting had very effective ways of solving these problems. The discussion boosted morale and created spirit among the adjuncts; they had so many good ideas to offer, it was difficult to end the meeting on time!

"Veteran" adjuncts have a standing invitation to attend the session. They are asked to join the discussion and bring examples of strategies that have worked for them in class. This always adds a dimension to the discussion that enriches everyone's learning. As one adjunct wrote:

> *The meetings with other teaching professionals were very helpful. I picked up several tips at each meeting. I was also able to get answers to questions that were important to me. I needed help to learn to teach better and to get to know what is expected in the School. It was so helpful to meet others who had good answers to my teaching questions.*

Social Gatherings

Other strategies to help adjunct professors connect with the academic community include an invitation to the end-of-term party which the school sponsors for faculty and staff and a discussion with the Associate Dean about future teaching assignments.

Post-Term Activities

Student Evaluations

These are returned to faculty as quickly as possible with comments from the Dean. This provides another opportunity for conversation regarding what was working in their classes as well as any areas that need improvement if they are asked to return.

Correspondence

Adjuncts are sent either a new contract or a letter thanking them for their service.

EVALUATION MEASURES

One challenge adjuncts face is being accepted by tenured faculty as equal partners in the instructional delivery process. Adjuncts often are viewed as temporary, low-cost employees hired to address the problems of increasing student enrollment and decreasing funding (Wallin, 2004). This leads to an unfair bias against adjuncts and their teaching abilities that is further reinforced by differences in hiring practices, pay scales, and responsibilities. In order to explore that idea, the Associate Dean compared the mean score for teaching effectiveness of the adjuncts, as measured by the standard evaluation form the school uses, with the same mean score for the full-time faculty. She discovered that the adjuncts' average score was higher. These results mirror related studies

taking place at the community college level for many years; Davis, Belcher and McKitterick (1986), for example, completed an empirical study where they assessed over one thousand students' grades in subsequent courses and scores on competency-based exit exams to evaluate the effectiveness of adjuncts' teaching. They found that there was no difference between students' scores who were taught by full-time and part-time faculty. Sharing this quantitative information regarding adjunct teaching effectiveness helps to counteract the bias that exists on some campuses that relegates some adjunct professors to second-class status.

Comments from Adjuncts

How have adjuncts responded to these efforts? Favorably, for the most part. Although voluntary, they attended sessions convened for them and indicated on evaluations that the meetings were "well worth the time."

In one survey, adjuncts were asked to identify aspects of the program that they thought were working as well as those that needed improvement. As mentioned earlier, the adjuncts appreciated the orientation and teaching effectiveness meetings and the support that the CAE offered them. They also indicated that it was "great to meet other adjuncts," and "helpful to hear from a few experienced teachers." One indicated that he was pleased to have an office and phone, a place where he could get "physically and mentally prepared" for teaching.

They also identified several areas that needed improvement: creating a core contact person in each subject area, publicizing available university services, getting adjuncts on the email system, bringing them together with tenure-track faculty in their area, standardizing the training and socialization process, and providing mentoring opportunities by full-time faculty

LESSONS LEARNED

Accessibility

There must be a primary point of contact for adjuncts, accessible and available to them by phone, email, during office hours, and even outside of work. At this school, the Associate Dean visits adjunct classrooms during the day, in the evening, and even on weekends when classes are being held. This responsibility could certainly be shared. The administration tries to build communication bridges with adjuncts; thus, when a student complaint surfaces, a relationship has already been established, making it much easier to talk about improvements. The payoff is an enhanced learning environment for students and fewer complaints in the Dean's office.

Retention

Building an adjunct community should result in better rates of retention in spite of low wages. The administration rarely has had an adjunct turn down a request to teach since this process was implemented. If adjuncts refuse, it usually means other forces in their lives (primarily other employment or family obligations) are interfering with their availability.

Flexibility

It pays to be flexible regarding scheduling. Some of the most effective adjuncts need special consideration in terms of their teaching schedules. Most are willing to teach at traditional class times, but some are more adventurous. The first Saturday class the school ever scheduled was taught by an adjunct at his request. As one wrote, "Your willingness to let me try new classes delighted me and invigorated my teaching, especially at the end of my career." (This person was on the eve of retirement.) He continued, "Your willingness to try new formats, weekends, short or concentrated courses, etc., was a blessing. It really gave me new highs to reach for in modifying classes to meet student needs."

Creativity

Recognize that adjuncts are usually a source of good ideas for continuous program improvement; email makes it easy for them to share ideas with the administration. When initiating a new program designed for adjuncts, ask a few of them what they would find most helpful. That will ensure attendance at some of the early programs. Additionally, many are wonderful sources of ideas for recruiting other talented adjunct faculty as well as effective marketers of your institution's programs. Although the process can be time consuming, it is fun. Creating an adjunct faculty development program is a chance to forge relationships with new staff members, discover their strengths, and perhaps develop some new ones of your own.

RECOMMENDATIONS FOR PRACTICE

Sell the Program through Mentoring

Adjunct development programs work more effectively if full-time faculty support and participate in the initiative. One way to accomplish this is by implementing a mentoring program which pairs newcomers with seasoned veterans. Having a mentor to turn to for advice in a difficult situation can help combat both the feelings of isolation so often experienced by new adjuncts and the stereotype of inferiority often held by traditional faculty. Because a significant amount of time

and commitment is involved in mentoring a new adjunct, mentors should be carefully selected and offered some form of compensation (Wallin, 2004).

Savage, Karp and Logue (2004) write that an effective mentoring program can foster growth and development among adjuncts as well as build community by responding to the needs of new instructors for information about school culture and expectations. This mentoring does not necessarily have to be a one-way process; many adjuncts have current work experience and can coach their faculty mentors regarding the newest and latest developments in their fields, as they do their students. These exchanges also create new opportunities for veteran teachers to develop different attitudes about the competencies of adjunct instructors and to overcome traditional biases and stereotypes that seem to plague many part-time instructors.

Expand Evaluation and Corresponding Development Opportunities

As discussed earlier, the role of an institutional center for teaching excellence is a vital partner in elevating the importance of effective teaching on the campus as well as offering remedial help to any faculty member who requests it. A critical part of the system is to design evaluation systems with corresponding linkages to development opportunities and make sure faculty are aware of the effective teaching services that are available to them (Arreola in Smith, 1983). The Statement from the Conference on the Growing Use of Part-Time and Adjunct Faculty also focuses strongly on the need for opportunities in continuing education and development (1998).

Often assistance takes a more informal approach in which someone from the administration coaches the adjunct after gaining reliable information from a dissatisfied student. It is important to recognize that adjunct performance affects student learning, student opinions and impressions of a given class, and even what students will tell others about the institution. One student told of watching a new adjunct develop over the course of the term. She found him to be intelligent, pleasant and knowledgeable about the subject matter, but completely unable to communicate his knowledge in any meaningful way to the class. Lessons were undirected and disorganized, and the student became frustrated and felt she was gaining little by attending the class. Many of her classmates wrote to the Associate Dean with their concerns. The school was able to assist him in developing lesson plans and teaching skills, and by the end of the term the student reported to the Associate Dean that she had learned a lot in the last few classes and thought the teacher had improved significantly. Connecting adjunct faculty to developmental opportunities available to them is crucial to the success of any evaluation program.

Create a Reward System

Both Burnstad (2002) and Krupar (2004) discuss the importance of creating recognition and reward programs for adjuncts. The Metropolitan State College of Denver has developed a variety

of approaches to recognize exemplary work by adjuncts. Outstanding adjuncts are recognized at fall convocation with cash awards. Adjuncts are also always invited to attend the Fall Faculty Conference and compete for awards for effective instructional practices (Krupar, 2004). Making resources available to adjuncts to facilitate attendance at appropriate academic conferences or enroll in specialized training courses are other ways of recognizing their value to the institution. Johnson County Community College recognizes years of service (Burnstad, 2002). Inviting adjunct faculty to become part of the teaching community is a way of acknowledging the contributions of adjuncts that are often invisible to the members of their college communities. As one adjunct has written, "Those firmly established at the center of our discipline need to recognize the untapped potential of those of us on the margins of our profession" (Frost in Fontaine and Hunter, 1993, p. 68).

Build a Best Practices Model

There are a number of resources that can be drawn on to create a best practices model for adjuncts' development and integration. Community colleges have been wrestling with the issue of how best to develop adjunct faculty for far longer than traditional four-year colleges and universities. Examples of effective strategies for helping adjunct faculty abound in community college literature (Kauffman and Knight, 2004; Santovec, 2004; Wallin, 2004; and Weisman and Marr, 2002). Wallin (2004), for example, writes that a clear contract, a handbook outlining rules and responsibilities, an all-inclusive orientation, mentoring opportunities, and ongoing chances for professional development are all equally important components for any adjunct. Gappa and Leslie (1993) and Krupar (2004) have also written about effective strategies for managing adjuncts in four-year schools. Common characteristics of successful programs include certain key elements: allocating adjuncts their own "space" (desk, mailbox, telephone, email), offering training opportunities, making materials available online, providing performance reviews and feedback, offering some form of new teacher orientation and finding resourceful ways to connect new adjuncts with the greater institutional community.

Using technology to provide on-line training and information to adjuncts is another method of improving their performance. One example of a collaborative and creative way of responding to the training needs of adjuncts is the "4faculty.org" approach. 4faculty.org is a "professional development network of resources and learning modules designed specifically for the needs of the community college faculty" (4faculty official website). This "was originally designed to provide a cost-effective and convenient approach to orientation and professional development of adjunct faculty" (Kauffman and Knight, 2004). A cohort of eleven colleges collaborated in the design of this on-line approach to making information available to adjunct faculty. Since its inception in 1999, the website has grown to include a wealth of tools that cover a variety of different subjects, from characterizations of the student body, to tips on building syllabi, and to the techniques that best correspond with a particular learning type. Members are able to choose the specific learning;

modules that interest them, and can create a personal dashboard that will allow them to return to and augment previously chosen modules. In addition, the site includes a discussion board that allows faculty to converse with others in their field about issues they are interested in and to create stronger community ties.

The University of Phoenix is another example of an institution of higher learning that provides extensive information online for adjunct professors (Tom Hirons, personal communication, December 5, 2005; August 14, 2007). Due to the inherent nature of an online program like theirs, the University of Phoenix has built an extensive IT infrastructure that serves the training needs of both students and faculty alike. Tenure is not available for University of Phoenix faculty, and the vast majority work in part-time positions (University of Phoenix official website). Because all of their staff hold adjunct professorships, offering training and a medium to interact is especially important for their success. For faculty, resources available to them include but are not limited to weekly ongoing faculty development workshops, an online faculty "lounge," and weekly special tips sent out via email. Creating online opportunities for adjuncts to discuss issues of pedagogy and effective teaching thus is yet another way to foster continuous learning and enhance performance.

In addition to the availability of online resources, a four-week online training program is an integral part of the screening process for potential professors, and must be passed before candidates are offered teaching positions. Prospective faculty members observe a real-time online course; they are then presented with potential teaching scenarios that they may encounter, and are asked to respond. In addition, they receive instruction regarding the facilitation of discussions, the stimulation of critical thinking, and how to support learning teams (Pirani, 2003). Fifty to sixty percent of those who apply to teach pass the training program; those that do take part in a two-week mentorship program, receiving feedback from their mentor as they teach an actual week-long class.

The University was created for the adult learner (the average age of entering students is 34 years old); faculty members therefore must be able to utilize the specific techniques that speak to these students' particular needs. As explained by Laura Palmer Noone, former president of the University of Phoenix, "students want to go beyond the course materials; they want to know how it works in the real world" (in ibid, 2003, p. 3). Since faculty members tend to have full-time positions elsewhere, they are in an excellent position to share their professional insights and experiences into their teaching. The two-week mentorship and other online resources for faculty therefore include learning modules regarding the most skillful methodology for integrating professional knowledge with established curricula.

CONCLUDING REMARKS

Adjuncts hold unique positions in university faculties, and often have very diverse concerns than those of their full-time tenured counterparts. During the past decade the number of adjunct professors in higher education has continued to increase and represents more than 40 percent of all

faculty members (Wilson, 1998). This appears to be a trend that will continue (German, 1996). They are a critical part of higher education's instructional delivery system and will remain so in the foreseeable future. Understanding the particular needs and backgrounds of adjunct professors, and offering them the information and resources they need to integrate effectively with their peers and to thrive as vital members of faculty is key to the overall success of any university. Creating a feeling of community in which all faculty, adjunct and full-time alike, are included and valued is also paramount. As Speer (1992) describes, "colleges cannot expect to achieve the highest quality instruction and quality programs without the wholehearted commitment of *all* their instructors, working together" (p. 272).

REFERENCES

4faculty.org. (2007). Official website. www.4faculty.org. Retrieved July 25, 2007.

Arreola, R. (1983). Establishing successful faculty development and evaluation programs. In A. Smith (Ed.), *Evaluating faculty and staff* (pp. 83-93). San Francisco: Jossey-Bass.

Berger, A., Kirshstein, R., Zhang, Y., & Carter, K. (2002). *A profile of part-time faculty: Fall 1998.* National Center for Education Statistics.

Burnstad, H. (2002). Part-time faculty development at Johnson County Community College. *New directions for community colleges*. 120, 17-25.

Cafarrella, R & Knowles, M. (2001). *Planning programs for adult learners: A practical guide for educators, trainers, and staff developers* (2nd ed.). San Francisco: John Wiley & Sons.

Davis, D., Belcher, R., & McKitterick, T. (1986). Comparing the achievement of students taught by part-time versus full-time faculty. *Community/Junior College Quarterly*. 10: 65-72.

Dean, G. (2002). *Designing instruction for adult learners*. Walabar, FL: Krieger Publishing.

Ellison, A. (2002). *The accidental faculty: Adjunct instructors in community colleges*. Tampa, FL: University of South Florida. (ERIC Document Reproduction Service No. ED 466874).

Feldman, D. & Turnley, W. (2001). A field study of adjunct faculty: The impact of career stage on reactions to non-tenure-track jobs. *Journal of Career Development*, *28*(1), 1-16.

Frost, C. (1993). Looking for a gate in the fence. In S. Fontaine & S. Hunter (Eds.), *Writing ourselves into the story: Unheard voices from composition studies* (pp. 59-69). Carbondale: Southern Illinois University Press.

Gappa, J. (2000). The new faculty majority: Somewhat satisfied but not eligible for tenure. *New Directions for Institutional Research*, 105, 77-86.

Gappa, J. & Leslie, D. (1993). *The invisible faculty: Improving the status of part-timers in higher education*. San Francisco: Jossey-Bass.

German, K. (1996, September). Part-time faculty: Identifying the trends and challenges. *Journal of the Association for Communication Administration*, 231-241.

Kauffman, K. & Knight, M. (2004). 4faculty.org—An innovative approach to faculty development. *Community College Journal of Research and Practice, 28*, 55-56.

Kirkwood, W. & Ralston, S. (1999). Inviting meaningful applicant performances in employment interviews. *The Journal of Business Communication*, *36* (1), 55-76.

Knowles, M. (1984). *The adult learner: A neglected species* (3rd ed). Houston: Gulf Publishing Company.

Knox, A. (1986). *Helping adults learn.* San Francisco: Jossey-Bass.

Krupar, K. (2004). Making adjunct faculty part of the academic community. *To Improve the Academy*, *22*, 305-319.

Leslie, D. (2002, August 4). The rise of the perma-temp. In Berger, L. *The New York Times*, Section 4A, pp. 20-23.

Leslie, D. & Gappa, J. (1995). The part-time faculty advantage. *Metropolitan Universities.*

Lyons, R. (2004). *Success strategies for adjunct faculty*. Boston: Allyn & Bacon.

Lyons, R., Kysilka, M., & Pawlas, G. (1999). *The adjunct professors' guide to success*. Boston: Allyn & Bacon.

Pirani, Judith A. (2003). *Supporting E-Learning at the University of Phoenix.* Case Study. Boulder, CO: Educause Center for Applied Research.

Pregent. R. (1990). *Charting your course: How to prepare to teach more effectively.* Madison, WI: Magna Publications.

Romero, E., (2008). AACSB Accreditation: Addressing Faculty Concerns. *Academy of Management Learning and Education*, *7(2)*, 245-255.

Santovec, M. (2004, December 1). Getting the best out of adjunct faculty. *Distance Education Report,* 5-7.

Savage, H., Karp, R., & Logue, R. (2004). Faculty mentorship at colleges and universities. *College Teaching, 51*(1), 21-24.

Staff. (1998). Statement from the Conference on the Growing Use of Part-Time and Adjunct Faculty. *Academe* 84(1): 54-60.

Tennant, M. & Pogson, P. (1995). *Learning and change in the adult years*. San Francisco: John Wiley & Sons.

University of Phoenix. (2007). Official website. www.universityofphoenix.com. Retrieved August 10, 2007.

Wallin, D. (2004). Valuing professional colleagues: Adjunct faculty in community and technical colleges. *Community College Journal of Research and Practice, 28,* 373-391.

Weisman, I. & Marr, John (2002). Building community: The second century, the same challenge. *New Directions for Community Colleges*, *118*, 99-107.

Wilson, R. (1998). For some adjunct faculty members, the tenure track holds little appeal. *Chronicle of Higher Education*, *44* (46), 8-10.

Zemke, R. & Zemke, S. (1984, March 9). Thirty things we know for sure about adult learning. *Innovation Abstracts VI* (8).

THE ROLE AND RELATIONSHIP OF HOPE, OPTIMISM AND GOAL SETTING IN ACHIEVING ACADEMIC SUCCESS: A STUDY OF STUDENTS ENROLLED IN ONLINE ACCOUNTING COURSES

Linda A. Bressler, University of Houston-Downtown
Mark E. Bressler, University of Houston-Clear Lake
Martin S. Bressler, Houston Baptist University

ABSTRACT

Intelligence, ability, and motivation can attribute to academic success. Additionally, academic success may be dependent upon several other important variables such as hope, optimism and goal setting. Since the 1950's, literature in these areas evolved from purely psychological study to application of these constructs in academic settings. Researchers examined the function of these psychological constructs as they applied to accounting students enrolled in online courses. Responses from 219 student surveys provide the basis for the research findings. Results of this study suggest implications for all students enrolled in online courses and identify strategies that educators could employ to increase student performance and retention.

INTRODUCTION

Educators express concern with regard to academic quality, student persistence, ability, and other issues in both traditional and online classes. Both students and higher education heavily rely on distance education as a means to deliver educational programs. In the past, research efforts included issues of student success and race, age, income and gender (Brunner, 1991; Fan & Chen, 1997; Hayes & Richardson, 1995; Sullivan, 2001). Research indicates that students' attitudes can affect their success in distance learning courses (Hogan, 1997; Hoy, Tarter & Hoy, 2006; Katz, 2002). Specifically, hope, optimism, and social support can attribute to student success (Barnum, et al,; 1998; Juntunen & Wettersten, 2006; Katz, 2002; Rogerson-Revell, 2007; Westburg & Martin, 2003). In addition, research findings indicate goals can be an important success factor among students enrolled in distance learning courses (Pekrun & Maier, 2006; Harackiewicz, et al, 2000).

Distance education also presents colleges and universities with new market opportunities and increased access to higher education for many students who otherwise might not consider enrolling in college. Distance education still provides new challenges for educators. Empire State University

reports distance education as an excellent way for their non-traditional students (who have an average age of 36) to pursue a college education (Taking a, 2006). Empire States' Linzi Kemp suggests that online education requires different student retention strategies than on-campus student populations which tend to be traditional age (Taking a, 2006).

One potential concern questions whether or not distance education courses affect student retention rates. In one study of United Kingdom graduate students enrolled in master's courses, no significant difference in success or retention among university students could be noted (Knight 2007). Kung (2002) also indicated that distance learning could provide additional skills than what students could obtain in a more traditional classroom.

Kung (2002) noted that problems can exist with student motivation for choosing distance learning courses. The author's research revealed that course topic appeared to be the most significant factor for choosing a distance learning course and that course topic influenced students to enroll in the class as an elective or required class. Consequently, students may also be motivated by technology benefits instead of the educational benefit and instead may choose distance education coursework (particularly online Accounting) on that basis. Katz (2002) also reported that when students select online coursework on the basis of convenience and technology rather than a method of course delivery that might better suit their particular learning, student success might be compromised.

Studies indicate the role of hope in student success should not be overlooked (Bressler, 2006; Bryant & Cvengros, 2004). Even when allowing for student intelligence levels, Curry, et al (1999) and Curry, et al (1997) found that students with higher hope or optimism achieved higher levels of academic performance. Curry et al (1997), also found higher levels of hope to be a predictor of superior athletic performance. Barnum, et al (1998) reported students with high hope and optimism will also recover more quickly from major injuries and illnesses. Likewise, a study conducted by Chemers, Hu & Garcia (2001) also noted higher levels of optimism result in higher levels of academic performance.

Continued research of online educational programs could provide new findings for educators to develop more effective teaching and retention strategies which might improve student success (Carnevale & Olsen, 2003). Researchers indicate that depending upon class structure, student self esteem could be increased when enrolled in online courses (Vamosi, Pierce & Slotkin, 2004; Weiger, 1988). Self efficacy could also be a factor in increasing academic success. Self efficacy refers to student confidence in completing coursework and meeting necessary academic standards. Other studies, (Smith & Hoy, 2007; Hogan, 1997; Hoskins & Newstead, 1997; Huston, 1997) reflected that areas such as hope, optimism, goal setting, and academic optimism affect student and individual achievement. Despite additional studies specific to accounting courses in distance learning formats (Gagne & Shepherd, 2001); limited research exists with regard to student academic optimism while registered in online Accounting Information Systems courses (Dunbar, 2004; Vamosi, Pierce & Slotkin, 2004; Williams, 2003).

LITERATURE REVIEW

Hope

Literature within the various areas of psychology and psychiatry initially introduced hope components in the 1950's (Harackiewicz, Tauer & Elliot, 2000; Harber & Schneider, 2005; Magaletta & Oliver, 1999). Gillham (2000) noted that hope could be an assiduous force that influences people to rise above psychological challenges. Additionally, hope might also be characterized as a cognitive strategy to accomplish personal goals in organizations such as colleges and universities (Gillham, 2000; Kramer & Conoley, 1992; Snyder, 1994; Snyder, Rand & Signom, 2002). Simmons et al., (2003) acknowledged that hope involves a positive feeling that reveals a projected benefit from personal circumstances.

Hope embraces cognitive and affective elements (Gillham, 2000; Juntenen & Wettersten, 2006; Tierney, 1995). Cognitive areas might pertain to the students' perception of their networking ability and awards aggregated. The affective component also can involve interrelated negative and positive consequences and may amass situations where students in universities or colleges endure positive feelings from receiving tangible awards for academic success. The cognitive component could necessitate student aspirations or motives behind their personal goals.

Hope comprises the various roles of barriers, stressors, and emotions (Dill & Henley, 1998; Gillham, 2000). Hope can be classified an eminence of emotional intelligence, which individuals develop to overcome dissimilar stressors (Gillham, 2000). All areas of organizations involve various types of stressors. People perceive conditions as stressful when incoming hurdles obstruct goal endeavors. However, people may need to acquire hope to handle difficulties more effectively. Individuals with high levels of hope many times will overcome challenges with ease. Hope occasionally can be connected with willingness to improve various personal predicaments (Snyder, et al, 1991).

Hope also includes various levels of thinking involving the ability to accomplish preferred goals. Students with high levels of hope can exhibit a stronger aptitude to reach their goals; whereas students with a low level of hope might struggle to develop efficient strategies. Students with stronger hope may set more difficult goals than a person with a lower level of hope. Depending upon their level of hope, students may or may not act to accomplish their intended goals. However, people with high levels of hope will be more apt to develop stronger avenues of approach to arrive at their desired goals (Snyder et al., 2002).

People with stronger hope may be more willing to approach colleagues with whom they do not share commonalties (Snyder et al., 2002). The reason might be that an individual relates more with other hopeful individuals but will not be afraid to connect with someone who possesses a more daring outlook. In another words, an individual with high hope might be more willing to take a chance than one with lower hopeful perceptions of a situation. Social situations can occur in colleges

among enthusiastic students who seek other students with an upbeat motivation and attitude. Unfortunately, individuals with lower levels of hope may not attempt to associate with high-hope individuals and their choice of friends could be limited to less dependable associates or colleagues. These individuals may lack a feeling of acceptance resulting in their leaving the organization. Additionally, people with strong levels of hope communicate positively and persistently and this attitude can be valuable for leaders in organizations including both colleges and businesses. Also, hopeful leadership most likely will result in higher retention rates and more lucrative organizations than individuals with abysmal hope (Pekrun & Maier, 2006; Snyder et al., 2002).

Hope and Academic Optimism

Limited studies exist on academic optimism and involve mostly primary education students as well as teacher academic optimism (Hoy, Tarter & Hoy, 2006; Mascall, Straus & Sacks, 2008; Smith & Hoy, 2007). Hoy, Tarter, & and Hoy (2006) discussed the necessity of additional research in a variety of educational settings in order to build a more comprehensive theory of academic optimism in schools. The results of the authors' study concluded that academic optimism is a strong force for student success. Smith and Hoy, p. 556 (2007) concurred and added that the new collective construct, academic optimism can be positively correlated with student success. Although some articles can be noted on academic optimism in elementary and high schools, limited research exists on academic optimism in a university setting and even less can be found on academic optimism involving online courses in higher education (El-Anzi, 2005).

Hope and Student Grades

One study conducted by Snyder et al. (2002) suggested that students might not actually perform at levels expected of their academic potential. Despite the importance of intelligence and ability, several additional factors could be noted causing academically substandard student performance. Snyder et al. (2002) studied students from their entry in college, again at the end of the first and second semesters, and finally at graduation. The researchers used student grade point average as an important measure in this study relating hope and academic success. Snyder et al (2002) found students with higher levels of hope performed better academically in terms of grades and increased graduation rate. Snyder (1994) noted that students with higher levels of hope might be more able to clearly conceptualize goals, while students who reported lower levels of hope encompassed uncertain and ambiguous goal traits. Furthermore, students with high hope can also demonstrate optimistic characteristics as they focus on their goals.

Optimism

Optimism can be defined as an expectation that people will endure positive experiences (Gillham, 2000). Optimism many times will be a significant contributor for behavior and can motivate individuals to persist in pursuing goals with enthusiasm. Despite the probability of the occurrence of negative results, optimism involves a belief of favorable results.

Optimistic people take on more positive coping actions during demanding circumstances (Chemers, Watson, & May, 2000; Gagne & Shepherd, 2001; Gillham, 2000). Optimism might also help people to readily face challenges, such as quickly meeting challenging academic deadlines. Optimism may be vital for students during time and workload constraints and the ability to deal with time and workload constrains will be especially important to students taking distance learning courses.

Moreover, optimism can be relevant to career, mental, and educational adjustments. According to El-Anzi (2005), optimism correlates with strong levels of career and/or personal goals. An optimistic student may trust that academic accomplishment can make college a positive experience despite previous negative personal experiences. Pessimism; however, can be linked with poor goal attainment and psychological anguish. Pessimistic people might also employ self-defeating conduct which can negatively impact life (Carver & Scheier, 2002). In fact, pessimists' behavior may lead to depression, substance abuse, and possibly suicide when confronting a multitude of life tasks.

However, optimists may not show any advantage. Occasionally, situations can occur where an optimistic strategy may not be feasible, and the individual might incur risk such as overrating the capability to diffuse an adverse situation (Carver & Scheier, 2002). The optimists might be more vulnerable to a calamity than a pessimist. Pessimists can anticipate disastrous possible situations, though optimists may struggle handling traumatic events. In contrast, optimists naturally manage better for the duration of difficult times (Carver & Scheier, 2002). This suggests that more optimistic students may be more likely to persist to complete coursework or a degree program.

Relationship between Hope and Optimism

Researchers utilize both hope and optimism to reveal a future direction (Chemers et al., 2000). Hope and optimism can exemplify two different variables, despite similarities (Lopez & Snyder, 2002). Consequently, both variables consist of discrete components. Different from hope, optimism can be characterized as the extensive expectation that people may experience positive events. On the contrary, hope may entail reliance and a "desire accompanied with expectation of obtaining what is desired or belief that it is obtainable" (Merriam, 1971, p. 1089). However, comparing hope and optimism may be too complicated to differentiate. Frequently, researchers apply hope and optimism interchangeably (Bryant and Cvengros, 2004). Hope and optimism might be

measured as truly disparate variables. An extensive literature review resulted in the following four hypotheses:

Hypothesis 1 Grade performance and hope are correlated.

Hypothesis 2 Academic optimism and hope are correlated.

Hypothesis 3 Optimism and goals are not related.

Hypothesis 4 Goals and grade performance are not related.

METHOD

The study involved distributing the questionnaire to students enrolled in an AIS online course at University of Houston-Downtown, Texas during the period of 2005-2006. Two hundred thirty-two questionnaires were returned resulting in 219 usable surveys, or a response rate of 94%.

Survey respondents include a culturally diverse sample of respondents. The ethnicities consist of Pacific Islander ($n = 5$), Asian ($n = 33$), American Indian ($n = 2$), African American ($n = 49$), Caucasian ($n = 77$), Hispanic ($n = 44$), Mixed ($n = 4$), and other ($n = 5$). Additionally, the respondents' age varied from 20-55, incorporating 31 as the mean age. The researchers selected male ($n = 49$) and female ($n = 170$) respondents. The study also consisted of 168 respondents currently working on their four-year degree and 51 respondents having already acquired a 4-year degree but continue to take courses in order to qualify to take the Certified Public Accountants (CPA) exam.

MEASURES

The initial section of the survey composed of a demographics section (see Table 1 & Table 2) that asked for race, gender, marital status, age, place of residence, level of education, employment, number of online courses taken, and number of people in their household (Brown, 1998; Brunner, 1991; Dill & Henley, 1998). The next section of the survey included the Academic Optimism scale, Staats Hope Scale (Lopez & Snyder (2002), Janis Inadequacy Scale Life Orientation Test, (Lopez & Snyder, 2002) (Lopez & Snyder, 2002), and the Adult Dispositional Hope Scale (Juntunen & Wettersen, 2006; Snyder, et al, 2002).

Table 1: Descriptive Analysis					
	N	Minimum	Maximum	Mean	Std. Deviation
Gender	219	1.00	5.00	1.7900	.47089
Marital Status	219	1.00	31.00	1.7534	2.05730
Age	219	.00	55.00	29.4155	9.38943
Size of Household	219	.00	6.00	2.9498	1.36544
Income	219	.00	5.00	3.8311	1.34224
Place of Residence	219	1.00	13.00	2.0411	1.66814
Employment Category	219	1.00	13.00	6.8767	4.84894
Education	219	.00	18.00	4.6621	2.23504
Possess Bachelor's Degree?	219	1.00	7.00	1.3516	.83481
Employment Status	219	1.00	8.00	3.5982	2.03258
Race	219	1.00	8.00	4.6530	2.03143
# of Online Courses	218	.00	15.00	3.5688	2.67560

Table 2: Frequency (Gender, Race, Bachelor Degree, Income)		
	Frequency	Percent
Gender		
Male	49	22.4
Female	169	77.2
Total	219	100.0
Race		
American Indian	2	.9
Asian	33	15.1
Black	49	22.4
Hispanic	44	20.1
Pacific	5	2.3
Mixed	4	1.8
White	77	35.2
Other	5	2.3
Total	219	100.0

Table 2: Frequency (Gender, Race, Bachelor Degree, Income)		
	Frequency	Percent
Bachelor's Degree		
Working on	168	76.7
Already have	40	18.3
Total	219	100.0
Income		
<15,000	18	8.2
15-25,000	26	11.9
25-35,000	28	12.8
35-50,000	49	22.4
>50,000	98	44.7
Total	219	100.0

Hypothesis # 1

The researchers utilized a Pearson Correlation to measure and analyze hope and grade performance among the participants. A comparison between two variables identified a relationship between grade and hope. A comparison between the two variables showed a significant relationship, r (219) = -.17, p <.05 (See Table 3).

Table 3: Grade Performance and Hope			
		Grade	Hope
Grade	Pearson Correlation	1.000	-.168*
	Sig. (2-tailed)		.013
	N	219.000	219
Hope	Pearson Correlation	-.168*	1.000
	Sig. (2-tailed)	.013	
	N	219	219.000
*. Correlation is significant at the 0.05 level (2-tailed).			

Hypothesis # 2

Correlation analysis measured the relationship between academic optimism and hope among the participants. Statistical analysis demonstrated a relationship between academic optimism and hope. A

comparison between the two variables showed a significant relationship, r (219) = .25, p <.05 (See Table 4).

Table 4: Academic Optimism and Hope			
		Academic Optimism	Hope
Academic Optimism	Pearson Correlation	1.000	.248**
	Sig. (2-tailed)		.000
	N	219.000	219
Hope	Pearson Correlation	.248**	1.000
	Sig. (2-tailed)	.000	
	N	219	219.000
**. Correlation is significant at the 0.01 level (2-tailed).			

Hypothesis # 3

The authors used a correlation analysis to uncover a possible relationship between grade performance and goals among the participants. Results of the correlation analysis found no relationship between grade performance and goals. A comparison between the two variables showed no significant relationship r (219) = .06, p >.05 (See Table 5).

Table 5: Grade Performance and Goals			
		Goals	Grade
Goals	Pearson Correlation	1.000	.061
	Sig. (2-tailed)		.367
	N	219.000	219
Grade	Pearson Correlation	.061	1.000
	Sig. (2-tailed)	.367	
	N	219	219.000

Hypothesis # 4

The researchers used a correlation analysis to measure optimism and goals among the participants. Statistical analysis yielded no relationship between optimism and goals. A comparison between the two variables showed no significant relationship. r (219) = .047, p >.05 (See Table 6).

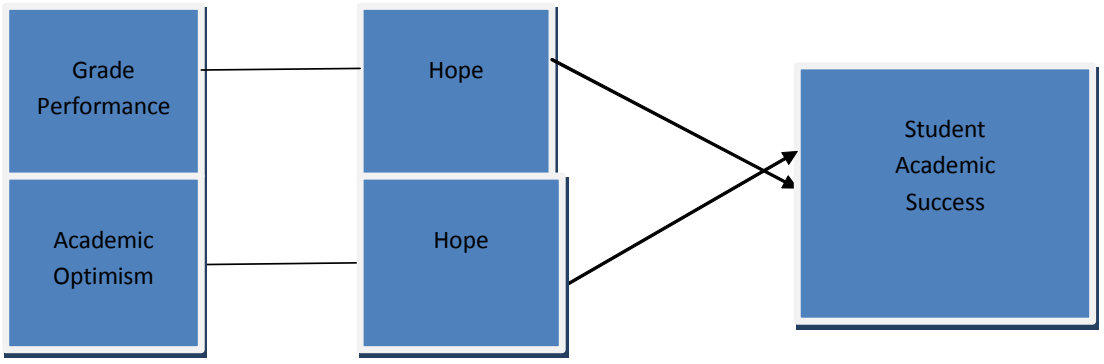
Table 6: Optimism and Goals			
		Optimism	Goals
Optimism	Pearson Correlation	1.000	.047
	Sig. (2-tailed)		.490
	N	219.000	219
Goals	Pearson Correlation	.047	1.000
	Sig. (2-tailed)	.490	
	N	219	219.000

DISCUSSION

The first hypothesis tested whether a significant relationship between grade performance and hope existed, which indicated that hope may also significantly improve students' academic performance. The researchers found a significant relationship between grade performance and hope. Bressler, Bressler, & Bressler (2008) noted that hope influences an individual's confidence in her or his ability which may enhance future accomplishments. Students' hope may strengthen their academic potential to include increased performance in class.

The second hypothesis tested whether a significant relationship between academic optimism and hope might be found. The authors found a relationship between academic optimism and hope. In fact, hope can also contribute to meeting personal goals and endeavors and both hope and optimism might work in together to enhance student performance (Snyder et al, 1991).

Figure 1
Hope, Academic Optimism, and Grade Performance



LIMITATIONS AND FUTURE STUDIES

Several limitations of this study should be noted. First, this particular study surveyed only accounting majors. Second, surveyed students did not necessarily consist of new college students or commonly known in a traditional educational setting as "entering freshmen". Freshman students could be expected to have lower retention rates. Rather, as this group represented mostly accounting majors enrolled in upper-division accounting courses, researchers could assume that their retention rates would already be higher.

In addition, this study represents students from one university. Studies from other university settings could yield different results as universities differ on a number of levels such as geographic location, urban setting as compared to rural setting, residential student population versus commuter, traditional students versus nontraditional students, etc. Additionally, this study only examined students enrolled in an Accounting Information Systems course. Studies of students in different disciplines or in different stages (entry-level or advanced courses) of their academic major might also produce different findings.

Researchers could also examine other psychological factors of motivation to identify the best methods and means to increase confidence and motivate students. This would be especially useful after identifying which students might require additional motivators. Educators could find predicting which students require most motivation as well as what factors motivates them most, which could possibly increase student retention.

Additional research involving the influence of faculty members with students with regard to hope, optimism, and goals and how that influence contributes to student success might be an interesting future study. Further research on these factors might assist providers of online courses with information that would help better understand key factors of student success.

SUMMARY AND CONCLUSION

Research findings from this study could denote significant implications. Higher hope and academic optimism can lead to stronger grade performance. Student hope and academic optimism could be bolstered through development of learning communities within the college or university. Students identified as having higher levels of hope, optimism and clearly defined goals could be selected to lead the learning community. Students who find friends in college could develop their positive attitudes which may contribute to persistence; thereby increasing retention and graduation rates (Snyder, 2002). Recognizing that hope, optimism, and goals contribute to student confidence, awards and recognition programs could be developed in individual courses as well as throughout various stages of the curriculum.

Colleges and universities continue to adopt online education as a delivery system to increase access to education. Business, perhaps more so than other disciplines, continues to evolve and change as impacted by technological advances (Carnevale & Olsen, 2003). Effective response to this challenge calls

for educators to recognize the various factors which could improve student success rates and develop techniques which can be employed in an online educational format.

Other studies (Youssef & Luthans, 2009) uncovered the importance of hope and optimism in the workplace. Similarly, the impact of hope and optimism on academic success cannot be understated. Researchers need to continue examining these constructs to develop better strategies to improve student success, particularly those students enrolled in online courses.

REFERENCES

Barnum, D.D., Snyder, C.R., Rapoff, M.A., Mani, M.M., & Thompson, R. (1998). Hope and social support in the psychological adjustment of pediatric burn survivors and matched controls. *Children's Health Care, 27*, 15-30.

Bressler, M. (2006). *Relationship between hope, optimism, organizational commitment, and turnover intention among U.S. Army Reserve Soldiers.* Master's thesis, Houston, TX, University of Houston Clear Lake.

Bressler, L., & Bressler, Mark., & Bressler, M. (2008) A Study of Psychological Variables Affecting Students Enrolled in Online Accounting Information Systems Courses. *International Journal of Educational Research,* 3 (3), 21-34.

Brunner, C. (1991). Gender and distance learning. *Annals of the American Academy of Political & Social Science, 514,* 133-146.

Bryant, F. B., & Cvengros, J. A. (2004). Distinguishing hope and optimism: Two sides of a coin, or two separate coins? *Journal of Social and Clinical Psychology, 23,* 273-302.

Carnevale, D., & Olsen, F. (2003). How to succeed in distance education*. Chronicle of Higher Education, 40*, A31-A-34.

Chemers, M. M., Watson, C. B., & May, S. T. (2000). Dispositional affect and leadership effectiveness: A comparison of self esteem, optimism, and efficacy. *Personality & Social Psychology Bulletin, 26,* 267-277.

Curry, L.A., Maniar, S.D., Sondag, K.A., Sandstedt, S. (1999). *An optimal performance academic course for university students and student-athletes*. Unpublished manuscript, University of Montana, Missoula.

Curry, L.A., Snyder, C.R., Cook, D.L., Ruby, B.C., & Rehm, M. (1997). The role of hope in student-athlete academic and sport achievement. *Journal of Personality and Social Psychology, 73*, 1257-1267.

Dill, P.L., & Henley, T.B. (1998). Stressors of college: A comparison of traditional and nontraditional students. *The Journal of Psychology*, *132,* 125-132.

Carver, C. S., & Scheier M. F. (2002). Optimism. In C. R. Snyder, & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 231-243). New York, NY: Oxford University Press.

Chemers, M.M., Hu, L., and Garcia, B.F. (2001). Academic self-efficacy and first-year college student performance and adjustment. *Journal of Education Psychology*, *93*, 55-64.

El-Anzi, F. O. (2005). Academic achievement and its relationship with anxiety, self esteem, optimism, and pessimism in Kuwaiti students. *Social Behavior and Personality, 33,* 95-104.

Fan, X., & Chen, M. (1997). Gender differences in mathematics achievement: Findings from the national Education Longitudinal Study of 1988. *Journal of Experimental Education, 65,* 229-243.

Gagne, M., & Shepherd, M. (2001). A comparison between a distance and a traditional graduate accounting class. *T.H.E. Journal,* 58-64.

Gillham, J. (2000). *The science of optimism and hope.* Radnor, PA: Templeton Foundation Press.

Harackiewicz, J., Barron, K., Tauer, J., Carter, S., & Elliot, A. (2000). Short-term and long-term consequences of achievement goals: predicting interest and performance over time. *Journal of Educational Psychology, 92*(2), 316-330.

Harber, K. D., & Schneider, J. K. (2005). Directive support, nondirective support, and morale. *Journal of Social and Clinical Psychology, 24,* 691-722.

Hayes, K., & Richardson, J.T.E. (1995). Gender, subject and context as determinants of approaches to studying in higher education. *Studies in Higher Education, 20,* 215-222.

Hogan, R. (1997). *Analysis of student success in distance learning courses compared to traditional courses* (Report No. JC970548). Chattanooga, TN: Annual Conference on Multimedia in Education and Industry. (Eric Document Reproduction Service No. ED 412 992).

Hoskins, S. L., & Newstead, S.E. (1997). Degree performance as a function of age, gender, prior qualifications and discipline studied. *Assessment & Evaluation in Higher Education, 22,* 317-329.

Hoy, W. K , Tarter, C. J.,Hoy, A. W,. (2006). Academic Optimism of Schools: A Force for Student Achievement. *American Educational Research Journal, 43*(3), 425-446.

Huston, J. L. (1997). Factors of success for adult learners in an interactive compressed video distance learning environment. *Dissertation Abstracts International, 58(*04), 1A, (University Microfilms No. AAT 97-29317).

Juntunen, C. L., & Wettersten, K. B. (2006). Work hope: Development and initial validation of a measure. *Journal of Counseling Psychology, 53*(1), 91-106.

Katz, Y. J. (2002). Attitudes affecting college students' preferences for distance learning. *Journal of Computer Assisted Learning, 18,* 2-9.

Knight, P. (2007). Promoting retention and successful completion on Masters courses in education: A study comparing e-tuition using asynchronous conferencing software with face-to-face tuition. *Online Learning, 22*(1), 87-96.

Kramer, J., & Conoley, J. (eds.). (1992). 11th Mental Measurements Handbook.

Kung, S. (2002). Factors that affect students' decision to take distance learning courses: A survey study of technical college students in Taiwan. Education Media International.

Lopez, S. J., & Snyder, C. R. (2002). *Positive psychological assessment: A handbook of models and measures.* American Psychological Association.

Magaletta, P. R., & Oliver, J. M. (1999). The hope construct, will, and ways: Their relations with self efficacy, optimism, and general well-being. *Journal of Clinical Psychology, 55,* 539-551.

Mascall, B., Leithwood, K., Straus, T., Sacks, R. (2008). *Journal of Educational Administration, 46*(2),214 - 228

Merriam, G., & C. Company. (1971). *Webster's third new international dictionary.* Chicago: Encyclopedia Britannica, Inc.

Pekrun, R., Elliot, A. J., & Maier, M.A. (2006). Achievement goals and discrete achievement emotions: A theoretical model and prospective test. *Journal of Educational Psychology*, *98* (3), 583-597.

Rogerson-Revell, P. (2007). Directions in e-learning tools and technologies and their relevance to online distance language education. *Open Learning, (22)1*, 57-74.

Simmons, B. L., Nelson, D. L., & Quick, J. C. (2003). Health for the hopeful: A study of attachment behavior in home health care nurses. *International Journal of Stress Management, 10,* 361-375.

Smith, P.A. & Hoy, W.K. (2007). Academic optimism and student achievement in urban elementary schools. *Journal of Educational Administration, 45*(5), 556-568

Snyder, C.R. (1994). *The Psychology of hope: You can get there from here*. New York: Free Press.

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: Development and validation of an individual differences measures of hope. *Journal of Personality and Social Psychology, 60*, 570-585.

Snyder, C. R., Rand, D. L., & Sigmon, D. R. (2002). Hope theory: A member of the positive psychology family. In C. R. Snyder, & S. J. Lopez (Eds.), *Handbook of positive psychology (pp. 257-276*). New York, NY: Oxford University Press.

Snyder, C.R., Shorey, H.S., Cheavens, J., Pulvers, K.M., Adams III, V.H., & Wiklund, C. (2002). *Hope and Academic Success in College. Journal of Educational Psychology 4,* 820-826.

Sullivan, P. (2001). Gender differences and the online classroom: Male and female college students evaluate their experiences. *Community College Journal of Research & Practice, 25*, 805-819.

Taking a holistic view of online student retention. (2006, June). *Recruitment & Retention in Higher Education*, *20* (6), 1-4.

Tierney, A.M. (1995). Analysis of a new theory of hope and personality as measured by the California Psychological Inventory. *Dissertation Abstracts International,* 55(10B), 4616.

Vamosi, A.R. & Pierce, B.G. & Slotkin, M.H. (2004). Distance learning in an accounting principles course-Student Satisfaction and Perceptions of Efficacy. *Journal of Education for Business, 79*, 360-367.

Weiger, P.R. (6/1/1998). What a tangled (world wide) web we weave…*Community College Week 10*(22), 11-13.

Westburg, N.G. & Martin, D. (2003). The Relationship Between hope, a parent's hope, and student-directed, goal-oriented academic instruction. *Journal of Humanistic Counseling Education, Education and Development, 42,* 152-164.

Williams, P.E. (2003). Roles and competencies for distance education programs in higher education institutions. *Journal of Distance Education, 17,* 45-58.

Youssef, C. & Luthans, F. (2009). Positive Organizational Behavior in the Workplace: The Impact of Hope, Optimism, and Resilience. *Journal of Management, 33.* 774-800.

IMPACT OF FISCAL RESOURCES ALLOCATION TO SCHOOLS BASED ON A DIFFERENTIATED SUPERVISION MODEL

Adrian L. Epps, Kennesaw State University

ABSTRACT

This study examines the ability of a differentiated supervision model to initiate quality improvements in school systems by classifying schools according to several identified factors and modifying the resources allocated to all schools based on their supervision classification. Conceptual development and an archival post-hoc analysis approach were used to analyze the effects of the supervision model on the improvement of schools in a large urban school district. The researcher developed the supervision model and collected data regarding school characteristics, classification, and performance for individual schools during the first and sixth years of implementation.

The researcher found that the grade level of schools, the years of experience of school principals, the socioeconomic status of schools, and monetary funding significantly impact the ability of the differentiated supervision model to impact school improvement. Additionally, the results of the study indicate that schools with the lowest performance at the initiation of the classification model had significantly higher levels of improvement than schools with higher initial performance. The conclusions drawn from the findings suggest that utilizing a customized approach to the supervision of individual schools and the resources allocated to those schools can lead to performance improvements.

INTRODUCTION

As accountability for student performance increases, local education agencies are confronted with the challenging task of providing maximum support to schools that have the greatest needs while simultaneously maintaining the success of and continually improving high performing schools. Accountability for kindergarten through twelfth grade (K-12) school performance has recently received increased attention from school systems, municipalities, state governments, and federal agencies. The reauthorization of the Elementary and Secondary Education Act, also known as No Child Left Behind (NCLB), incorporates testing and accountability requirements that increase student testing and holds all schools accountable for student performance. This legislation marked a major departure from the federal government's traditional monitoring and guidance role regarding elementary and secondary education. The NCLB legislation utilizes progress and performance indicators as a judge of a school's success. It requires that states administer reading and mathematics tests annually in grades three through eight and during one

year in high school beginning in school year 2005-2006. These requirements affect almost 25 million students each school year (National Center for Education Statistics, 2002).

While the No Child Left Behind legislation incorporated increased testing for the purposes of recognizing high performing schools, providing incentives of improvement and punishing those schools that failed to either meet established standards or make adequate progress, there are no provisions in the legislation for providing additional resources for those schools that have greater needs. Additionally, there are few incentives for school districts to customize the supervision of schools and the resources allocated to individual schools based on the characteristics and assessed needs of the schools.

In 2000, prior to the enactment of the No Child Left Behind legislation, a major urban school district located in the southern region of the United States implemented a differentiated supervision classification model. The intent of the model was not to rank or grade schools on their performance. Instead, the intent was to provide a mechanism by which administrative support structures could direct additional resources to schools with greater need and provide more autonomy to schools that are performing and progressing at higher levels. This innovative approach customizes the supervision of schools and the resources allocated to schools based on both performance indicators and progress indicators.

The purpose of this study is to investigate if a differentiated supervision classification model (DSCM) can assist in guiding the improvement of the quality of education for schools by allocating fiscal resources based on a schools needs. For the purpose of this research a schools need is defined as the lack of progress toward predefined benchmarks and performance on various academic measures. The results of this study provides school district level administrators, local school boards of education, and state and national education agencies with a methodology to strategically direct resource allocation in order to improve student achievement by supporting schools that demonstrate greater needs.

LITERATURE REVIEW AND RESEARCH QUESTIONS

As education reformers have sought to improve the academic performance of public schools in the United States, they have employed widely varying monitoring and/or accountability strategies. These monitoring and accountability strategies are not only employed in K-12 public schools, but also in higher education and the business community. In 2001, 45 states required public schools or school districts to issue "school report cards" that included a wide range of information. Twenty-seven states also provide comparative ratings of schools (Boser, 2001). The most recent round of high-stakes testing grew out of the standards-based reform movement that began in the early 1990s (Abrahams, 2003).

A key characteristic of accountability strategies centers on performance indicators or targets that identify criteria used to determine whether schools and students have reached the desired level of achievement. Performance indicators related to education are measurable characteristics of educational processes and procedures used by the district to deliver services according to the Baldridge Award for Education (Arcaro, 1996). Several states have combined two of these strategies to improve the academic

performance of schools: performance indicators and accountability (Ogawa, 2000). In an effort to be proactive in meeting the needs of students, school districts across the nation are devising and implementing strategic processes for monitoring school progress in various ways identifying specific performance indicators to measure and provide the proper support structure is important to leading and guiding schools. Implementation of customized support systems amount to what the Baldridge Award for Education refers to as 'managing by fact' (Arcaro, 1996).

Alejandre (2009) concluded that collaborating on school budgets is key with fewer and fewer resources available to school districts, funding is not available for all priorities. He stated that the public and key stakeholders know that the Board of Education, which approves the final budget, is aware of their input before it makes any final decisions. Facts such as student performance and the analysis of that data support a variety of educational purposes, including planning, reviewing performance, improving procedures, and benchmarking educational quality performance against other schools. Arcaro (1996) suggests that "a system of indicators tied to student and district performance factors represent a clear and objective basis for aligning all activities of the district toward common goals." Rothman notes that not all schools are equipped well enough to move at the same pace, and it is likely that the schools that have traditionally lagged behind would be the ones that would continue to do so if each school were left to change on its own (1995).

Berne and Stiefel (1997) suggest "a well-defined set of student resource variables would improve equity studies at the school level including studies that use administrative data, particularly if those variables are capable of serving as models for other data sets." Picus (2000) rationalized that school finance research has a long history of analyzing funding equity. He concluded that most of the research related to school finance has looked at spending differences across school district--not within a school district. Very few studies have considered school-level resource equity either within districts or across districts in an individual state. Prior research related to the supervision and support of individual schools emphasizes the need for both customized support and the testing of such of support system in terms of school improvement.

Picus (2000) determined that although no studies to date have looked systematically at student-level resource allocation patterns, it is clear that much of the school finance community would benefit from such knowledge. However, collection of student-level data is complex and difficult. He urges the research community to develop strategies to collect this information accurately and without undue burden on local school officials is critical. Picus (2000) concluded that while school-level data are attractive for a number of reasons, student-level data collections have the potential to be more cost-effective and more useful in improving our understanding of student learning.

The Southwest Educational Development Laboratory (SEDL) study examined district level patterns of resource allocation, district and school resource practices implemented to improve student performance, and barriers and challenges faced by districts and schools to efficient resource allocation (Pan, 2003). SEDL researchers examined data on student performance as well as fiscal and human resource allocation from all independent school districts within each of four study states: Arkansas,

Louisiana, New Mexico, and Texas. SEDL also selected twelve improvement school districts from the larger sample that showed consistent gains in student performance to more closely examine the resource allocation patterns and practices of successful school districts.

Aarons (2009) provided a synopsis of the Performance Measurement and Benchmarking Project, led by the Washington-based Council of the Great City Schools which aims to help districts create benchmarks for operational performance and learn from other districts that are delivering services in the most efficient and effective way. Through the work of the member districts and the council's staff, more than 3,000 data points were collected to examine districts' performance in four areas: business operations, finance, human resources, and information technology. School district executives are doing the work on a volunteer basis, with no outside funding. Participating district leaders have been using it for comparison purposes. The project also produced four initial case studies, which looked at a handful of measures in procurement, maintenance, operations, financial management, and food services. Known as the "essential few," the measures were picked from a set of "key performance indicators," considered important for superintendents and school board members to have for a quick understanding of the operational health of their districts.

The findings from SEDL's research demonstrated a strong relationship between resources and student success. Furthermore, the results indicated that allocating resources within select areas and for certain practices might make a significant impact on student performance. In short, both the level of resources and their explicit allocation seem to affect educational outcomes. Specifically, this study found that: high-performing districts showed different resource allocation patterns in specific fiscal and staffing categories than low-performing districts. A general pattern emerged where higher performance was associated with higher spending for instruction, core expenditures, and number of teachers, with lower spending for general administration and number of administrative staff. In all four states, high-performing districts spent more on instruction as a share of current expenditures; while in three states, high-performing districts spent more on instruction per pupil and employed more teachers per 1,000 students. The differences in resource allocation between the low-performing and high-performing groups were reduced in two of the four states when the comparisons controlled for demographic factors and socioeconomic status. Improvement districts showed different resource allocation patterns in specific fiscal and staffing categories than districts of similar size. A majority of the twelve improvement districts spent more per pupil in instruction and instruction-related areas, and also increased allocations for these areas faster than comparison districts over the five-year period examined. At the same time, the twelve districts were found to re-allocate resources away from administrative and other non-instructional areas.

Jones (2004) argues where there are clear cases of faulty local accountability systems — those lacking any of the four elements (appropriate assessment systems; adequate opportunities to learn; responsiveness to students, parents, and community; or organizational capacity) — supportive efforts from the state and federal levels should be undertaken. Jones envisioned at least three cases in which the state would take on a more assertive role: 1) to investigate claims or appeals from students, parents, or the community that the local accountability system is not meeting the standards set for such systems; 2) to

require local schools and districts to respond to findings in the data that show significant student learning deficiencies, inequity in the opportunities to learn for all students, or lack of responsiveness to students, parents, or communities; and 3) to provide additional resources and guidance to improve the organizational capacity of the local school or district. Greg Orlofsky (2002) found that high poverty, high minority schools received significantly less state and local money than did other schools.

Research Question: *Is there a statistically significant difference in the improvement of schools based on monetary resources allocated to schools as the result of implementing the DSCM model?*

METHODOLOGY

The differentiated supervision model was designed by the researcher at the request of district leadership and implemented in the subject district in the fall of 2000. The differentiated supervision classification model is a proactive approach to improve the quality of education for all students. Prior to the implementation of the model in the subject school system, multiple measures of performance and progress were utilized to assess school improvement and school quality. These measures were not utilized consistently between schools or across grade levels. The motivation for this study is to determine the impact of utilizing performance and progress indicators as a predictor of an elementary or secondary school's needs in order to provide guidance to improve its overall success based on multiple indicators.

A school's differentiated supervision classification is determined by the utilization of a weighted formula, with 50% assigned to progress data and the other 50% distributed across performance data. Progress data is defined as the individual school targets that contribute to the achievement of school system targets in the areas of student achievement on standardized tests, attendance, and enrollment in higher-level courses. Performance data is defined as the results of student performance on state-mandated standardized tests.

The weighted algorithm varies based on the grade level being appraised. For elementary schools, the total score for each school is a weighted average of the percentage of targets met, the performance of students in grade 4 on the state Criterion-Referenced Tests in Reading, Language Arts, and Mathematics, and the fifth grade writing results. In the middle schools, the total score for each school is a weighted average of the percentage of targets met, performance of students in grades 6 and 8 on the state Criterion-Referenced Tests in Reading and Mathematics, and the performance of the eighth graders on the Middle Grades Writing Assessment. In high schools, the total score for each school is a weighted average of the percentage of targets met and the performance of students on the English/Language Arts, Mathematics, Writing, Social Studies, and Science components of the Georgia High School Graduation Tests (GHSGT). Schools are reclassified annually based on the weighted formula. There are three classifications that a school can be placed into based on the total score from the weighted formula. The total DSCM score categorized schools as follows:

- Nondirective 100 – 84%
- Collaborative 83 – 69%
- Directive below 69%

A designation of nondirective is described as a school that has the autonomy to plan and implement the school's instructional program with a low level of central office oversight and supervision. Schools designated as collaborative are allowed to negotiate the level of autonomy to plan and implement its instructional program with a moderate level of supervision from central office support structures. All directive schools plan and implement the instructional program with a high level of supervision and resource support from central office.

The rationale for implementing the differentiated supervision classification model is two-fold: 1) to identify schools with the greatest need for assistance in achieving the optimal goal of improving student achievement; and 2) to provide more support to schools that demonstrate greater need. For the subject school system, this represents a fundamental revision to the manner in which schools are assessed and supported. The DSCM model was recalculated every year based on progress and performance data. Many key district level decisions regarding schools were made based on a schools DSCM classification.

The hypothesis related to resource (Title I funds) allocation is tested using an independent samples t-test. The comparison of means was classified into two group's ranging of $0 to $700 per student which represented 33 schools and $800 to $821 per student representing 45 schools. None of the subject schools were in the $701 to $799 per student. The hypothesis related to school improvement for original ranked lowest performing schools is tested using an independent samples t-test. There are 34 target group schools and 44 originally ranked higher performing schools.

Description of Study Population and Target Schools

The focus of this study centers on whether using a weighted algorithm that includes progress and performance data can be used as a means to effectively monitor a schools improvement by implementing a strategy for supporting schools based on predicted need. The study takes place a major urban school district located in the southern region of the United States. The subject school district has a student population of approximately 47,000 schools in 89 schools. The present school district superintendent has been in place since 1999, which is essentially unheard of in the present educational environment for urban superintendents. The upper administration for instruction of the district also includes a deputy superintendent of instruction, five geographic regions led by an executive director who is responsible for a number of schools. Other central administration instructional functions include professional development, curriculum, student programs and services, and research planning.

The 78 schools included in this study represent those schools that existed in the same configuration in both years one and six of DSCM implementation. Schools that consolidated, were closed, or newly opened during the implementation were excluded from the study. Thirty-four schools were identified as

the lowest performing schools based on the initial assignment of the DSCM score and categorization. These 34 schools received the lowest original scores at both the elementary and secondary level and are compared with the remaining 44 schools in the quantitative analysis.

Table 1: Sample Description of 34 Originally Low-Performing Schools

School	Grade Level	DSCM 2000 Score	DSCM 2000 Category	DSCM 2006 Score	DSCM 2006 Category	School Improvement (Change in DSCM Score)
PS102	Elementary	22.15	Directed	57.34	Directed	35.19
PS103	Elementary	26.81	Directed	60.53	Directed	33.72
PS106	Elementary	31.10	Directed	72.32	Collaborative	41.22
PS164	Middle	34.10	Directed	82.19	Collaborative	48.09
PS109	Elementary	40.57	Directed	84.06	NonDirective	43.49
PS132	Elementary	22.55	Directed	83.55	NonDirective	61.00
PS170	Middle	43.00	Directed	60.08	Collaborative	17.08
PS133	Elementary	42.56	Directed	91.75	NonDirective	49.19
PS171	Middle	25.82	Directed	73.63	Collaborative	47.81
PS136	Elementary	37.56	Directed	88.95	Collaborative	51.39

Table 2: Sample Description of 44 Originally High-Performing Schools

School	Grade Level	DSCM 2000 Score	DSCM 2000 Category	DSCM 2006 Score	DSCM 2006 Category	School Improvement (Change in DSCM Score)
PS101	Elementary	57.88	Directed	64.17	Directed	6.29
PS108	Elementary	63.09	Directed	70.97	Collaborative	7.88
PS165	Middle	46.33	Directed	79.26	Collaborative	32.93
PS155	High	57.00	Directed	51.54	Directed	-5.46
PS110	Elementary	62.78	Directed	76.32	Collaborative	13.54
PS111	Elementary	78.25	Collaborative	87.71	NonDirective	9.46
PS112	Elementary	71.34	Collaborative	82.71	Collaborative	11.37
PS166	Middle	50.34	Directed	58.08	Collaborative	7.74
PS117	Elementary	60.34	Directed	56.83	Directed	-3.51
PS156	High	67.40	Directed	55.26	Directed	-12.14

Table 3: Comparison of Originally Low-Performing to High-Performing Schools					
School Classification	Average DSCM 2000 Score	DSCM 2000 Category	Average DSCM 2006 Score	DSCM 2006 Category	School Improvement (Change in DSCM Score)
Original Low-Performing Schools	33.80	34 Directed	70.97	16 Directed 13 Collaborative, & 5 Non-Directive	37.16
Original High-Performing Schools	62.26	29 Directed 13 Collaborative, & 2 Non-Directive	68.51	20 Directed 19 Collaborative, & 5 Non-Directive	6.25

RESULTS

In allocating fiscal resources the school district had pre-determined formulas to decide fiscal resources equitably. This included human resources, materials, supplies, and equipment for both academic and school-operation purposes. The one area that there was some flexibility on allocation of fiscal resources related to the use of Federal Title I resources. Federal and State guidelines required that minimum amounts be spent on a school based on certain factors. Beyond that minimum amount school districts had the autonomy to use some of the funds for district-wide purposes or add additional allotments to a school's predetermined minimum amount.

The hypothesis related to Title I allocation is tested using an independent samples t-test. The comparison of means was classified into two group's ranging of $0 to $700 per student which represented 33 schools and $800 to $821 per student representing 44 schools. None of the subject schools were in the $701 to $799 per student.

The hypothesis related to school improvement for original ranked lowest performing schools is tested using an independent samples t-test. There are 34 target group schools and 44 originally ranked higher performing schools.

There were 45 schools that receive $800 to $821 per student of federal Title I funding compared to 33 that receive $0 to $700 per student. As shown in Table 4, schools that received higher levels of this monetary allocation registered greater improvements in DSCM score (25.33) versus schools that received lower levels of funding (13.02).

Table 4: Descriptive Statistics: Mean Change in DSCM score based on the FY07 Title 1 per pupil allocation.		
Title I allocation	N	School Improvement
$0 to $700 per student	33	13.02
$800 to $821 per student	45	25.33

The hypothesis predicted that there is no statistically significant difference in the improvement of schools based on monetary resources allocated to schools as the result of implementing the DSCM model. As shown in Table 5, an independent samples t-test shows that monetary funding is a significant factor in the improvement of schools (p = .013). The monetary resources allocated to schools significantly impact the ability of schools to improve within the DSCM framework. H5 is rejected by this analysis.

Table 5: Independent Samples T-Test Results.
Change in DSCM score from 2000 to 2006 based on the Title 1 per pupil allocation.

	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Equal variances assumed	.270	.605	-2.550	75	.013	-12.31
Equal variances not assumed			-2.487	61.909	.016	-12.31

DISCUSSION

Prior to the model design that is being evaluated in this study, the subject school district attempted several approaches or designs aimed at improving the achievement of individual schools. Some designs took into account singular performance indicators across individual grade bands. One of the designs classified schools differently on each individual grade in the school. For example, one elementary school was targeted for three different levels of oversight based on the performance of students in three different grades. Upon further scrutiny by key instructional leaders in the subject school district, these initial designs were determined to be unacceptable. At the request of district leadership, the researcher of this study proposed the differentiated supervision classification model being evaluated in this study to the district officials. The premise of the proposal presented to the district was based on those factors that the subject district and existing research considered to be important: school progress indicators and performance indicators. The use of a software-based statistical analysis program was utilized to conduct the analysis of variance and the independent samples t-test.

Monetary resources allocated to schools significantly impact the ability of schools to improve within the DSCM framework. The findings of H5 imply that as school funding which leads to additional resources increase that schools significantly improve on their progress and performance indicators. The significance of the analysis of the impact of the DSCM will benefit the educational research and educational practitioner communities in the following ways:

- Provide system level administrators a viable method of support and supervising schools based on demonstrated need.

- Provide school level administrators a viable methodology in supporting and supervising classroom teachers based on teacher targets and student performance levels.
- Address a research area that focuses on supervising schools that demonstrate a greater need for support.
- Increase the understanding of whether implementing school targets and benchmarks improve the overall quality of teaching and learning in the school environment.

While this study developed a viable supervision and resource allocation model that resulted in significant levels of school improvement, the results of the study may not be generalizable to school districts that serve different student body populations. For example, it is unknown whether similar levels of improvement would be found in suburban or rural districts, districts that serve few minority students, and or districts that are smaller in size. However, the utilization of single school district allowed for the prevention of district effects and the control of other factors that may have influenced the results, such as teacher training and central office administrative structure.

Additionally, the factors that were found to significantly impact the ability of schools to improve under the DSCM framework may vary based on the aforementioned district characteristics. It is important to examine such a framework in various district settings and to potentially further customize the model itself based on the identified improvement needs of school districts.

REFERENCES

Abrams, L. & Madaus, G. F. (2003). The Lessons of High-Stakes Testing. *Educational Leadership,* 61, 31-35.

Alejandre, Ted (2009). Collaborating on district budget priorities. *Leadership,* 38, 12-13.

Aarons, Dakarai (2009). Urban Districts Compare Notes On Operations. *Education Week,* 28, 1-14.

Arcaro, J. (1996). Baldrige Award for Education: How to measure and document quality improvement. *NASSP,* 80 (579), 119-120.

Boser, U. (2001). Pressure Without Support Quality Counts 2001: A Better Balance; Standards, Tests, and the Tools To Succeed. Education Week

Jones, K. (2004). A Balanced School Accountability Model: An Alternative to High Stakes Testing. *Phi Delta Kappan*, 4, 584-590.

Orlofsky, G. (2002). The Funding Gap: Low-Income and Minority Students Receive Fewer Dollars. *The Education Trust*, [On-line], 20. Available: http://www.edtrust.org.

National Center for Education Statistics (2002) Federal Programs for Education and Related Activities Report. U.S. Department of Education Institute of Education Sciences.

Pan, D., Rudo, Z., Schneider, C. & Smith-Hansen, L. (2003). *Examination of Resource Allocation in Education: Connecting Spending to Student Performance.* Austin, TX: Southwest Educational Development Laboratory.

Picus, L. O. (2000). Student-Level Finance Data: Wave of the Future?. *Clearing House*, 74(2), 75-80.

Rothman, R. (1995). *Measuring Up: Standards, Assessment, and School Reform.* Indiana: Jossey-Bass.

THE IMPACT OF PHYSICAL CLASSROOM ENVIRONMENT ON STUDENT SATISFACTION AND STUDENT EVALUATION OF TEACHING IN THE UNIVERSITY ENVIRONMENT

Mary C. Hill, Kennesaw State University
Kathryn K. Epps, Kennesaw State University

ABSTRACT

Recently, many colleges and universities have made significant investments in upgraded classrooms and learning centers, incorporating such factors as tiered seating, customized lighting packages, upgraded desk and seat quality, and individual computers. To date, few studies have examined the impact of classroom environment at post-secondary institutions. The purpose of this study is to analyze the impact of classroom environment factors on individual student satisfaction measures and on student evaluation of teaching in the university environment.

Two-hundred thirty-seven undergraduate business students were surveyed regarding their perceptions of classroom environment factors and their satisfaction with their classroom, instructor, and course. The results of the study indicate that students do perceive significant differences between standard and upgraded classrooms. Additionally, students express a preference for several aspects of upgraded classrooms, including tiered seating, lighting, and classroom noise control. Finally, students rate course enjoyment, classroom learning, and instructor organization higher in upgraded classrooms than in standard classrooms. The results of this study should benefit administrators who make capital and infrastructure decisions regarding college and university classroom improvements, faculty members who develop and rely upon student evaluations of teaching, and researchers who examine the factors impacting student satisfaction and learning.

INTRODUCTION

A 2008 technology survey of AACSB-accredited business schools indicates that fifty percent of business schools plan to upgrade their facilities within the next five years, with an average estimated cost of $37,252,600 per school (TBS Roundtable 2008). These facility upgrades include renovation and/or addition to existing facilities and the construction of new facilities. Investments in upgraded classroom environments often incorporate features such as tiered (or stadium) seating, customized lighting packages, upgraded desks, and individual student computers (Conway 2000).

Researchers have examined several aspects of classroom learning environments and the impact of such environments at the K-12 education level (Earthman 2002, Young et al 2003). These studies find that building conditions such as lighting, temperature, student comfort, and classroom technology are significantly positively related to student outcomes, including performance and attitude (Fisher 2001, Hurst 2005). However, there have been relatively few studies that have examined the impact of classroom environment at institutions of higher learning (Siegel 2003). As colleges and universities spend millions of dollars on facilities, it is important to analyze the impact of different environmental features to ensure that students, faculty, and institutions receive the greatest benefit from spending on learning environments. It is important to analyze the impact of upgraded learning environments at the college and university level, as many institutions and university systems are facing budgetary constraints that require enhanced cost and benefit evaluations. Further, additions and upgrades to existing facilities can create large disparities in classroom environments, often within the same building. These disparities may provide an unfair advantage to students enrolled in sections that happen to be in the upgraded classrooms. Finally, physical characteristics of rooms may affect student evaluation of teaching.

Extensive prior research exists on student satisfaction and the student evaluation of teaching in the university environment (Barth 2008, Merritt 2008). Prior research has shown significant relationships between student evaluation of teaching and factors such as instruction quality, course difficulty, and grades (Zabaleta 2007). Additionally, student satisfaction has been significantly linked with the values congruence between instructor and student and with the extent to which the overall course structure aligns with student expectations and preferences (Westerman et al 2002). However, researchers have not examined the impact of the physical classroom environment on student satisfaction measures and student evaluations of teaching. The classroom disparities that can exist within one university highlight the importance of determining the impact of physical classroom environment on both student satisfaction and the student evaluation of teaching.

The purpose of this study is to analyze the impact of classroom environment factors on individual student satisfaction measures and on student evaluation of teaching in the university environment. Two-hundred thirty-seven business students were surveyed regarding their perceptions of classroom environment factors and their satisfaction with their classroom, instructor, and course. Student survey responses were utilized to measure the extent to which they perceived classroom upgrades and their preferences for upgrades in the areas of seating, lighting, and classroom technology.

The results indicate that students do perceive a significant difference in classroom facilities. Students noted differences in the physical characteristics of classrooms, including the seating characteristics, lighting, desk space, and noise levels. Overall, these differences affected the students' perceptions of the instructors' organization, their own enjoyment of the class, their perceived level of learning, and their general sense of satisfaction.

The remainder of this paper is organized as follows: the next section summarizes the literature and develops research questions related to physical classroom environment and its impact on student satisfaction and student evaluation of teaching, this section is followed by a description of the research

design and study methodology, the next section presents the results of the study, and the final section discusses the implications of the study for university administrators, faculty, and students.

LITERATURE REVIEW AND RESEARCH QUESTIONS

Two streams of prior research are relevant to this study: research on classroom environment and research on student satisfaction and evaluation of teaching. While prior research has defined environment in numerous ways, including both tangible and intangible factors in a classroom, this study addresses only the physical characteristics of classrooms. The research related to physical classroom environment has examined such factors as classroom lighting, climate control, classroom technology, desk comfort, and seating arrangements (Conway 2000). Prior literature related to student satisfaction and the student evaluation of teaching has primarily examined the relationship between such ratings and factors including subject matter interest, course design, and teacher performance.

Physical Environment of the University Classroom

The literature related to physical classroom environment has primarily focused on the impact of environment on student attitudes and student achievement on the K-12 education level (Fisher 2001). Young et al (2003) stress the importance of the physical environment and note that student achievement is impacted by such factors as lighting, noise, and climate control. The authors also describe student perception of physical environment, noting that students as young as elementary school age are aware of the physical attributes of their learning environment and have a sense of whether the environment is appropriately updated and conducive to learning.

Lyons (2001) summarizes the importance of physical environment to educational achievement by detailing the existing links in the research literature between classroom conditions and learning. The significant effect of classroom environment on concentration levels, listening, and writing is supported by research results that have found higher test scores and more positive student outlooks in upgraded learning environments. For example, Heschong (2003) found window characteristics had as much power as number of computers or teacher characteristics in explaining variations in student performance on standardized tests and Englebrecht (2003) found that classroom color was important to student mood and productivity.

In the university setting, researchers have recently examined the components of upgraded, or "smart", classrooms that may impact student learning. Griffin (1990) uses person-environment interaction theory to describe the potential impact of physical design, visual factors, aural factors, and physical stimulation on college students. Banning (1993) notes that the physical environment of the college classroom can impact student learning by signaling desirable instructional behavior and by communicating the level of formality that is expected in classroom interaction. Vartabedian (2002) details the computer technology, audio visual components, and network structures that are typically included in classroom

upgrades. These classrooms differ from traditional classrooms by providing a wide range of computer, media, projection, and communication equipment. Fundamentally, upgraded (smart) classrooms should reach more learners as instructors have more communication options and therefore can reach more learning styles (Conway 2000). Troop (2000) discusses the planning for overall classroom design and technology that should be inherent in university classroom upgrades. At the same time the new technology is being added, changes are usually made to other physical attributes of the classrooms such as furniture, lighting, and flooring (Troup 2000). Siegel (2003) links classroom information technology with overall innovation level, and Conway (2000) discusses both the capabilities and limitations of the technology integrated classroom.

The tendency of colleges and universities to upgrade or remodel single classrooms as funds become available can create significant differences in the classroom environments available to students within an individual institution. It is important to determine the extent to which students perceive and value quality differences in classroom environments, as the ability of upgraded classrooms to enhance student learning may provide an unfair advantage to students who are enrolled in course sections that are delivered in upgraded environments. Additionally, the perception of the learning environment is important to administrators of universities, as students may factor the physical learning environment into decisions regarding school enrollment. Administrators also determine the extent to which capital improvement requests will incorporate classroom upgrades and expansions.

Given the level of spending that institutions expect to allocate to facility and classroom upgrades (Valenti 2002), it is vital to understand the value placed on physical classroom environments by college and university students. While extensive research has found that primary and high school students are affected by their physical environment, those effects may not transfer to college level students because college students are older and typically spend less time in an individual classroom facility. Thus, our first research question is:

RQ1a: Do university students perceive significant differences in the physical environment of their classrooms?

It is equally compelling to determine the specific attributes of classroom physical environment that are most salient to college and university students. Prior research has investigated a variety of factors such as lighting, windows, carpeting, room temperature, sound, ceiling height, and color. At the college level, institutions are typically upgrading classroom technology simultaneously with other aspects of the physical environment (Troop 2000). Limited research into student perceptions of smart classrooms has indicated that technology upgrades are not valued equivalently (Tornabene 1998) and that some upgrades can place students at a disadvantage (Marcellus and Ghrayeb 2002). Further, understanding college students' perceptions of and value placed on classroom upgrades can assist administrators who make budgetary decisions. Our second research question is as follows:

RQ1b: Which physical classroom environment factors are most noticed by university students?

The extent to which college and university students recognize classroom upgrades and knowledge of the individual environment factors that are preferred by students will provide important information to university administrators who made decisions about the timing and extent of resource allocation to learning environments.

Student Performance and Opinions

If university students prefer certain classroom environments, then it may affect their performance and opinions. Many prior studies that have examined business student performance have found that factors such as aptitude, attendance, gender, and class size can impact performance (e.g., Springer and Borthick 2007, Ballou and Huguenard 2008). This research examines another factor that may affect performance: the physical characteristics of the classroom. Our third research question is as follows:

RQ2a: Are the expected grades of students related to the physical characteristics of the classroom?

Extensive prior research exists on college and university student satisfaction and student evaluation of teaching effectiveness. This research has found that many factors affect satisfaction and student evaluations of teaching including instructor enthusiasm, organization, examinations and grading, coverage of material, knowledge of subject matter, and communication skills (Barth 2008, Hooper and Page 1986). There also has been extensive research on variables that potentially bias student evaluation of teaching such as race, age, gender and expected grade in the class (Merritt 2008).

While an extensive body of research has developed related to student satisfaction and the student evaluation of teaching, limited studies have analyzed the impact of environment on satisfaction and evaluation of teaching at the college and university level. Westerman et al (2002) analyze three factors and their impact on student satisfaction in business school students. These factors included the congruence between student values and perceived instructor values, the agreement between student and instructor personalities, and the extent to which the overall classroom environment aligned with student expectations. The authors found that both values congruence and overall classroom environment fit were significant predictors of student satisfaction.

Other studies that have analyzed student satisfaction with upgraded classrooms have focused on the upgrades to classroom technology. Tornabene (1998) found that students preferred "smart" classrooms, meaning those with enhanced technology, to traditional classrooms. Marcellus and Ghrayeb (2002) found that students preferred smart classrooms for the transmission of basic facts and information, yet felt that traditional instruction with the instructor writing on the blackboard was more conducive to

presentation of problem solving. Given the mixed findings related to smart classrooms and the likelihood that comfort levels may enhance student satisfaction, it is important to determine the extent to which physical classroom environment impacts the student evaluation of teaching. Our final research question is as follows:

RQ2b: Do physical classroom environment factors impact student satisfaction and the student evaluation of teaching?

METHODOLOGY

Two accounting instructors, one teaching intermediate accounting the other accounting information systems, taught two sections of the same class during the same semester. Each taught one section in an updated classroom and one section in a "standard" classroom. Table 1 provides a diagram showing the courses and a count of the students involved. As can be seen in the table, the classes were of approximately equal size. The instructors taught each section of the same class using the same syllabus, the same exams, the same homework, the same books, projects, lecture notes, and lecture styles. One instructor taught in the updated room first, while the other taught in the standard room first. The Instructors both taught one afternoon section (either 2:00 PM or 3:30 PM) and one evening section (5:00PM). The instructors made every effort to treat the courses and students in both rooms equally.

Table 1: Research Design

Room Type	Intermediate Accounting Students	Accounting Information Systems Students
Updated	62	61
Standard	56	58

Some of the characteristics that differentiated the classrooms were the seating, room capacity, lighting, entry, and computing equipment. In the updated classroom, the seating was tiered with tables in fixed rows and rolling cushioned chairs, while the standard classroom has one-armed movable desks on a level floor. The upgraded classroom had larger capacity—it held 85 students while the standard classroom held 60. The upgraded classroom had flexible lighting (lights could be on or off in different zones of the room) while the standard classroom had fixed lighting (all on or all off). The upgraded classroom was rear entry from the left and right, while the standard classroom had side entry at the front and back of the room. Finally, the upgraded classroom had computer workstations at each student desk. The layout of the classrooms can be seen in the following photographs. Photographs 1 and 2 show the standard classroom, while photographs 3 and 4 show the upgraded classroom.

Photo 1

Photo 2

Photo 3

Photo 4

Data Collection

Data was gathered via a survey instrument that was administered to students during the third to last class session of the term. Survey data containing feedback on physical environments can provide insight on the environment's effectiveness (Prakash 2005). All responses were anonymous but students were given course points for completing the instrument by signing a classroom roll as they turned in the instrument. They were also given the option of completing a course assignment rather than doing the survey (no students chose this option). The researchers obtained informed consent from the students. The instrument collected data on the students' backgrounds, perceptions about the classroom physical environment, the perceptions of the instructor and instruction, and expected grade in the class. The survey questions were developed after consulting previous questionnaires about classroom environment and adding questions from the university's standard end of course evaluation. Likert scales were used for the opinion questions on the environment and instruction. About one-third of the opinion questions were phrased in the negative to avoid a "yea-sayer" bias (Alreck and Settle 1985). The instrument was pilot tested using a separate group of students to ensure the clarity of questions and that the length of the instrument was not excessive.

RESULTS

The students who participated in the study provided demographic information including major, degree goal, age, gender, university GPA, hours worked, attendance, and expected grade. To ensure respondent accuracy and attention to task, the self-reported demographic data was compared to demographic data obtained from university records. The self-reported data reflected the independently obtained data, suggesting that the students responded seriously to the survey instrument.

Chi-square tests were run to compare for student population differences between the two courses. Some demographic categories were collapsed in order to have valid chi-square tests. There were only two significant differences between the classes: the intermediate course had more non-accounting majors (25% in intermediate versus 6% in the accounting information systems class) and the expected grades were higher in the accounting information systems class (91% expected an A or B while only 66% expected an A or B in intermediate). These differences are explicable because the intermediate class is frequently taken by students who have an interest in accounting but have not selected accounting as a major, and because the accounting information systems class grade is based in large part on out of class projects, thus giving the students more control over their graded output.

Data Analysis

The first research question was whether university level students would perceive differences in the classrooms (RQ 1A). T-tests were run comparing the responses between the upgraded and standard

classrooms on each of the questions pertaining to physical aspects. On fourteen of nineteen questions about the classroom physical factors, the students noticed significant differences in the rooms. Table 2 reports the T-tests results in order of strength. Overall, the students strongly preferred the updated classroom.

Table 2: Student perceptions on Physical Classroom Environment
Survey Scale: 5 = strongly agree, 1 = strongly disagree

Rank	Q	Survey Question	Updated Room	Standard Room	Difference	T	P
1	14	I have enough desk space to take notes in this classroom.	4.6702	2.2805	2.39	17.45	.0001
2	24	This classroom is better than most of the classrooms on this campus.	4.3085	2.2198	2.089	16.11	.0001
3	38	I would prefer that this course be taught in another classroom.	1.6809	3.7561	-2.0752	14.21	.0001
4	15	I have enough desk space to take tests in this classroom.	4.6596	2.7073	1.952	13.55	.0001
5	23	This classroom is large enough for the number of students enrolled in the course.	4.6383	2.8293	1.809	13.28	.0001
6	26	This classroom is fitted with the latest in classroom technology.	4.117	2.3902	1.727	12.42	.0001
7	12	The seats in this classroom are comfortable.	3.9468	2.561	1.389	9.48	.0001
8	22	Noise coming from outside of the classroom is often a problem in this class.	2.0426	3.3537	-1.3111	7.71	.0001
9	13	I am always able to find a desirable seat in this classroom.	4.4468	3.378	1.069	7.42	.0001
10	20	The arrangement of seats in this classroom is appropriate.	4.0638	3.0244	1.039	6.93	.0001
11	27	This classroom is fitted with an appropriate level of classroom technology for the course material.	4.266	3.3415	.924	6.83	.0001
12	17	The lighting in this classroom is appropriate during audio/visual presentations.	4.1915	3.6463	.545	4.12	.0001
13	28	Every classroom on campus should have stadium (tiered) seating.	3.9043	3.2561	.648	3.87	.0002
14	16	The lighting in this classroom is appropriate during lectures.	4.3298	4	.33	2.95	.0037
15	18	I sometimes have difficulty seeing the instructional materials displayed by the professor in this classroom.	No significant difference				
16	19	I am often distracted by other visual items in this classroom.	No significant difference				
17	21	It is easy to hear the professor in this class.	No significant difference				
18	25	Computer access during class would enhance my learning in this course.	No significant difference				
19	29	I expect to have crowded classrooms on this campus.	No significant difference				

The next research question addresses which features of the classroom are most salient to the students. Table 2 show the top 10 differences pertain to desk space (rank 1, 4) overall classroom features (rank 2, 3, 5), technology (rank 6), seating (rank 7, 9, 10) and noise (rank 8). To better distinguish the salient features, the Likert responses from questions on a particular feature were summed. The ability to sum responses across related questions is an advantage of using the Likert scale (Alreck and Settle 1985). Likert responses were reversed where appropriate. T-tests again show that the students perceive significant differences between the upgraded and standard classroom. These results are shown in Table 3. For the summed variables, the strongest results were for seating, overall classroom features, technology, hearing, and lighting.

Table 3: Salient Classroom Features

Feature	Questions	Updated Room	Standard Room	Difference	T	P
Seating	12, 13, 14, 15, 20	21.787	13.951	7.836	16.35	.0001
Overall/general	23, 24, 28, 29, 36, 38	23.404	16.793	6.612	14.40	.0001
Technology	25, 26, 27, 37	15.532	12.716	2.816	8.42	.0001
Hearing	21, 22	8.3404	6.8659	1.475	6.38	.0001
Lighting	16, 17, 18, 19	15.851	14.817	1.034	2.56	.0114

The analysis for the third research question examines whether the students self-reported "expected grade in the class" is related to the physical characteristics of the classroom. The expected grade is used rather than the actual grade to maintain student confidentiality. A regression model was run with the dependent variable of expected grade and the summed physical characteristics as independent variables. No relationship was found between expected grade and the physical characteristics. As in prior research, expected grade was positively related to GPA and age.

The final analyses evaluate opinion data on the course overall, the students' general satisfaction, and their evaluation of teaching. Questions 31 and 32 address the students' general opinions on the importance of the course and their understanding of how to do well in the course. There were no statistically significant differences in the students' opinion on these questions between the standard room and the upgraded room.

There was a significant difference when comparing the students' general satisfaction (questions 30 and 34) between classrooms. The students enjoyed coming to class more in the upgraded room and had a stronger sense of satisfaction in the upgraded room, as shown in Table 4. To evaluate which features of the classroom most influenced the students' opinions, a regression model was run with the opinion as the dependent variable and the summed physical characteristics as the independent variables. Expected grade was also included as expected grade has been shown to influence student opinions. The regression models were both significant ($f < .0001$). All of the independent variables were significant positively related to the satisfaction variable except the sum of the technology related questions. The physical characteristics most closely related were seating and lighting.

Table 4: Student overall satisfaction Survey Scale: 5=strongly agree, 1=strongly disagree						
	Survey Question	Updated	Standard	Difference	T	P
30.	I enjoy coming to this class.	4.0532	3.561	.492	3.39	.0009
34.	After this class, I have a sense of satisfaction.	3.6383	3.3049	.333	2.32	.0217

There were six questions pertaining to student evaluation of teaching effectiveness (questions 35-43). Only two of the questions were significantly different between the classroom types, as shown in Table 5. Students in the upgraded classroom perceived the instructor to be more organized, and they felt more strongly that they learned something new each class in the upgraded classroom. To evaluate which features of the classroom most influenced the students' opinions, regression models were run with the opinion as the dependent variable and the summed physical characteristics as the independent variable. Expected grade was also included as expected grade has been shown to influence student opinions. The regression models were both significant ($f < .0001$). Four of the physical features were significant positively related to the teaching variable: seating, lighting, hearing and general comfort. The technology in the room was not related to the opinion, nor, contrary to prior research, was the expected grade in the class.

Table 5: Student opinions of teaching effectiveness Survey Scale: 5=strongly agree, 1=strongly disagree						
35.	I learn something new every time I come to class.	4.0957	3.7683	.327	2.17	.0310
36.	The teacher seldom moves around the classroom to address students.	No significant difference				
39.	The professor makes good use of technology to enhance student learning and communications.	No significant difference				
40.	Class sessions and materials are well organized and coherently presented.	4.2553	3.939	3.16	2.18	.0307
41.	Overall, the professor is very effective.	No significant difference				
42.	The professor conveys passion/enthusiasm when teaching this course.	No significant difference				

LIMITATIONS

Before discussing the implications of the results, it is important to note some limitations of this study. First, this study used students from one university during one semester. Thus, the results might not generalize to other institutions. Second, the instructors and students knew the topic of the research was the classroom environment. The instructors might have subconsciously influenced the students to

be more negative towards the standard classroom, known as the Hawthorne effect (Babbie 1989). However, given that the overall evaluation of the instructor effectiveness and enthusiasm was equal between rooms and the instructors attempted to be neutral, we do not believe that the instructors influenced the results. Finally, the results are primarily from non-traditional aged students; 72% were older than 22, and 47% were working more than 30 hours per week. These older working students may have higher expectations of "professional" comfort than typical undergraduates. Tests to examine for this bias however, showed no relationship between age or hours worked and the physical characteristic variables.

DISCUSSION

Universities are expending millions of dollars to improve classrooms or build new educational facilities. The upgrades that universities purchase for classrooms and the schedule of improvements are both addressed in this paper. Results of the study suggest that college students do perceive differences in classrooms. They are particularly affected by classroom seating and overall classroom comfort. However, we do not find that room features affect student performance, as measured by expected grade in the course. This finding differs from research findings that have focused on K-12 education.

In terms of student satisfaction and student evaluation of teaching, we find that classroom features do impact satisfaction and certain aspects of the student evaluation of professors. Students enjoyed coming to class more and were more satisfied in the updated room. Further, the students rated their professors higher in teams of organization in upgraded classrooms, and they also indicated that they were more likely to learn something new each class in upgraded classrooms. This result is particularly interesting because the professors taught the classes using the same syllabus, the same exams, the same homework, the same books, projects, lecture notes, and lecture styles. Faculty members should be aware of this finding and attempt to mitigate the effects of less comfortable rooms by attempting to be more organized in standard classrooms. Also, administrators should be aware that room assignment can affect student evaluations and should rotate faculty assignments to upgraded rooms when feasible.

As universities face limited resources, the timing of classroom upgrades and detailed spending plans are important. The research finding that classroom upgrades do not impact performance suggests that students in upgraded rooms do not have a performance or overall learning advantage. Therefore, improvements should be made as funds become available.

The results of the study suggest that more comfortable desks and chairs, tiered seating, and lighting are more important to students than computing equipment in classrooms. It should be noted, however, that to keep the students in the course sections on an equal footing, the sections were taught without ***requiring*** classroom use of the desktop computers. In the upgraded classroom, the students had the option of using the computers for online note taking, or in the accounting systems class, for project work. However, the instructors teaching the classes observed little use of the desktop computers for course work. In fact the accounting systems professor reported students bringing laptops to class even when desktop

computers were available and both instructors reported instances of students being distracted by the availability of the desktop computers (using them to play games, shop, or check email). Therefore, because computing equipment tends to be a costly upgrade, this research suggests that upgrading classrooms to include computers at each desk should be limited to rooms for courses that require online testing or extensive computer usage during class meetings.

REFERENCES

Alreck and Settle (1985). *The Survey Research Handbook*. Homewood, Illinois: Irwin Publishing.

Babbie (1989). *The Practice of Social Research*. Belmont, California: Wadsworth Publishing Company.

Ballou, D. and B. R. Huguenard (2008). The Impact of Students' Perceived Computer Experience on Behavior and Performance in an Introductory Information Systems Course, *Journal of Information Systems Education,* 19 (1), 87-98.

Banning, J. H. (1990). The physical environment of the college classroom: an instructional aid, *Campus Ecologist*, 11(4).

Barth, M. M. (2008). Deciphering student evaluations of teaching: a factor analysis approach, *Journal of Education for Business*, 84(1), 40-46.

Conway, K. (2000). Master classrooms: Classroom design with technology in mind, *Resources in Education*, 35(6).

Earthman, G. I. (2002). School facility conditions and student academic achievement, Los Angeles, CA: *UCLA's Institute for Democracy, Education, and Access (IDEA).*

Englebrecht, K. (2003). *The Impact of Color on Learning*, NeoCon.

Fisher, K. (2001). Building better outcomes: the impact of school infrastructure on student outcomes and behavior, *Schooling Issues Digest*.

Griffin, T. (1990). The physical environment of the college classroom and its affects on students, *Campus Ecologist*, 8(1).

Heschong Mahone Group (2003). Windows and classrooms: a study of student performance and the indoor environment, *California Energy Commission*.

Hooper, P. and J. Page (1986). Measuring teaching effectiveness by student evaluation, *Issues in Accounting Education*, 1(1): 56-64.

Hurst, M. D. (2005). Schools eye future costs, *Education Week*, 24(35), 34-39.

Lyons, J. B. (2001). Do school facilities really impact a child's education?, Scottsdale, AZ: *Council of Educational Facility Planners International*.

Marcellus, R. & O. Ghrayeb (June, 2002). Effects of smart classrooms on learning and teaching effectiveness: the students' point of view. Presented to the *ASEE Annual Conference and Exposition*, Montreal, Canada.

Merritt, D. J. (2008). Bias, the brain, and student evaluations of teaching, *St. John's Law Review*, 82(1), 235-287.

Prakash, Preethi (2005). Effect of Indoor Environmental Quality on Occupant's Perception of Performance: A Comparative Study, Retrieved February 25, 2009, from http://www.edfacilities.org/rl/classroom_design.cfm.

Siegel, P. M. (2003). Where innovation matters, IT matters, *Educause* Review, 38(6), 96-97.

Springer, C. and A.F. Borthick (2007). Improving Performance in Accounting: Evidence for Insisting on Cognitive Conflict Tasks, *Issues in Accounting Education, 22(1), 1-19.*

Technology in Business Schools Roundtable's fifth annual survey of business school computer usage. Retrieved January 12, 2009, from http://www.tbsroundtable.org.

Tornabene, L. (1998). The SMART classroom verses the traditional classroom: what the students are saying,

Troup, W. (2000). Smart classrooms require smart planning, *College Planning and Management*, 3(4), 37-38.

Valenti, M. S. (2002). The black box theatre and AV/IT convergence: Creating the classroom of the future, *Educause Review*, 52-62.

Vartabedian, R.A. (2002). Funding smart classrooms: administrating technological advances, *Resources in Education*.

Westerman, J. W., M. D. Nowicki, and D. Plante (2002). Fit in the classroom: predictors of student performance and satisfaction in management education, *Journal of Management Education*, 26(1), 5-18.

Young, E., H. A. Green, L. Roehrich-Patrick, L. Joseph, & T. Gibson (2003). Do K-12 school facilities affect education outcomes?, Nashville, TN: *Tennessee Advisory Commission on Intergovernmental Relations.*

Zabaleta, F. (2007). The use and misuse of student evaluations of teaching, *Teaching in Higher Education*, 12(1), 55-76.

DIFFERENTIAL EFFECTS OF STUDENT CHARACTERISTICS ON PERFORMANCE: ONLINE VIS-A-VIS OFFLINE ACCOUNTING COURSES

Sungkyoo Huh, California State University-San Bernardino
John Jongdae Jin, California State University- San Bernardino
Kyung Joo Lee, University of Maryland-Eastern Shore
Sehwan Yoo, University of Maryland Eastern Shore

ABSTRACT

The purpose of this study is to examine if there exist any systematic differences in the effects of student characteristics on student performances as measured by test scores between online courses and offline courses. Student characteristics variables include grade point average (GPA), age, commuting distance, working hours, gender and marital status. Academic and demographic data of 91 students who took undergraduate accounting courses offered through online as well as offline at California State University-San Bernardino during a three-year period extending from fall 2003 to spring 2005 are examined using univariate analyses as well as regression models. Overall, empirical results suggest that while there is no significant difference in student performances, some characteristics variables have differential effects on performances between online and offline learners. Specifically, the effects of GPA and gender on performances are significantly higher for offline students than for online students. These results are robust across different testing methodologies.

INTRODUCTION

A considerable body of research on distance learning suggests that there is no significant difference in achievement levels between online learners and offline learners (E.G., The Institute for Higher Education Policy (1999), Chamberlin (2001) and Yin et. al. (2002)). However, online learners and offline learners may perform differently due to differences in student perception, available learning tools, use of the learning tools, and other technical issues. (See Barker (2002), Beard et. al. (2002), Dunbar (2004), Kendall (2001), Lightner et. al. (2001), Perreault et. al. (2002), Schulman et. al. (1999), Schwartzman et. al. (2002), and Woods (2002)) Furthermore, many previous studies suggest that student performances can be affected by student characteristics such as gender, age, educational experience, and motivation. (E.G., Sullivan (2001), Younger (1999)) Thus, the purpose of this study is to examine whether there exist any systematic differences in the effects of student characteristics on student performances as

measured by test scores between online courses and offline courses.

The remainder of the paper is organized as follows: first, sample data descriptions are discussed the next section, which is followed by discussions on data analyses and their results. Concluding remarks are made in the final section.

SAMPLE DESCRIPTIONS

Sample data are collected from students who took undergraduate accounting courses offered through online as well as offline at California State University-San Bernardino during the three years from fall 2003 to spring 2005. Both online and offline classes were taught by the same instructor who used Blackboard as a web-based learning assistance tool. The same textbook was used and the same lecture notes for each chapter developed by the instructor were provided to students in both classes. Exams for on line and off line classes are developed by the instructor in such a way that exams for on line classes are equivalent to those for off line classes. All exams were proctored and graded by the same instructor.

Student performance data such as test scores and GPA are collected from the course instructor or the university database, while student demographic data such as gender, age, commuting distance and working hours are from survey questionnaires to the student sample. After deleting students with insufficient data, the final data of 91 students (54 online learners and 37 offline learners) are analyzed in this study.

The descriptive statistics for the characteristics variables are presented in Table 1. There are no significant differences in gender compositions, marital status, GPA, and performance (test scores) between on line learners and their matching off line learners. On the other hand, significant differences exist in age, commuting distance, and working hours between on line learners and off line learners. As expected, students taking online courses are older, commute longer distance and work more hours than those taking offline courses.

Table 1: Descriptive Statistics for Student Characteristics Variables

Variables	Online sample (N=54)			Offline sample (N=37)			Wilcoxon z-statistics (p-value)
	Mean	Std. Dev	Median	Mean	Std Dev	Median	
Score	70.009	12.944	72.250	74.784	12.937	77.500	1.592 (0.111)
GPA	3.106	0.539	3.249	3.195	0.425	3.244	0.388 (0.698)
Age	30.204	8.381	27.000	26.622	6.958	25.000	2.203 (0.028)**
Distance	45.685	29.740	38.500	17.784	13.105	20.000	4.624 (0.001)***
Hour	32.963	14.193	40.000	22.703	15.028	25.000	3.366 (0.001)***
Gender	Female: 40 (74.07%)			Female: 22 (59.46%)			2.160 (0.142)
Marital	Married: 21 (38.89%)			Married: 13 (35.14%)			0.132 (0.716)

Table 1: Descriptive Statistics for Student Characteristics Variables

1) Score= final test scores, including midterm test results.
GPA= the student's previous grade point average.
Age= age of the student.
Distance= distance from student's residence to the campus (miles).
Hour= working hours per week.
Gender= female (1) and male (0).
Marital= marital status; married (1) and single (0).
2) For the variables Gender and Marital, tests on differences in frequencies between online and offline samples are based on chi-square statistics.
***: Significant at a<0.01; **: significant at a<0.05; *: significant at a<0.10;

Table 2 shows the correlations among student characteristics. Online sample exhibits significant positive correlation between commuting distance and working hours. For offline sample, distance has significantly positive correlations with marital status as well as working hours, which is also positively correlated with marital status.

Table 2: Correlations Among Student Characteristics Variables

Panel A: Online Sample						
	GPA	Age	Distance	Hour	Gender	Marital
GPA	1.000	0.098	0.200	0.032	-0.162	-0.174
Age		1.000	-0.028	-0.082	0.045	0.053
Distance			1.000	0.264*	-0.062	0.018
Hour				1.000	0.035	-0.060
Gender					1.000	0.039
Marital						1.000
Panel B: Offline Sample						
	GPA	Age	Distance	Hour	Gender	Marital
GPA	1.000	0.133	-0.231	-0.107	0.026	-0.218
Age		1.000	-0.059	0.090	-0.270	-0.166
Distance			1.000	0.493***	0.033	0.459***
Hour				1.000	0.095	0.343**
Gender					1.000	0.146
Marital						1.000

Table 2: Correlations Among Student Characteristics Variables
1) GPA= the student's previous grade point average. Age= age of the student. Distance= distance from student's residence to the campus (miles). Hour= working hours per week. Gender= 1 if female; 0 if male. Marital= 1 if married; 0 if single. 2) Pearson correlations are reported. ***: Significant at a<0.01; **: significant at a<0.05; *: significant at a<0.10;

ANALYSIS AND RESULTS

Univariate Analyses: Mean Difference Comparisons

In order to conduct unvariate comparison analyses, all sample students are divided into two subgroups for each characteristics variable: i.e., Low GPA and High GPA. For each sample (online or offline), students with higher GPA than the sample median GPA belong to High GPA group, while students with lower GPA than the sample median GPA to Low GPA group. Same procedure was applied to other variables. The potential effects of student characteristics on performances were then examined by comparing test scores between these two groups.

Table 3 presents the results of comparing performances between two subgroups and corresponding Wilcoxon z-statistics for both online sample and offline sample. GPA is the only factor affecting performance for both online and offline students. For example, online (offline) students with high GPA have average test score of 75.9 (80.5), while those with low GPA show 67.5 (68.6). These differences (about 10 points) are statistically significant (a<0.05). Other than GPA, gender has significant impact on performance for offline sample. Specifically, male students are doing better than female students (80.5 versus 70.9).

Table 3: Effects of Student Characteristics on Performance: Univariate Analyses				
Variables/ Group	Online sample (n=54)		Offline sample (n=37)	
	Mean SCORE	Wilcoxon z-stat (p-value)	Mean SCORE	Wilcoxon z-stat (p-value)
GPA:				
High	75.922	2.103 (0.035)**	80.579	2.766 (0.006)***
Low	67.520		68.667	
Age:				
Old	69.250	0.087 (0.931)	76.950	0.991 (0.321)
Young	70.769		72.235	

Table 3: Effects of Student Characteristics on Performance: Univariate Analyses				
Variables/ Group	Online sample (n=54)		Offline sample (n=37)	
	Mean SCORE	Wilcoxon z-stat (p-value)	Mean SCORE	Wilcoxon z-stat (p-value)
Distance:				
Far	69.422	0.564 (0.573)	74.434	0.000 (1.000)
Near	70.864		75.153	
Hour:				
Long	70.905	0.643 (0.520)	74.039	0.152 (0.879)
Short	68.059		75.569	
Gender:				
Female	69.238	0.849 (0.396)	70.898	1.980 (0.048)**
Male	72.214		80.483	
Marital:				
Married	69.821	0.036 (0.972)	74.019	0.493 (0.622)
Single	70.129		75.198	
1) For each variable, sample was classified into two groups based on median value of the variable. For example, High if GPA>=median; Low if GPA<median. ***: Significant at a<0.01; **: significant at a<0.05; *: significant at a<0.10;				

Regression Analyses

Results from univariate analyses in preceding section show that GPA is a factor affecting performances for both online learners and offline learners, while gender is a factor for offline learners. As an attempt to investigate if these results hold after controlling for other student characteristics, we estimate the following regression model:

$$\text{Score} = \alpha_0 + \alpha_1 \text{GPA} + \alpha_2 \text{Age} + \alpha_3 \text{Distance} + \alpha_4 \text{Hour} + \alpha_5 \text{Gender} + \alpha_6 \text{Marital} + \varepsilon \quad (1)$$

Where,

Scores = final test scores, including midterm test results,
GPA = grade point average,
Age= age of the student,
Distance = the distance from a student's residence to the campus (miles),
Hour = the number of working hours per week,
Gender= 1 if female; 0 if male.
Marital= marital status, 1 if married; 0 if single.
α_i = the partial regression coefficients of variable 'i',
ε = the error term.

The significantly positive correlation between Distance and Hour (see Table 2) may cause the multicolinearity problem. To avoid this potential problem, we estimate the regression model (1) without Hours (Model 2) or Distance (Model 3) along with the full model (Model 1). Results from estimating the regression model (1) are presented in Table 4. The regression coefficients of GPA are all positive and statistically significant ($a<0.01$) across different models for both online and offline samples. This result indicates that GPA is a factor affecting student performances. The coefficient estimates for Gender are consistently negative, indicating that male students perform better than female students. However, this gender difference is significant ($a<0.01$) only for offline sample. Overall, these results suggest that GPA is a factor affecting performances for both online learners and offline learners, while gender is a factor for offline learners even after controlling for other characteristics variables.

Table 4: Effects of Student Characteristics on Performance: Regression Analyses

Score= $\alpha_0 + \alpha_1$ GPA $+\alpha_2$ Age $+ \alpha_3$ Distance $+ \alpha_4$ Hour $+ \alpha_5$ Gender $+ \alpha_6$ Marital $+ \varepsilon$

	Online sample (n=54)			Offline sample (n=37)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Intercept	20.058 (1.80)*	23.348 (2.21)**	20.242 (1.82)*	11.461 (0.79)	11.418 (0.80)	12.212 (0.88)
GPA	15.517 (5.40)***	15.467 (5.39)***	14.896 (5.29)***	18.146 (4.61)***	18.141 (4.65)***	18.022 (4.70)***
Age	0.002 (0.01)	-0.011 (0.06)	0.008 (0.04)	0.387 (1.57)	0.355 (1.47)	0.384 (1.58)
Distance	-0.056 (1.07)	-0.043 (0.85)		0.034 (0.23)	-0.008 (0.06)	
Hours	0.104 (0.96)		0.073 (0.70)	-0.087 (0.69)		-0.076 (0.67)
Gender	-0.394 (0.12)	-0.214 (0.06)	-0.242 (0.07)	-9.024 (2.66)**	-9.295 (2.78)***	-9.075 (2.72)**
Marital	2.904 (0.96)	2.706 (0.89)	2.662 (0.88)	5.082 (1.31)	4.646 (1.23)	5.365 (1.49)
Adj. R^2(%)	32.24	32.33	32.02	44.92	45.85	46.60

1) Estimates and t-statistics (parenthesis) from the regression are shown.
***: Significant at $a<0.01$; **: significant at $a<0.05$; *: significant at $a<0.10$;

Given the significant effects of GPA and Gender on performances, we employed the following regression model to examine whether there exist systematic differences in these effects between online and offline students:

$$\text{Scores} = \alpha_0 + \alpha_1 \text{ GPA} + \alpha_2 \text{ Gender} + \alpha_3 \text{ Maturity} + \alpha_4 \text{ GPA*On-Off} + \alpha_5 \text{ Gender*On-Off} + \alpha_6 \text{ Maturity*On-Off} + \varepsilon \quad (2)$$

Where,

Scores = final test scores, including midterm test results,
GPA = grade point average,
Gender= 1 if female; 0 if male.
Maturity= metric to measure the level of student's maturity,
On-Off=1 if the student is offline learner; 0 if online learner.
α_i = the partial regression coefficients of variable 'i',
ε = the error term.

We construct and include a new variable Maturity in lieu of the variables such as Age, Distance, Hour, and Marital. The reasons for this are as follows: First, these variables may represent the common characteristics, i.e., the maturity. Second, although each of theses variables does not affect the performance, they may collectively have significant effect. Finally, we can estimate parsimonious model by including less variables while maintaining essentially the same range of student characteristics variables. To obtain this metric, sample was first classified into two subgroups based on Age, Distance (or Hour) and Marital variable, respectively. Next, each student was assigned 1 if older (Age), farther/longer (Distance/Hour), or married (Marital), and 0 if otherwise. Finally, assigned values of three variables were added up to get the measure of Maturity. Hence, the value of Maturity has the range between 0(least mature) and 3(most mature).

We estimate the regression model (2) separately for online sample and offline sample, as well as for the total sample. Table 5 shows the estimation results. First, regression coefficients of GPA are positive and statistically significant ($a<0.01$) for both online and offline samples. However, the coefficient for offline sample (19.414) is larger than that for online sample (14.747). This difference can be seen in the positive value of the regression coefficient (GPA*On-Off). More importantly, the coefficient is statistically significant ($a<0.01$), indicating that GPA has more effect on performance for offline students than for online students. Second, regression coefficients of Gender are negative but statistically significant ($a<0.01$) only for offline sample. Furthermore, the coefficient for offline sample (-10.177) is smaller than that for online sample (-0.314), and this difference is statistically significant ($a<0.01$) as shown in the coefficient (Gender*On-Off). This result indicates that male students perform better in offline courses than in online courses. Third, regression coefficients of Maturity are positive but statistically insignificant for both online and offline samples. While offline sample has larger coefficient (5.037) than online counterpart (1.455), this difference is not significant.

Overall, these results suggest that GPA and gender have significant effects on student performances, and theses effects are larger for offline students than for online students.

Table 5: Differential Effects of Student Characteristics on Performance: Online vis-à-vis Offline

Scores = $\alpha_0 + \alpha_1$ GPA $+\alpha_2$ Gender $+ \alpha_3$ Maturity $+ \alpha_4$ GPA*On-Off $+ \alpha_5$ Gender*On-Off $+ \alpha_6$ Maturity*On-Off $+ \varepsilon$

	Online	Offline	Total
Intercept	23.731 (2.48)**	16.365 (1.27)	21.482 (2.82)***
GPA	14.747 (5.36)***	19.414 (5.08)***	15.361 (6.88)***
Gender	-0.314 (0.09)	-10.177 (3.23)***	-0.025 (0.01)
Maturity	1.455 (0.50)	5.037 (1.57)	1.618 (0.58)
GPA*On-Off			2.571 (2.10)**
Gender*On-Off			-10.286(2.26)**
Maturity*On-Off			2.954 (0.70)
Adj. R2 (%)	33.42	47.21	40.79

1) Maturity= metric to measure the level of student's maturity. To obtain this metric, sample was first classified into two groups based on Age, Distance (or Hour) and Marital variable, respectively. Next, Each student was assigned 1 if older (Age) farther (Distance), or married (Marital); 0 if otherwise. Finally, assigned values of three variables were added up to get the measure of Maturity. Hence, the valueof Maturity has the range between 0(least mature) and 3(most mature). On-Off=1 if the student is offline learner; 0 if online learner.

2) Estimates and t-statistics (parenthesis) from the regression are shown.

***: Significant at a<0.01; **: significant at a<0.05; *: significant at a<0.10;

CONCLUSIONS

The purposes of this study are twofold. The first is to examine the potential effects of student characteristics on performances as measured by test scores. Second purpose is to investigate if there is any systematic difference in those effects between online courses and offline courses. Academic and demographic data of 91 students who took undergraduate accounting courses offered through online as well as offline at California State University-San Bernardino during a three-year period extending from fall 2003 to spring 2005 are examined using univariate analyses as well as regression models.

The empirical results can be summarized as follows: First, There is no significant difference in student performances (test scores) between online learners and offline learners. Second, while no significant differences exist in gender compositions, marital status, and GPA, students taking online courses are older, commute longer distance and work more hours than those taking offline courses. Third, GPA is a factor affecting performances for both online learners and offline learners, while gender is a factor for offline learners even after controlling for other characteristics variables. Finally, the effects of GPA and gender variables on performances are larger for offline students than for online students. These results are robust across different testing methodologies.

REFERENCES

Barker, P. (2002). On being online tutor. *Innovations in Education and Teaching International, 9 (1),* pp. 3-13.

Beard, L. & C. Harper (2002). Student perception of online versus campus instruction. *Education, 122 (4),* pp. 658-664.

Chamberlin, W. S. (2001). Face to face vs. cyberspace: finding the middle ground. *Syllabus*, Vol. 15, 11.

Cuellar, N. (2002). The Transition from Classroom to Online Teaching. *Nursing Forum*. July/Sep. pp. 5-13.

Dunbar, Amy E. (2004). Genesis of an Online Course. *Issues in Accounting Education. Vol 19, No.3,* pp 321-343.

The Institute for Higher Education Policy. (1999). What's the difference?: A review of contemporary research on the effectiveness of distance learning in higher education.

Kendall, Margaret (2001). Teaching online to campus-based students: The experience of using WebCT for the community information module at Manchester Metropolitan University. *Education for Information,* Vol 19, pp. 325-346.

Lightner, S. and C. O. Houston (2001). Offering a globally-linked international accounting course in real time: a sharing of experiences and lessons learned. *Journal of Accounting Education, Vol 19 (4),* pp. 247-263.

Orde, Barbara J., J. Andrews, A. Awad, S. Fitzpatrick, C. Klay, C. Liu, D. Maloney, M. Meny, A. Patrick, S. Welsh, and J. Whitney (2001). Online course development: Summative reflections. *International Journal of Instructional Media, Vol. 2 (4), p*p. 397-403.

Perreault, H., Waldman L., and Zhao, M. (2002). Overcoming Barriers to Successful Delivery of Distance-Learning Courses. *Journal of Education for Business*. July/August. pp. 313-318.

Schulman, A. & Sims, R. (1999). Learning in an Online Format versus an In-class format: An experimental study. *Journal Online*.

Schwartzman, R. and H. Tuttle (2002). What can online course components teach about improving instruction and learning?. *Journal of Instructional Psychology, Vol. 29, No. ,* pp.29-38.

Sullivan, Patrick. (2001). Gender differences and the online classroom: male and /female college students evaluate their experiences. *Community College Journal of Research and Practice. Vol. 25*, pp. 805-818.

Woods Jr., Robert H (2002). How much communication is enough in online courses? – exploring the relationship between frequency of instructor-initiated personal email and learner's perceptions of and participation in online learning. *International Journal of Instructional Media, Vol. 29(4),* pp.377-394.

Yin, L. Roger, L. E. Urven, R. M. Schramm, and S. J. Friedman (2002). Assessing the consequences of on-line learning: issues, problems, and opportunities at the University of Wisconsin-Whitewater. *Assessment Update, Vol 14, No. 2,* pp. 4-13.

Younger, Michael, M. Warrington, and J. Williams (1999). The Gender Gap and Classroom Interactions: reality and rhetoric?. *British Journal of Sociology of Education; Vol. 20. No.,* pp 325-341.

AN EXPLORATORY STUDY OF THE EFFECT OF REWARDS AND DEADLINES ON ACADEMIC PROCRASTINATION IN WEB-BASED CLASSES

Patricia Humphrey, Texas A&M University-Texarkana
James Harbin, Texas A&M University-Texarkana

ABSTRACT

This study investigated the effectiveness of two types of task importance (reward and deadlines) designed to reduce academic procrastination in Web-based classes. The results found students procrastinated less when rewarded for early completion of assignments than by deadlines alone. The results were statistically significant in the third assignment and in the same direction for the first two assignments, though not statistically significant. Procrastination was found to have a negative effect on academic performance, as reflected in exam scores and final course grades.

INTRODUCTION

Procrastination has been defined as the putting off or delaying of a task (Solomon and Rothblum1984). In fact, procrastination is so prevalent in universities and colleges, researchers have coined the term "academic procrastination" to refer to the delaying of completing an academic task (Rothblum, Solomon, and Murakami 1986). Approximately 20% of all adults are chronic procrastinators (Harriott and Ferrari 1996), and according to Solomon and Rothblum (1984), 46% of students admit to having procrastinated on an academic task.

The negative consequences of academic procrastination can be devastating to students. Academic procrastination has led to missing or late assignments, cramming, test anxiety (Fritzsche, Young, and Hickson 2003; Rothblum, Solomon, and Murakami 1986), lower grades, (Owens and Newbegin 1997; Wesley 1994), higher course withdrawals (Semb, Glick, and Spencer 1979), higher stress levels, and more illnesses (Tice and Baumeister 1997).

Contributing to the problem of academic procrastination is the growing trend among universities and colleges to offer online or web-based courses (Allen and Seaman 2008). Web-based courses offer students greater flexibility, but a growing stream of research suggests students enrolled in web-based courses are more susceptible to academic procrastination. Procrastination was reported by students as one of the primary reasons they failed or dropped a web-based course in a recent analysis of the factors affecting retention in web-based courses (Doherty 2006). Approximately 19% of students who failed or withdrew from a web-based course attributed it to putting off an assignment causing them to get behind

in the course and 23% of students mentioned the ease of procrastinating in a web-based course. Elevers, Polzella and Graetz (2003) reported that 90% of students in a web-based psychology class disliked the class because it was easy to get behind.

Enrollment in web-based courses has been increasing over the past decade. According to a recent study by the Sloan Consortium, more than 20% of all higher education students were enrolled in at least one web-based course in the fall of 2007, an increase of 12% over the previous year (Allen and Seaman, 2008). As more courses are offered in a web-based format, procrastination will continue to plague students and instructors alike.

LITERATURE REVIEW

Several recent studies have examined the relationship between procrastination and academic performance in web-based courses. Elves, Polszella and Graetz (2003) found procrastination was negatively related with exam scores in web-based courses, but not with traditional lecture classes. They suggested that traditional, lecture students are exposed to the material throughout the semester unlike web-based students who may only look at the material the day before taking an exam. Moon and Illingworth (2005) examined academic procrastination in introductory psychology classes. They found students who took their online tests earlier in the week received higher test scores than those who took their tests later in the week. These studies highlight the importance of reducing academic procrastination, especially for students enrolled in web-based courses.

Procrastination has been studied extensively in the social sciences over the past 30 years. The majority of these studies have focused on cognitive and behavioral traits including perfectionism, role-conflict, shame and guilt, anxiety, self-control, time, locus of control, fear of failure, task avoidance, and motivation (Brownlow and Reasinger 2000; Fee and Tangey 2000; Onwuegbuzie 2000; Schouwenburg and Groenewoud 2001; Senecal, Julien, and Guay 2003). These studies offer valuable insight into the antecedents of procrastination, but as educators, these are not variables we can control.

In contrast, Paden and Stell (1997) proposed a model of student procrastination that identified task characteristics related to assignments that are controllable by the instructor. The task characteristics included in the model were task importance, task appeal and task difficulty. Task importance was defined as norms, deadlines, rewards and interdependence. Task appeal consisted of interest level and skill variety and task difficulty included knowledge required, clarity and the scope of the task. These three characteristics were expected to influence the degree of student procrastination on assignments.

Ackerman and Gross (2005) examined the task characteristics identified by Paden and Stell (1997). Their findings suggested that instructors could help students reduce procrastination by providing interesting assignments, clear instructions, and rewards. In their posttest sample, rewards were reported as a major factor in reducing procrastination by 80% of the students. It appeared students perceived rewards to be an incentive to begin assignments early, thereby reducing procrastination.

The effects of rewards in reducing student procrastination have been investigated in several studies. Ferrari and McGowan (2002) examined rewards as a strategy to reduce procrastination in introductory psychology classes. Students were required to complete five research hours per quarter or receive an Incomplete. If they received an Incomplete, they had to finish by the next quarter or receive an F. They designed a bonus program to reward students for early completion. Before implementing the bonus program, 60% of students received an Incomplete. After the bonus program, only 40% received an Incomplete. Their findings showed that students who were rewarded with bonus points were more likely to complete their research assignment and to complete it earlier than students not offered bonus points.

The purpose of this study is to extend previous research of the intervention strategies used by professors to reduce procrastination in a web-based academic setting. The study focuses on two of the factors identified by Paden and Stell (1997), rewards and deadlines. This study examines the extent to which deadlines (late assignments not accepted), or deadlines with reward (bonus points for early submission) reduced procrastination as measured by completion of the assignment, completion of the course, and performance in the course.

METHOD

The participants for the study were 56 junior and senior level college students enrolled in a web-based business class at a small, southern state university. There were 15 male students and 41 female students. Participants ranged in age from 21 to 55 (M= 29, SD = 8.78). The median age was 24.

The spring semester was chosen for both classes to control for seasonal variances. The spring semester is 16 weeks and includes a spring break after the 8th week.

The same professor taught the classes and there were no significant differences of age, gender, or final course grade between the deadlines only class and the deadlines with rewards class.

Measures

Deadlines Only.

In the class with deadlines only, students (N=33) were required to submit four article summaries worth 20 points each. The 20 points represented 3% of their final course grade. Late assignments were not accepted and the policy was stated in the syllabus and in the assignment instructions. The assignments were identical for both classes and were due at the end of the 3rd, 6th, 10th and 13th week.

Deadlines with Rewards.

In the deadlines with rewards class, students (N=23) received 20 points for their article summaries, but if they turned the assignment in one day early, they received an additional 5 points for a total of 20 bonus points (4 assignments at 5 bonus points each). The bonus points represented approximately 3% of the total 600 points available in the course. The date the assignment was submitted was used to measure the effects of reward (bonus points) and deadlines (late assignments not accepted). Students could turn in assignments early and the dates due were listed in the syllabus.

Dependent measures.

Dependent measures were completion date of assignments, percentage of students who withdrew from the course, average exam score, and final course grade. Students who did not turn in one of the assignments by the due date were considered to be procrastinators. Students who completed all assignments by the due date were considered to be non procrastinators. Final course grades were assigned numeric numbers (A=4, B=3, C=2, D=1, F=0).

RESULTS

As shown in Table 1, a higher percentage of students enrolled in the *Deadlines with Rewards* class completed the first three assignments compared to the *Deadlines Only* class. Although the relationship was not statistically significant for the first two assignments, it was in the same direction. In the third assignment, a statistically significant difference was found between the two classes ($\chi^2 = 5.58$, $p > .018$). All of the students enrolled in the *Deadlines with Rewards* class completed the third assignment compared to 79% of the students enrolled in the *Deadlines Only* class. Although a higher percentage of students enrolled in the *Deadlines Only* class completed the fourth assignment, there was not a significant difference in the completion rate between the classes in the fourth assignment.

Table 1: Percentage of Students Completing Assignments

	Week	Deadlines Only	Deadlines With Rewards
Assignment #1	3	82%	83%
Assignment #2	6	82%	87%
Assignment #3	10	79%	100%
Assignment #4	13	88%	87%

In the course withdrawal rate, there was not a significant difference between the two classes, although a higher percentage of students withdrew from the *Deadlines Only* class (11%) versus the *Deadlines with Rewards* class (8%). Of the 37 students enrolled in the *Deadlines Only* class, ten did not complete the first assignment, including four of the students who later withdrew from the course. Similarly, of the 25 students enrolled in the *Deadlines with Rewards* class, six students did not complete the first assignment, including two students who subsequently withdrew from the course. Combining the data of the classes revealed that 38% of students who missed the first assignment withdrew from the course. None of the students who withdrew from the courses completed any assignments and they were excluded from the rest of the study.

There was a statistically significant difference in the both the exam scores and final course grade between students who submitted their assignments on time and those who did not submit assignments. Students who completed all the assignments had a higher average exam score ($M = 80.35$) than students who did not complete all the assignments ($M = 75.10$, $t=1.79$, $p >.079$). Students who completed all the assignments had a higher course grade ($M = 3.42$) than those who did not complete their assignments ($M = 2.42$, $t = 4.585$ $p > 00$).

DISCUSSION

The findings showed deadlines with rewards motivated students to complete their assignments, especially in the middle of the semester. Although the differences were not statistically significant in the first or second assignment, a higher percentage of students enrolled in the *Deadlines with Rewards* class completed the first three assignments compared to students in the *Deadlines Only* class. Rewards clearly reduced student procrastination for the third assignment with all students completing the assignment.

For the fourth assignment, the completion rate was 88% for the *Deadlines with Rewards* class and 89% for the *Deadlines Only* class. Both classes had a higher completion rate in the fourth assignment compared to the first two assignments. Compared to the third assignment, the completion rate decreased 11% in the *Deadlines with Rewards* class and increased 10% in the *Deadlines Only* class. A higher percentage of students in the *Deadlines Only* class completed the fourth assignment (89%) than their first (82%), second (82%) or third (79%) assignments.

Why did more students in the *Deadlines Only* class complete the fourth assignment compared to the first three assignments? One possible reason is students are more grade-oriented near the end of the semester and therefore, more likely to be motivated to complete assignments, with or without rewards. Bender (2007), in a study of time of participation effect and grade-orientation, found students were more grade-oriented in the 13th week of the semester than in the fifth or eleventh weeks. Bender's (2007) results were supported in the *Deadlines Only* class. A higher percentage of students enrolled in the *Deadlines Only* class completed the fourth assignment in the 13th week compared to the assignments due in the 3rd, 6th, or 10th week.

Procrastination has been linked with higher withdrawal rates in previous studies, but there were no significant differences in the withdrawal rate between the classes in this study. It is worth noting that the students who withdrew from the classes even late in the semester never completed any of the assignments. Perhaps as Doherty (2006) reported, web-based students find it easy to procrastinate, causing them to fall behind in assignments and leading to withdrawal.

This study supports previous studies (Tice and Baumeister 1997) that procrastination has a negative effect on grades. Missing an assignment worth 3% of the final course grade should be expected to negatively impact the final course grade. However, it was an interesting finding that students who completed all assignments on time (non procrastinators) scored on average 5 points higher on exams than students who missed at least one assignment (procrastinators). Students who delay completing assignments may delay studying for an exam. They would not only have less time to study, but would be more vulnerable to unforeseen delays which would negatively affect their grades.

CONCLUSIONS AND FUTURE RESEARCH

The findings of this study clearly show that deadlines with rewards are helpful in reducing student procrastination, especially in the middle of the semester. As the semester progressed, students became more receptive to rewards. Rewards especially motivated students to complete assignments in the middle of the semester. In the latter part of the semester, the use of deadlines appears to work as well as rewards since students are more grade-oriented at the end of the semester. Future research should investigate the timing of rewards and incentives to reduce procrastination. It is possible offering students greater points at the beginning of the semester would encourage early participation and reduce procrastination.

Students withdraw from a course for many reasons. One reason may be missing a deadline for an assignment due to procrastination. In this study, 38% of the students who missed the first assignment withdrew from the class. The question that remains to be answered is whether students withdraw from the class because they were behind in assignments as suggested by Doherty (2006) or they did not complete the assignments because they planned to withdraw. Future research should seek to answer that question and depending upon the answer, explore strategies to reduce student procrastination within the first few weeks of the semester.

This study provides additional evidence that procrastination affects student learning and is reflected, not only in the final course grade, but also in the exam scores. As educators, we have the opportunity to design our courses to encourage learning and reduce procrastination. As Ackerman and Gross (2005) reported, rewards and incentives may motivate students to start earlier on their assignments and reduce procrastination. Students that start earlier are more likely to do a better job and receive a higher grade in the course.

There are limitations to this study. The sample size was small and the classes were web-based classes. Future research should examine the effects of the mode of delivery of instruction on procrastination.

Another limitation is the measurement of procrastination. Students were considered to be procrastinators if they did not complete an assignment by the due date. There may be other reasons why students do not complete an assignment. Students may dislike writing assignments and therefore be willing to accept lower grades as a consequence. While the present study measured procrastination as behavior, the majority of the studies exploring academic procrastination have used a self-reported measure of procrastination. Future research should utilize both measures to capture the multidimensional construct of procrastination under differing conditions.

REFERENCES

Ackerman, David S., & Gross B.L. (2005). My instructor made me do it: Task characteristics of procrastination. *Journal of Marketing Education*, 27, 5-13.

Allen, I. E., & Seaman, J. (2008). *Staying the course: Online education in the United States, 2008*. Needham, MA: Sloan-C.

Ariely, D., & Wertenbroch, K. (2002). Procrastination, deadlines and performance: Self-control by precommitment. *Psychological Science*, 13, 219-224.

Bender, T. A. (2007). Time of participation effect and grade-orientation. *Personality and Individual Differences,* 43, 1175-1183.

Brownlow, S., & Reasinger, R. D. (2000). Putting off until tomorrow what is better done today: *Social Behavior & Personality,* 15, 15-34.

Doherty, W. (2006). An analysis of multiple factors affecting retention in web-based community college courses. *The Internet and Higher Education,* 9, 245-255.

Elvers, G. C., Polzella, D..J., & Graetz, K. (2003) Procrastination in online courses: Performance and attitudinal differences. *Teaching of Psychology*, 30, 159-162.

Fee, R. L., & Tangney, J. P. (2000). Procrastination: A means of avoiding shame or guilt. *Journal of Social Behavior & Personality,* 15, 167-184.

Ferrari, J. R., & McGowan, S. (2002). Using exam bonus points as incentive for research participation. *Teaching of Psychology*, 29, 29-32.

Fritzche, B. A., Young B. R., & Hickson, K. C. (2003). Individual differences in academic procrastination tendency and writing success. *Personality and Individual Differences*, 35, 1549-1557.

Harriott, J. & Ferrari, J. (1996). Prevalence of procrastination among samples of adults. *Psychological Reports*, 78, 611-616.

Moon, S. M., & Illingworth, A. (2005). Exploring the dynamic nature of procrastination: A latent growth curve analysis of academic procrastination. *Personality and Individual Differences*, 38, (January), 297-309.

Onwuegbuzie, A. J. (2000). Academic procrastinators and perfectionistic tendencies among graduate students. *Journal of Social Behavior & Personality,* 15, 103-109.

Owens, A. M., & Newbegin, I. (1997). Procrastination in high school achievement: A causal structural model. *Journal of Social Behavior & Personality*, 12, 869-887.

Paden, N., & Stell, R. (1997). Reducing procrastination through assignment and course design. *Marketing Education Review*, 7, 17-25.

Rothblum, E. D., Solomon, L. J., & Murakami, J. (1986). Affective, cognitive, and behavioral differences between high and low procrastinators. *Journal of Counseling Psychology*, 33, 387-394.

Schouwenburg, H. C., & Groenewoud, J. T. (2001). Study motivation under social temptation; Effects of trait procrastination. *Personality & Individual Differences,* 30, 229-240.

Semb, G., Glick, M. D., & Spencer, R. E. (1979). Student withdrawals and delayed work patterns In self-paced psychology courses. *Teaching of Psychology*, 6, 23-25.

Senecal, C., Etienne, J., & Guay, F. (2003). Role conflict and academic procrastination: A self-determination perspective. *European Journal of Social Psychology,* 33, 135-145.

Solomon, L. J., & Rothblum, E. D. (1984). Academic procrastination: Frequency and cognitive-behavioral correlates. *Journal of Counseling Psychology*, 31, 503-509.

Tice, D. M., & Baumeister, R. F. (1997). Longitudinal study of procrastination, performance, stress, and health: The costs and benefits of dawdling. *Psychological Science*, 8, 454-548.

Wesley, J. C. (1994). Effects of ability, high school achievement, and procrastinatory behavior on college performance. *Educational and Psychological Measurement*, 54, 404-408.

EVALUATING THE LEVEL OF CRITICAL THINKING IN INTRODUCTORY INVESTMENTS COURSES

Stephen M. Black, University of Central Oklahoma
R. Barry Ellis, University of Central Oklahoma

ABSTRACT

One challenge of teaching an investments course is raising the level of learning from lower levels of the cognitive domain such as remembering and understanding to higher levels such as evaluating and creating. This paper addresses the development of test questions and tasks based upon the updated version of Bloom's taxonomy (1956) as presented by Anderson and Krathwohl (2001). For each cognitive level, we provide example questions or tasks specifically suited for an investments course. This approach fosters measurement of all the cognitive skill levels needed in today's global financial marketplace.

INTRODUCTION

Holly Dolezalek (2003), referencing Roger Shank the chief education officer at Carnegie Mellon West, writes "education by lecture in a classroom was an idea from the Middle Ages, when not everyone could read and there weren't enough textbooks to go around anyway. ---not only are the conditions that produced the lecture environment gone, cognitive research indicates that people don't retain information minutes after they hear it. He endorsed --- small discussion groups and project work, but he believed --- the usual undergraduate degree with emphasis on lectures, large classes, and multiple choice tests --- was useless" (p. 60).

The learning process has to be more than just the sharing of knowledge. Students in finance classes often fail to "integrate knowledge, see the connections among textbook chapters, or apply course concepts to real world questions" (Robertson, Peterson, & Bean, 2004, p. 16). The development and implementation of teaching and/or learning strategies appropriate for the investment course curriculum is a critical factor for the success of finance students. Some areas of study in investments are more complex or advanced than others requiring materials to be presented at different learning levels depending on course objectives. Testing should cover all levels of material presented to determine what students have mastered. It appears that most testing activities focus on remembering and understanding definitions and concepts. Learning is limited to a shallow level and critical thinking is not emphasized or evaluated. Bloom's taxonomy is a useful tool that can assist the professor in testing and instructional evaluation.

The purpose of this paper is twofold. First, it attempts to stimulate debate and thinking about the limitations of the traditional focus of testing on lower levels of learning related to investments and the

value created for investments students by testing of higher level process dimensions. Second, it shows the application of the updated version of Bloom's (1956) taxonomy of the cognitive domain as presented by Anderson and Krathwohl (2001) in financial education in general and specifically in investments education testing. Anderson and Krathwohl's new version of Benjamin Bloom's (1956) taxonomy proposes six hierarchal and cumulative levels of testing to measure different levels of learning and is the latest revision to Bloom's taxonomy. This paper will review and provide example test questions for each of the levels of the new version of Bloom's taxonomy. The methodology for constructing the sample questions consists of constructing investments assessment questions and then classifying the questions according the highest possible level of the Anderson and Krathwohl update to Bloom's taxonomy. The examples provided will assist the investments instructor in developing tests to measure the level of student mastery of the subject. Through these assessment tools, professors will be better able to insure that students acquire the skills and competences required in today's financial markets.

LITERATURE REVIEW

Many university faculty believe that critical thinking should be a primary objective of a college education (Yuretich, 2004). Yet most faculty believe that critical thinking cannot be assessed or they have no method for doing so (Beyer, 1984; Cromwell, 1992; and Aviles, 1999). Consider a 1995 study from the Commission on Teacher Credentialing in California and the Center for Critical Thinking at Sonoma State University (Paul , Elder, & Bartell, 1997). These groups initiated a study of college and university faculty throughout California to assess current teaching practices and knowledge of critical thinking. They found that although 89 percent of the faculty surveyed claimed that critical thinking is a primary objective in their courses, only 19 percent could explain what critical thinking is, and only 9 percent of these faculty were teaching critical thinking in any apparent way (Paul et al.).

Previous studies have suggested a number of teaching/learning strategies for teaching finance (Robertson et al., 2004; Moore, 1999; Thoma, 1993; Dudley, Davis, and McGrady, 2001; Ulrich, 2005; and Schadler, 2007). A major challenge is how to measure the level of student success in acquiring skills and competencies required in the financial marketplace. Studies show that most college testing involves recalling memorized facts (Crooks, 1998). It is relatively straightforward to assess students' knowledge of content; however, many faculty lack the time and resources to design assessment that accurately measure critical-thinking ability (Faciaone, 1990; Paul et al., 1997; Aviles, 1999).

Additional testing should be done to evaluate the students' ability to analyze, evaluate and formulate new material. A large body of literature already exists showing that critical thinking can be assessed (Cromwell, 1992; Fisher & Scriven, 1997). Other studies have demonstrated a positive correlation between the outcomes of critical thinking assessment tests and student performance in a course or on a task (e.g., Onwuegbuzie, 2001). Such studies serve to illustrate that critical thinking per se is worth assessing, or at least that it has some relationship to students' understanding of the material. Still,

generalized assessments of critical-thinking ability are almost never used in a typical classroom setting (Haas & Keeley, 1998).

Schools accredited by the AACSB International are required to focus on assessment of assurance of learning (AACSB, 2007). The college or school must specify program-level learning goals for each separate degree program. Investments faculty need to focus on how to assess student performance in ways which contribute to program-level goals.

QUESTIONS AND TASKS FOR ASSESSING COGNITIVE OBJECTIVES

Investments questions may be categorized according to Anderson and Krathwohl's (2001) hierarchy of the objectives of the cognitive domain. There are six process dimensions or objectives in the hierarchy, moving from the lowest order process to the most complex: remembering, understanding, applying, analyzing, evaluating, and creating.

Remembering

The remembering objective involves the retrieval or recognition of knowledge from long-term memory. The student is challenged to recognize or recall information from presented material (Anderson & Krathwohl, 2001). Some key verbs often associated with this process are: *choose*, *define*, *list*, *name*, *recite*, *select*, *state* and *tell*. Two tasks illustrating the remembering process dimension are presented next.

Q1. Which of the following gives its holder the right to sell an asset for a specified exercise price on or before a specified expiration date?

A. Call option
*B. Put option **
C. Futures contract
D. Preferred stock
E. Commercial paper

This question requires students to recall definitions of various financial securities.

Q2. List the steps required in a discounted cash flow approach to valuing a stock.

This task requires the student to remember specific information concerning stock valuation as the question itself does not provide the answer choice.

Understanding

The understanding objective involves constructing meaning from different types of messages whether oral, written, or graphic. The student is challenged to integrate instructional material with prior knowledge (Anderson & Krathwohl, 2001). Some key verbs often associated with this process are: *summarize*, *interpret*, *contrast*, *discuss*, *illustrate*, *summarize* and *translate*.

Q3. Which of the following is an example of a highly cyclical industry?
A. The tobacco industry
B. The pharmaceutical industry
C. The utility industry
*D. The automobile industry **

To answer the question correctly, the student must know the definition of cyclical industries. In addition, the student must understand the general nature of a number of industries and their relationships to the overall economy.

Q4. XYZ Company has a beta of 1.4. The industry average beta is 1.1. If the concept of regression toward the mean holds, would it be expected that the beta of XYZ will rise or fall?

The student must estimate the future consequences implied by the regression toward the mean concept and the beta values given. The question assumes that the student is familiar with *regression toward the mean* and that beta is not stationary.

Applying

The applying objective involves using learned procedures in exercises or problems. Students are challenged to determine the appropriate procedure to execute or implement (Anderson & Krathwohl, 2001). Some key verbs often used to test process of applying are: *apply*, *calculate*, *complete*, *produce* and *relate*.

Q5. A bond pays an annual coupon of 9%. Its value at maturity is $1,000. It matures in 6 years. Its current market value is $1,121. Calculate the duration of this bond.

The student should understand bond mechanics, valuation techniques and the duration formula. The student must be able to apply this knowledge to this specific decision-making task.

Q6. Assume that both puts and calls trade on ABC stock. You have discovered that ABC always rises in price over the three trading days prior to the 15th of the month and falls in price over the three trading days following the 15th of the month. Form a trading rule incorporating the use of options in order to take advantage of the timing anomaly that you have discovered.

The student must apply the option pricing principles pertaining to increases and decreases in the underlying asset to a new problem situation.

Analyzing

Analyzing involves breaking material into parts, determining relationships, and overall structure or purpose. The process incorporates differentiating, organizing, and attributing (Anderson & Krathwohl, 2001). Key verbs pertaining to the process of analyzing are: *summarize*, *contrast*, *separate*, *interpret* and *select*.

Q7. We have discussed a wide variety of ratios used to analyze corporate financial statements. Given the following financial statements and industry averages, calculate the appropriate ratios and give an analysis of the strengths and weaknesses of this company.

To complete this task, the student must understand financial statements, be able to calculate ratios and be able to analyze those ratios relative to industry norms.

Q8. Using DuPont decomposition of ROE and comparison with Axel Company's peers, for each component of ROE, identify whether the component impacted Axel Company's ROE favorably or unfavorably.

The student must have prior knowledge of the components of DuPont ROE, be able to break ROE into its parts and make comparisons of the components to industry averages. The student is not asked to make any value judgments.

Evaluating

Evaluating is judging someone or something using criteria and standards. The sub-processes of evaluating involve checking for internal consistency and critiquing based upon external criteria (Anderson & Krathwohl, 2001). Evaluating precedes creating because it is often prerequisite to creating something.

Verbs used at the evaluating level are: *argue*, *assess*, *support*, *explain*, *rate*, *grade*, *appraise*, *rank*, *judge* and *evaluate*.

Q9. Three of the methods used to calculate the intrinsic value of a stock are the Dividend Discount model, PEG, and the Discounted Free Cash Flow model. Use these methods to determine if a stock is undervalued or overvalued. Why do the methods differ in their answers? Is one method better than the others? Explain.

The student will have to analyze the data and evaluate the resulting intrinsic stock values relative to the market value and make a recommendation. This question also requires students to evaluate the three methods used. Grading these types of questions is challenging; often there are multiple answers. In grading, the instructor should use a rubric that places value on the logic and consistency of the answer.

Q10. In analyzing a balance sheet for the purpose of valuing a stock, which is more important, analyzing assets or claims against assets, i.e., which side of the balance sheet is the greater determinant of stock value? Why?

The student must have prior understanding balance sheet accounts and the concepts of liquidity, profitability, and operating and financial leverage. The student must develop opinions concerning the interconnected risk/return tradeoffs involving the accounts and the relative importance of the tradeoffs. There is no absolute right answer and the choice must be evaluated based upon its logical appeal.

Creating

Creating is putting elements together to form a coherent pattern or functional structure that did not exist before. The process involves generating solutions, planning action, and producing the solution. Creating goes beyond previous categories in that student must produce a structure or pattern that is novel relative to his or her prior experience (Anderson, Krathwohl, 2001). Creating can be appraised using verbs such as: *produce*, *combine*, *prepare*, *assemble*, *create*, *develop*, *design* and *compose*.

Q11. Create a new financial ratio that can be used to evaluate a corporation. Discuss the information content of your ratio and any limitations of its use.

These tasks will require the student to integrate their knowledge of financial statements and existing ratios into their analysis. The student is expected to design and describe a new financial analysis tool. The grading process should make use of a rubric that places value on the creativity, uniqueness, logic and consistency of the answer.

Q12. Suppose Imelda and Ahmed discover an analyst who has outperformed the S & P 500 for the last ten years. Imelda believes the analyst's performance refutes the efficient market hypothesis (EMH). Ahmed believes the analyst's performance does not provide evidence against the EMH. Write a dramatic scene wherein the two opposing characters, Imelda and Ahmed, debate their positions.

The student must voice opinions on whether the observed analyst's performance is attributable to chance and skill. The student must have prior knowledge of the EMH, an understanding of sample size and the nature of anomalies. The student must integrate those knowledge areas in order to produce a reasoned case backing Jane's or John's opinion.

SUMMARY

In finance, we are concerned with value creation. Can we, as investment instructors, claim to be creating value for our students if we test only at the lower levels of learning? The investment world is growing in complexity. More than ever, students need to integrate knowledge, recognize the connections among the topics covered, apply concepts, and develop new approaches. Once instructors establish higher level objectives for their investment courses, unambiguous multiple-choice questions need to be augmented with testing devices accessing student achievement in terms of the upper cognitive levels. Bloom's (1956) taxonomy, as updated by Anderson and Krathwohl (2001), provides a basis for accessing students on more complex levels of thinking. For schools accredited by the AACSB International, this type of assessment will help to enable coursework to support program-level learning goals. Constructing exams based upon the taxonomy will give instructors feedback on whether they are creating value for students in terms of the skills required in today's investment environment.

REFERENCES

Association to Advance Collegiate Schools of Business (AACSB) International. (2007). *Eligibility procedures and accreditation standards for business accreditation.* [Electronic version]. Retrieved August 26, 2009, from http://www.aacsb.edu/accreditation/process/documents/AACSB_STANDARDS_Revised_Jan07.pdf

Anderson, L. W. & Krathwohl, D. R. (Eds.) (2001) *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives.* Allyn & Bacon.

Aviles, C. B. (1999). Understanding and testing for critical thinking with Bloom's taxonomy of educational objectives. Washington, DC: ERIC Clearinghouse. Report SO032219.

Beyer, B. K. (1984). Improving thinking skills---Defining the problem. *Phi Delta Kappan*, 65, 486-490.

Bloom, B. S., ed. (1956). *Taxonomy of educational objectives.* New York, NY: David McKay Co., Inc.

Cromwell, L. S. (1992). Assessing critical thinking. *New Directions for Community Colleges*, 77, 37-50.

Crooks, T. J. (1998). Impact of classroom evaluation on student. *Review of Educational Research*, (Winter), 438-481.

Dolexalek, H. (2003, April). Outdated education. *Training*, 40(4), 60.

Dudley, L. W., Davis, H. H., & McGrady, D. G. (2001). Using an investment project to develop professional competencies in introduction to finance. *Journal of Education for Business*, 76(January/February), 125-131.

Facione, P. A., Facione, N.C., & Giancarlo, C. A. (2000). The disposition toward critical thinking: Its character, measurement, and relationship to critical thinking skill. *Informal Logic*, 20, 61-84.

Fisher, A. & Scriven, M. (1997). *Critical thinking: Its definition and assessment*. Point Reyes, CA: Edgepress.

Haas, P. F. & Keeley, S. M. (1998). Coping with faculty resistance to teaching critical thinking. *College Teaching*, 46, 63-67.

Moore, S. (1999). Cases and lectures: A comparison of learning outcomes in undergraduate principles of finance. *Journal of Financial Education*, 25(Fall), 37-49.

Onwuegbuzie, A. J. (2001). Critical thinking skills: A comparison of doctoral and master's level students. *College Student Journal*, 35, 477-481.

Paul, R. W., Elder, L., & Bartell, T. (1997). *California teacher preparation for instruction in critical thinking: Research findings and policy recommendations*. Santa Rosa, CA: Foundation for Critical Thinking.

Robertson, F., Peterson, D., & Bean, J. C. (2004). Using federal reserve publications in institutions and markets courses: An approach to teaching critical thinking. *Advances in Financial Education, 2(Fall)*, 15-25.

Schadler, F. P. (2007). A pedagogy that elevates the learnig of introductory investments. *Journal of Financial Education*, 33(Summer), 49-63.

Thoma, G. (1993). The Perry framework and tactics for teaching critical thinking In economics. *Journal of Economic Education*, 23(Spring), 128-136.

Ulrich, T. A. (2005). The relationship of business major to pedagogical strategies. *Journal of Education for Business*, 80(5), 269-274.

Yuretich, R. E. (2004). Encouraging critical thinking: Measuring skills in large introductory science classes. *Journal of College Science Teaching*, 33, 40-46.

IMPROVING ETHICAL EDUCATION IN THE ACCOUNTING PROGRAM: A CONCEPTUAL COURSE

Jan Williams, University of Baltimore
Raymond J Elson, Valdosta State University

ABSTRACT

The paper provides a rationale for an accounting ethics course, its placement in the accounting curriculum, and topics to be included in this course. While there is agreement among students, educators and administrators that ethics is important and needed in the accounting curriculum, actions to increase such coverage remain dubious. The adoption of 150- hour requirement by most states to sit for the CPA exam provides the necessary space to incorporate a stand-alone accounting ethics course in the accounting curriculum. Some scholars believe that if students are not taking a stand alone accounting ethics class they are not adequately prepared for the demands and expectations of the workplace, or of society. We provide a framework that educators can use in developing a stand-alone ethics course to address the demand for more ethical coverage in the accounting curriculum.

Key Words: Accounting Curriculum, Education, Ethics

INTRODUCTION

The role of accountants is critical to society. Accountants serve as financial reporters and intermediaries in the capital markets and owe their primary obligation to the public interest. The information they provide is crucial in aiding managers, investors and others in making critical economic decisions. Accordingly, ethical improprieties by accountants can be detrimental to society, resulting in distrust by the public and disruption of efficient capital market operations.

The numerous incidents of unethical behavior in the accounting profession stress the need for increased ethics in accounting education. Students are graduating with accounting degrees who are not familiar with professional codes of ethics, and who do not have the ability to detect nor address ethical accounting dilemmas. Lam & Samson (2005) noted that cleverness and creativity have replaced the traditional honesty and integrity which have characterized accountants of the past. Employers are no longer satisfied with just hiring competent accountants, but are looking for those who know the importance of, and are equipped with skills necessary to make ethical decisions. Therefore, in order for professional accountants to fulfill their role in society, they must not only have intellectual and technical expertise but also moral expertise (Mintz, 1995). However, obtaining moral expertise may be a challenge

since accounting curricula may be focusing mostly on the technical aspect of the profession and pushing instruction in ethical behavior by the wayside (Madison, 2002).

In the past, a common argument for not including an accounting ethics course involved not having room in an already crammed accounting curriculum. However, having adequate room in the curriculum is no longer a valid argument with the adoption of the 150-hour rule by all but four states. The 150-hour rule provides an opportunity to improve weaknesses in accounting education and better prepare students for careers in the accounting profession. In an attempt to restore the reputation of the accounting profession, the National Association of State Boards of Accountancy ("NASBA") proposed that CPA candidates be required to not only take a business ethics course but also an accounting ethics course. However, as a result of numerous responses against mandating a separate ethics accounting course, this proposal was not adopted.

While the AACSB only requires that ethics be incorporated into accounting courses, students and administrators agree that there should be more ethics in the accounting curriculum. Kerr & Smith (1995) reported that accounting students are seeking ethical and moral direction and that a lack of ethics can be damaging to the accounting profession and society. The numerous accounting scandals in the early 2000s are evidence of this prophecy and the need for increased ethics in the accounting curriculum. The current mortgage and financial meltdown may eventually also be attributed to accounting and ethical failures.

Bernardi and Bean's (2006) survey of advanced accounting students reported that the accounting students were in favor of NASBA's proposal for a separate accounting ethics course by a two-to-one ratio. Furthermore, a survey of 122 accounting administrators from the largest accounting programs in North America reveals that while ethics education has increased substantially in the accounting curriculum over the last twenty years, department chairs would like to see more time allotted to ethics (Madison & Schmidt, 2006).

The state of Texas has taken the lead in recognizing the importance and necessity of ethics in the accounting profession. Effective July 1, 2005, those applying to take the CPA exam in Texas must have completed a pre-approved 3-hour accounting or business ethics course. The state of Maryland has also more recently adopted an ethics requirement. Effective, January 1, 2008, those applying to take the CPA exam in Maryland must have completed a 3-hour course in business or accounting ethics, the philosophy of ethics, or a course that examines the framework of ethical decision-making. Although these are positive steps, they only relate to two states. The majority of other states mandate a stated number of continuing professional education hours to qualify for license renewal. Fisher et al. (2007) noted that the effectiveness of such CPE courses, however, are limited when accounting graduates do not have a foundation in ethics, and accounting educators are not providing the leadership to address the lag.

The paper provides a framework that educators can use in developing a stand-alone ethics course to address the demand of students and administrators who desire more ethical coverage in the accounting curriculum. It also seeks to address the lack of adequate materials for teaching ethics as noted in Blanthorne et al. (2007). We further discuss the rationale for an accounting ethics course, its placement in the accounting curriculum, and topics to be included in the course.

THE ACCOUNTING ETHICS COURSE

Course Rationale

Accounting curricula must prepare students for their professional careers in accounting. This includes the importance of ethics, especially since educating technically proficient but shallow graduates is a disservice to society (Low et al., 2008). Jackling et al. (2007) support this view by noting that members of professional accounting bodies worldwide acknowledged that ethics should be part of the accounting curriculum, just like any other technical accounting skills.

Furthermore, the Blanthorne et al. (2007) study of accounting professors and their teaching of ethics reported that 98.1% favor its inclusion in at least some accounting courses. Although the favored approach was integration into other accounting courses, the time spent covering ethics was not optimal since it equated to less than one three-credit hour course (48 hours).

The only way to address these deficiencies is the introduction of an accounting ethics course into the curriculum. If students are not taking a stand alone accounting ethics class they are not adequately prepared for the demands and expectations of the workplace (Jackling et al., 2007), or of society (Low et al., 2008). Integrating ethics in accounting courses, at the very best, only exposes students to the fact that ethical issues occur in the accounting profession. It does not equip students with the skills necessary to handle such situations. Students need to be taught how to recognize issues in accounting that have ethical implications and how to perform ethical decision making when confronted with such issues.

Most accounting courses deal with the structured ethical problem where there is usually a single correct answer. In the work environment, however, students will be faced with unstructured problems and information overload. Some unethical behavior may be the actual result of one not being able to recognize the ethical dilemma in an unstructured environment (Bok, 1976). Therefore, if students are pre-exposed to ethical dilemmas that they may face in their careers and taught moral reasoning skills to help them address the dilemmas, they will be better prepared to handle these situations in their future careers. According to Grumet (2002), many ethics violations result from ignorance rather than deliberate action, which points to a great need for ethics education.

Ethics education should involve more than just exposing students to a series of ethical accounting cases (Armstrong, 1993). It should be organized, challenging and interdisciplinary (Holt et al., 1998). The objectives of ethics education should include teaching students to recognize issues in accounting that have ethical implications, developing the moral reasoning skills students need to address ethical dilemmas, and developing a sense of moral responsibility in accounting students (Armstrong, 1993; Callahan, 1980; Loeb, 1988). Ethics education should be effective in making better citizens and, therefore, a better profession and society.

In order to effectively meet the objectives of ethics education, students should be taught ethical theory (Armstrong, 1993; Loeb, 1988). Consequently, substantial time should be allocated to teaching accounting ethics. It is not possible to meet the required ethics objectives by covering ethics in already

existing courses. This requires more than just dedicating a class period to teaching ethics, or dedicating a week to teaching ethics. Students need to learn underlying ethical theory, professional codes of ethics, moral reasoning, and moral obligations. Monsour's (2007) ethical response model might also be used as a framework for teaching ethics to accounting majors. The model ask students to identify ethical issues and potential dilemmas in a situation, to create 2-3 feasible course of actions, and to evaluate the choices using the ethical concepts of universalism, utilitarianism and social norms.

Time is not available in existing courses since educators are already under pressure to complete course content. Therefore, ethics is usually just touched on or left to be covered at the end of the semester, if time allows. The only way the objectives of ethics education can be met is by teaching ethics as a separate course.

Placement in the Curriculum

A course in accounting ethics would be most beneficial as a three credit hour senior-level undergraduate course. An example of a syllabus for this course is shown in Appendix A.

While the 150-hour rule only applies to those students interested in becoming certified public accountants, ethical dilemmas are present in all areas of the accounting profession. Students who are interested in working in private industry, government, non-profit and academia will all face ethical dilemmas in their careers. Therefore, all accounting students should be prepared to detect and address ethical issues.

The placement of this course in the accounting curriculum would ensure that accounting students are familiar with the various areas of accounting that would be covered in this course. Also, any exposure to the accounting environment through internships or work experience would enhance the students' comprehension and discussion of issues. These experiences would also provide a basis for students to apply theory and ethical dilemmas to practical experiences.

The ideal curriculum for this accounting ethics course would provide a 'sandwich' approach (Armstrong, 1993). Students would continue to take an introduction to ethics course or business ethics course. Throughout the curriculum, ethics would continue to be covered in existing accounting courses in order to develop decision-making skills. Finally, this capstone course would serve as a comprehensive course that would include applying ethical theory and the professional codes of conduct and ethics to decision-making skills in order to develop and promote moral reasoning. Emphasis would also be placed on discussing current accounting ethics issues and sensitizing students to ethical issues that they may encounter in their professional lives.

Course Content and Instruction

We suggest that the course be taught using a team teaching approach which would involve a philosophy and an accounting professor. A philosophy professor would teach the first section of the

course involving the ethical theories from the field of philosophy. An alternative approach is to use guest speakers with a philosophy background if a philosophy professor is not available. The first section, as noted in Appendix A, is adopted from Armstrong's (1993) Ethics and Professionalism course. The researcher suggests that traditional ethical theories, theories of moral development and the sociology of professions should be the theoretical basis for a separate course in accounting ethics. These topics will establish the foundation necessary to help students understand the intricacies of moral reasoning and the application of them in all aspects of their lives (personal and professional).

The second section of the course would be taught by an accounting professor. The section involves discussion of the codes of ethics established by accounting governing bodies such as the AICPA, the Institute of Internal Auditors, the Institute of Management Accountants, and the Association of Government Accountants. Students entering a new profession should be knowledgeable of the codes of ethics in which they are subject. The second section would expose students to the responsibilities that accountants have to the profession, public and clients. Emphasis would be placed on the importance and need for these codes.

The third section includes discussions on current ethical issues in accounting, such as independence, conflicts of interests, earnings management, whistle-blowing, insider trading, fraud, etc. Attention might be placed on codes that were disregarded, the impact of unethical actions and the accountants' responsibility even if specific codes do not exist. Sanctions and punishments for unethical actions would also be discussed.

The fourth and last section of the course involves exposing students to real-life situations that they may face in their accounting careers. Students could read and analyze case studies relating to ethical issues. Student analysis of these cases should involve detecting ethical issues, specifying ethical codes violated, and discussing moral reasoning and the decision-making process. In most instances, it would be beneficial for the philosophy professor and the accounting professor to be present for the students' discussions and presentations due to the multi-disciplinary issues involved in analyzing the cases.

Furthermore, since this section deals with all aspects of accounting, different accounting professors could be used to teach different accounting topics. For example, an auditing professor would be used to discuss the auditing cases, while an accounting information systems professor would be used to discuss the accounting information systems cases. The use area experts is consistent with Blanthorne et al. (2007) who reported that accounting professors prefer to focus on their own areas of technical expertise in teaching ethics, and employ content from practice as opposed to classical ethics theories in teaching ethics. Monetary incentives should be provided to professors who are willing to engage in team teaching or participate in the case analysis section of the course.

Teaching Methods

We suggest that the lecture and discussion methods be used to teach the first two sections of the course. Lecturing allows the professor to disseminate new information related to ethical theories, past

studies and codes of ethics to the students. The discussion method allows the students to receive clarification on information and exchange thoughts and ideas with one another. It is important that such exchange occurs in an ethics course. Students will undoubtedly have differing opinions on theories, ethics and morals. A written assignment might be the appropriate assessment tool for use in each of the first two sections of the course to measure students' learning of ethical theory and codes of conduct.

A more active learning style could be beneficial for the second half of the course in which students apply theory and reasoning to situations. Active pedagogy such as case studies and role-playing should be used to expose students to ethical issues in all areas of accounting. These teaching methods encourage students to become more involved in the information they are learning and challenge them to apply ethical theory and reasoning to real-life situations (Hammer, 2000). Role-playing could be used to provide students with the feeling of being a character in the actual ethical situation. Using the case method, the approach adopted by the American Accounting Association (Waldman, 2000) and recommended in Blanthorne et al. (2007) to teach ethics, will allow for in-depth critiques of the situation and the moral reasoning process. During the semester, students could be assigned a number of cases at the instructor's discretion. However, a number of these cases (e.g., five) should be short cases to facilitate class discussion.

The use of cases will help students learn to apply concepts, understand their relevance and become actively engaged in understanding a multitude of black, white and gray areas related to ethics (McWilliams & Nahavandi, 2006) The cases could be administered through class discussion, class debate or as written assignments as recommended by O'Callaghan et al (2008). The remaining cases might be in-depth cases covering the major areas of accounting (as included in Part IV of the outline in Appendix A). An alternative is the use of the 'live' case approach suggested by McWilliams & Nahavandi (2006). The 'live' case approach entails using a current event that students have heard or read about rather than a case developed for class discussion purposes.

The dynamics of the case presentation and role playing activities are instructor specific. However, we suggest that students work in teams to complete two case presentations and two role-playing activities. The size of the team is based on the class size, but ideally the teams should consist of 3-4 persons. The team concept is beneficial since it promotes team learning as students share their ideas and help one another learn. The group projects help establish the foundation for students to consult with professional colleagues when they encounter ethical dilemmas in the future (Jordan and Stevens, 2001). The groups could be assigned by the professor and change for each activity. The assignment of groups by the professor will prepare students to work in teams with different group dynamics, which is common in the accounting profession. The purpose of these assignments is to assess student learning and determine whether the students have acquired the skills necessary to handle ethical dilemmas that they may face in the accounting profession.

CONCLUSION

The concern about the level of unethical behavior in the accounting profession reflects the need for accounting programs to effectively prepare accounting students to handle ethical dilemmas in their accounting careers. In an attempt to mitigate unethical behavior in the profession, Alder (2002) notes that academia must do the following:

> *Restore and strengthen required ethics courses that have been slowly disappearing from many business school programs. Instead of arguing about whether to have a separate ethics course or to integrate ethics discussion into every course, do both! The current scandals suggest that we also need better ways of teaching ethics* (p.149).

Undoubtedly, when ethics is integrated into existing courses, it inevitably gets lost in other accounting material. If accounting ethics is important to the accounting profession, then it should also be the focus of a separate course.

An educational reform is needed in accounting. The accounting scandals in the early 2000s should serve as the catalyst for change in the accounting curriculum. Ethics must no longer be seen as a subject that can be taught by anyone and in any accounting subject. Yes, it should be covered in every accounting course but it should also have its own place and focus in the accounting curriculum. A separate ethics course will equip accounting students with the knowledge, skills and expertise they need to be successful in today's business environment. Also, students need to be introduced to in-depth ethical situations before they enter the profession so that the profession can continue to meet society's expectations in the most professional and ethical way (Helps, 1994).

The paper provided a framework for use by educators to develop an accounting ethics course. It also discussed the rationale for an accounting ethics course, its placement in the accounting curriculum and the topics to be included in such course. We believe it is an important step in starting a dialogue to address ethical accounting education gaps raised by students, administrators and the public.

REFERENCES

Alder, P. (2002). Corporate scandals: It's time for reflection in business schools. *Academy of Management Executive* 16 (3): 148-149

Armstrong, M. B. (1993). Ethics and professionalism in accounting education: A sample course. *Journal of Accounting Education* 11: 77-92.

Bernardi, R. A. & D. F. Bean. 2006. Ethics in accounting education: The forgotten stakeholders. *The CPA Journal* 76(7): 56-57.

Blanthorne, C., S.E. Kovar & D.G. Fisher (2007). Accounting educators' opinions about ethics in the curriculum. *Issues in Accounting Education* 22 (3): 355-390.

Bok, D. C. (1976). Can ethics be taught? *Change* (October): 26-30.

Callahan, D. (1980). Goals in the teaching of ethics. In D. Callahan and S. Bok (Eds.), *Ethics in Higher Education.* New York, NY: Plenum Press

Fisher, D., D. Swanson & J. Schmidt (2007). Accounting education lags CPE ethics requirements: Implications for the profession and a call to action. *Accounting Education: An International Journal*, 16(4), 345-363.

Grumet, L. (2002). Steering the accounting profession past the ethical icebergs. *The CPA Journal* 72(9): 9-11.

Hammer, L. (2000). The addictive effects of semi structured classroom activities on student learning: An application of classroom-based experiential learning techniques. *Journal of Marketing Education* (April): 25-34.

Helps, L. (1994). Should we teach ethics in accounting education? *Management Accounting: Magazine for Chartered Management Accountants* 72 (6): 46.

Holt, D., K. Heinschmidt, H. Hammer-Hill, B. Robinson & J. Wiles (1998). When philosophy and business professors talk: Assessment of ethical reasoning in a cross disciplinary business ethics course. *Teaching Business Ethics* 1(3): 253-268

Jackling, B., B. Cooper, P. Leung, P. & S. Dellaportas (2007). Professional accounting bodies' perceptions of ethical issues, causes of ethical failure and ethics education. *Managerial Auditing Journal*, 22(9), 928-944.

Jordan, K., & P. Stevens (2001). Teaching ethics to graduate students: A course model.*The Family Journal Counseling and Therapy for Couples and Families* (April): 178-184.

Kerr, D. S. & L. M. Smith (1995). Importance of and approaches to incorporating ethics into the accounting classroom. *Journal of Business Ethics* 14: 987-995.

Lam, M. & W. D. Samson (2005). Support for accounting ethics course comes from historical roots of the profession. *The Accounting Educator* 14(3): 6-9.

Loeb, S. E. (1988). Teaching students accounting ethics: Some crucial issues. *Issues in Accounting Education* 13(2): 316-329.

Low, M., H. Davey & K. Hooper (2008). Accounting scandals, ethical dilemmas and educational challenges. *Critical Perspectives on Accounting* 19: 222-254.

Madison, R. L. (2002). Is failure to teach ethics the casual factor? *Strategic Finance* 84(6): 24, 63-64.

Madison, R. L. & J. J. Schmidt (2006) Survey of time devoted to ethics in accountancy programs in North American colleges and universities. *Issues in Accounting Education* 21(2): 99-110.

McWilliams, V. & A. Nahavandi (2006). Using live cases to teach ethics. *Journal of business ethics* 67: 421-433

Mintz, S. M. (1995). Virtue ethics and accounting education. *Issues in Accounting Education* 10: 247-267.

Monsour, E. (2007). Teaching ethics to accounting majors. *The Tax Advisor*, 38(5): 294-296.

O'Callaghan, S., R. Elson, J. Walker, J & A. Rao (2008, fall). The five minute ethics exercise: A simple and effective approach to incorporating ethical discussions into an accounting course**.** *The Accounting Instructors' Report,* available online at cengagesites.com/academic/?site=3099&section=7

Waldman, E. (2000). Teaching ethics in accounting: A discussion of cross-cultural factors with a focus on confucian and western philosophy. *Accounting Education* 9(1): 23-35.

APPENDIX A – COURSE OUTLINE
ACCT 4XXX - ETHICS FOR ACCOUNTING MAJORS

Professor:
Office location:
Office hours:
Telephone number:
Email address:

Course Description:

The course is designed to develop and promote moral reasoning in accounting students. The course will expose students to ethical theories from the field of philosophy, professional codes of conduct/ethics and ethics related issues in the field of accounting. Emphasis will be placed on sensitizing students to ethical issues that they may encounter in their professional careers. Case studies, role-playing and student presentations will be used to enhance student learning.

Prerequisite: Senior Standing

Learning Outcomes:

Students will be able to:

1. To present ethical theory from the field of philosophy.
2. To discuss accounting codes of conduct/ethics established by various accounting governing bodies.
3. To identify ethical dilemmas in the accounting profession.
4. To provide moral reasoning skills needed to address ethical dilemmas.
5. To develop a sense of moral sensitivity and responsibility.

Course Outline:

I. Theoretical Foundations
   - A. Ethical Theory
   - B. Moral Development Theory
   - C. Sociology of Professions

II. Accounting Codes of Ethics & Professional Conduct
   - A. Accountant's Responsibility to the Profession
   - B. Accountant's Responsibility to the Public
   - C. Accountant's Responsibility to the Client
   - D. Disciplinary Actions against Accountants & CPA firms

III. Current Ethical Issues in the Accounting Profession
  A. Accounting Discretion in GAAP
  B. Auditor Independence
  C. Earnings Management & Income Smoothing
  D. Social Responsibility in Corporations
    1. Whistle-Blowing
IV. Case Studies on Ethical Related Issues in Accounting

Suggested Reading Materials:

Moral Development and Reality: Beyond the Theories of Kohlberg and Hoffman, by John C. Gibbs, 2003, SAGE Publications

Ethical Theory and Business, by Tom L. Beauchamp and Norman E. Bowie, 2003, Prentice Hall

Trap Doors and Trojan Horses, by Iris W. Collett and Lawrence M. Smith, 1991, Thomas Horton and Daughters (an educational novel)

AICPA Code of Professional Conduct - INK"http://www.aicpa.org/about/code/index.html"www.aicpa.org/about/code/index.html

Institute of Management Accountants' Code of Ethics (www.imanet.org/ima/sec.asp?TRACKID=&SID=1&VID=1&CID=191&DID=323)

Institute of Internal Auditors' Code of Ethics - www.theiia.org/index.cfm?doc_id=604)

Association of Government Accountants' Code of Ethics (www.agacgfm.org/cgfm/maintain/cgfm_code.aspx)

Sarbanes-Oxley Act of 2002 and the Accounting Profession (www.aicpa.org/info/sarbanes-oxley2002.asp)

Case studies will be obtained from *Ethics in the Accounting Curriculum: Cases and Readings, 1994 (published by AAA)*

Cases in Accounting Ethics and Professionalism by Steve Mintz, 1997

Grading:

Group Case Presentations (2)	30%	
Role-Playing Assignments (2)	30%	
Written Assignments (2)	30%	
Class Participation		10%
		100%

COMPUTER-BASED TESTING: A COMPARISON OF COMPUTER-BASED AND PAPER-AND-PENCIL ASSESSMENT

Karen A. Maguire, Coastal Carolina University
Daniel A. Smith, Graduate Student, Coastal Carolina University
Sara A. Brallier, Coastal Carolina University
Linda J. Palm, Coastal Carolina University

ABSTRACT

This study examined the difference in test scores for students who engaged in proctored course assessments electronically via computer interface compared to students who took proctored assessments through a paper and pencil format in the classroom. A sample of 179 students registered in Intermediate Accounting I (CBAD 330) courses during the fall 2007, fall 2008, and summer 2008 semesters served as participants in this study. Each were given three non-cumulative and one cumulative assessments at approximately equal intervals throughout the semester. Forty three students completed all assessments electronically and 92 completed all assessment via pencil and paper. All students received the same in-class instruction, regardless of assessment format. ANOVA results indicated that students who completed all assessments electronically scored significantly higher than those students completing all assessments via pencil and paper. No interaction was present between test format and test number, suggesting that neither test format had a more severe learning curve.

INTRODUCTION

The purpose of this study was to compare assessment scores of students using proctored computer based tests (CBT) to test scores of students taking proctored paper-and-pencil tests in the classroom. Ertuck, Ozden, and Sanli (2004) define computer-assisted assessment (CAA) as encompassing a range of activities, including the delivery, marking, and analysis of all or part of the student assessment process using stand-alone or networked computers and associated technologies. More specifically, Wise, Bames, Harvey and Plake (1989) use the term computer-based testing (CBT) for when computer delivers a test in the manner and order as it would appear on a pencil-and-paper test. Regardless of format, assessment as a whole is an important, fundamental, and constant component of teaching and learning (Rovai, 2000; Rowe, 2004; Serwata, 2003). Assessments provide the professor a means of judging students' mastery of course material. The student may benefit from testing as well. It has been shown that testing may

increase a student's retention of knowledge in the subject material through challenging a student's comprehension (Everding, 2006).

Many professors are moving to computer based tests for benefits such as reduced grading effort and the ability to test more frequently (Erturk, Ozden, and Sanli, 2004). Professional certifications such as the CPA and CMA exam, as well as many graduate-level aptitude tests, such as the GMAT and GRE, are also given via computer program in a proctored testing center. Therefore, understanding what type of effect the CBT format has on the performance of the individual undertaking the test is not only important for the individual being assessed, but also for the entity using said assessments as a measure of that individual's ability.

In Erturk, Ozden, and Sanli's *Student Perceptions of Online Assessment (2004)* the researchers site Bull & Mckenna (2001) in providing the motivation for migrating to CBT:

- Increase frequency of assessments;
- Increase range of assessed knowledge;
- Increase feedback;
- Increase assessment methods;
- Increase objectivity;
- Reduce marking workloads; and
- Reduce administrative workloads.

CBT has several advantages in terms of time management within the classroom: it reduces instructional time dedicated to testing and allows more flexibility in scheduling and administering tests (Bonham, 2006; Bugbee 1996; DeSouza & Fleming, 2003; Graham, Mogel, Brallier, & Palm, 2008; Zandvleit & Farragher, 1997). There are also advantages in terms of evaluating the test: it puts data directly into electronic databases which allows for easy item analysis (Bonham, 2006; Bugbee, 1996; Zandvleit & Farragher, 1997). It also makes feedback instantly available to instructors and students (Bonham, 2006; Bugbee, 1996; Zandvleit & Farragher, 1997). Finally, several studies have reported students prefer online tests to written ones (Bonham, 2006; Bugbee, 1997; Zandvleit & Farragher, 1997)

Waschull (2001) reports similar test performance for students taking unproctored online tests and students taking paper and pencil tests in the classroom. In a review of literature from the 1980's and early 1990's, during the early stages of computer based testing, Bugbee (1996) found computer based test scores tended to be similar to paper-administered scores when the testing environment was similar (both proctored or unproctored). In Harmon and Lambrios' study (2008) final test scores from unproctored online tests and proctored online tests did not differ.

Several studies comparing computer based versus paper assessment have been conducted. Clariana and Wallace (2002) found that students scored significantly higher on computer based testing; however, no indication was provided as to if the computer based exam was proctored. Additionally, the subject matter tested was computer science, where students' expertise and comfort level with computers

could have influenced the results. Similarly, Zandvleit and Farragher (1997) also found no significant difference between computer and paper based test scores (also with no indication of proctoring) in an adult education introductory computer science class. Anakwe (2008) used accounting material and proctored computer based exams; however, the paper and computer based tests were given to the same students for different exams.

This study differed from prior research in that it sought to limit the academic dishonesty associated with computer based assessment (when unproctored), as well as mimic the environment the accounting students will experience if taking the CPA exam, by having the exam proctored. This study also strove to have the students take exams in the same format throughout the semester. The consistency associated with this method attempted to reveal any learning curve that may be intrinsic in either format that differs substantially from that of its counterpart. Learning curve, as it is applied in this report, will be assessed by analyzing test scores (performance) of the students in both computer based and paper assessment (practice) groups to determine if a significant change occurred between the differences in the respective means of the two groups from one exam to the next, in other words, with in subject testing. A change in said value may suggest one group is becoming more adept in their respective exam format at a faster rate than that of the other group.

METHOD

The participants in this study were 179 students who completed Intermediate Accounting I (CBAD 330) during the fall semesters of 2007 and 2008, as well as the summer semester of 2008.

Students were taught in-class using Microsoft PowerPoint^{tm} presentations with supplementary notes and problem solving work. The students were also assigned *Intermediate Accounting 12th edition by Keiso, Weygandt, and Warfield* (2006) for Intermediate Accounting coursework.

CBTs were provided to the students using Blackboard. Paper assessment was accomplished with Scan-tron^{tm} grading sheets and paper exams. Both groups were given the same questions.

Data for this study were collected in Intermediate Accounting courses during three semesters (fall 2007, fall 2008, and summer 2008) at a mid-sized state-supported university in the southeast. Each of the fall semesters had two sections; one section was required to take all tests in a proctored computer based testing facility, while the other section was required to take all tests in the traditional pencil and paper format, also proctored. Students self-selected into each section, but they were unaware of the class testing method (computer based or paper) when class registration occurred. The summer semester had the students take all but the first test in a computer based testing facility. A programming error in Blackboard prevented the first test from being taken in the computer based format and was subsequently taken in traditional pencil and paper format.

The CBTs were given at scheduled times and the students were proctored while taking the tests. The pencil and paper tests were also proctored. All tests were given during regularly scheduled class-time.

In the Fall semesters, the instructor met with the class for approximately fifty minutes, three times a week. In the summer semester, the instructor met with the class for approximately 120 minutes, four times a week. All sections of the course were taught by the same instructor and the same textbook was assigned.

During each semester, three 100 point non-cumulative multiple-choice unit tests and one 150 point cumulative multiple choice final test were administered. Students could earn a total of 450 points on these 4 tests. For continuity, in this report student scores on the 150 point final were modified to reflect a 100 point scale.

Efforts to compare the differences in the students' scores between computer based testing (CBT) and pencil and paper assessments (PA) developed the first null hypothesis:

$H1_0$: The assessment scores of the population CBT will not differ significantly from the assessment scores of the population PA.

Population CBT includes all computer based testing scores from both fall semester classes as well as the computer based tests submitted by the summer 2008 semester class. Population PA includes all pencil and paper assessments from both fall semester classes as well as the pencil and paper assessments submitted by the summer 2008 semester class.

Analysis of variance allows for the consideration of the possible learning curve associated with potential lack of experience with CBT. It could be reasoned that if a learning curve existed in a manner that was significantly different from one testing medium to another, an interaction would be present as the scores for subsequent tests would become increasingly different. In order to observe if an assessment format had an effect which develops over time (such as adapting to a new test format or reducing test anxiety) a second null hypothesis was developed:

$H2_0$: Assessment scores will not present significant interaction between populations CBT and PA.

Between and within subject analysis of variance (ANOVA) was used to test the two null-hypotheses. In order to function properly the ANOVA program required an equal number of data points for each of the populations to be compared (CBT and PA); also, in order to maintain accuracy when considering interaction between the two populations, it was desired that for each subject represented in the analysis, all of that subjects respective test score fell consistently in the same population. (Some of the students who had taken the tests electronically were unable to attend the scheduled test and were forced to take a paper test instead.) Therefore, the following method for determining which scores would be represented in the ANOVA was created. It was found that 43 students had completed all four assessments electronically whereas 92 students had completed all four assessments via pencil and paper. The 92 students in the PA population where then arranged in an Excel spreadsheets where in a column

to the right of the students' scores a random number was inserted using the "=RAND()" function of Excel. The students were then arranged in ascending order based on the random number assigned by said function. The first 43 student scores on the newly arranged list were used for the ANOVA calculation.

The ANOVA calculation used to test null hypotheses one and two was two-way with replication and used an alpha value of 0.05.

To allow for the inclusion of all data, additional sensitivity analysis was conducted. T-tests were used to compare results from the full CBT and PA populations for each test individually as well as the combined test scores from each population as a whole. The t-tests assumed heteroschedasticity with an alpha of 0.05.

RESULTS

The CBT and PA scores resulted in the following mean scores as indicated by table one.

Table 1: Mean Table Scores for Computer Based and Paper tests of CBAD 330 sample

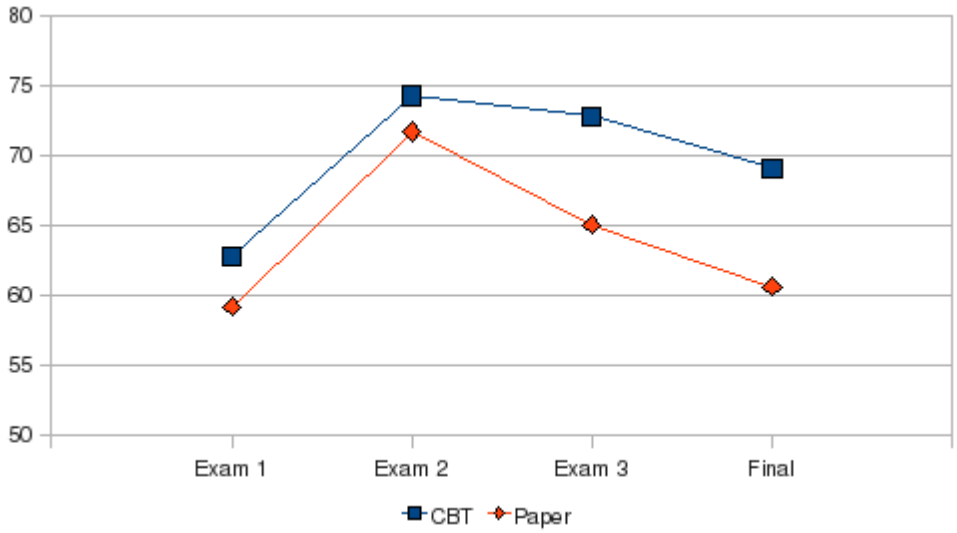
	Exam 1	Exam 2	Exam 3	Final	Total Mean
Comp. Based	62.82	74.33	72.83	69.12	69.77
Paper	59.21	71.74	65.09	60.65	64.177
Total Mean	61.02	73.04	68.96	64.88	66.97

As shown by table two, an ANOVA of the 43 students who had taken all computer based tests and 43 randomly selected students who had taken all assessments via paper and pencil indicated significant difference between the exam formats of CBT and PA ($p=0.000164$) as well as significant difference among the different exams as a whole ($p<0.0001$). These results suggest that null-hypothesis one may be rejected. The test scores of students using CBT are significantly different than those utilizing PA, with the CBT students group earning higher exam scores.

No significant interaction was indicated by an ANOVA, further validated graphically in chart one. The analysis of variance allows for the consideration of the possible learning curve associated with potential lack of experience with CBT (or test anxiety). Although the difference in scores between CBT and paper may be increasing (refer to chart one), the interaction is not significant (as shown in table two). Therefore, a learning curve (as it relates to testing method) does not appear to affect test scores. The non-significant interaction also indicates a failure to reject null-hypothesis two.

Table 2: Analysis of Variance between CBT and PA populations						
Source of Variation	SS	df	MS	F	P-value	F crit
Sample	2695.67	1	2695.67	14.54	0	3.87
Columns	6928.83	3	2309.61	12.45	0	2.63
Interaction	555.18	3	185.06	1	0.39	2.63
Within	62310.39	336	185.45			
Total	72490.07	343				

Figure 1: Comparison of Computer Based and Paper Mean Scores by Exam



In subsequent sensitivity analysis of all available data, a student's t-test analysis of exam specific and total scores by population was conducted on the full sample of both CBT and PA groups. As shown in table three, indicated significant differences exist between the PA and CBT populations in the third exam ($p=0.0322$) as well as the combined scores of all exams ($p=0.00836$). Given that the CBT test scores are higher, these results provide further support for the use of CBT.

Table 3: P-Values of Two-Tailed, Heteroschedastic, Student's T-Test Analysis Between Exam Formats					
	Exam 1 CBT	Exam 2 CBT	Exam 3 CBT	Final CBT	Combined CBT
Test 1 Paper	0.7058				
Test 2 Paper		0.4164			
Test 3 Paper			0.0322		
Final Paper				0.0645	
Combined Paper					0.0084

To reiterate, the combined information suggested that null-hypothesis one, which states that test scores of CBT and PA populations are not significantly different, may be rejected. Null-hypothesis two states that test scores of CBT and PA populations do not significantly interact, which suggests that test format does not affect student score over time. This hypothesis fails to be rejected.

DISCUSSION

Both between and within subject ANOVA and t-tests suggest that there is a significant difference in assessment score between computer based and traditional paper and pencil format. The difference in all cases was that CBT resulted in a higher average score than the traditional method.

A previous study has indicated that no significant difference exists between proctored computer based and traditional means of assessment relating to accounting material (Anakwe, 2008). However, the distribution of the assessments (alternating between paper and computer based tests for the class as a whole versus consistent testing for each student), as well a sample size, indicate fundamental differences between the two studies. Such differences may indicate how the two studies arrived at a different result, as well as indicate what factors (variance associated with sample size or test anxiety) created the difference.

An easily identified reason for the difference is that Anakwe gave the same group of students a traditional assessment, then CBT for the subsequent test whereas this study uses one class section for computer based and another for traditional assessment. This could point to the possibility that the sections given the computer based tests were simply better at accounting than those given the traditional assessments; however, given the larger size of each sample in this study ($n>30$) another possible explanation was that Anakwe's smaller sample sized prevented sufficient evidence for significant difference. Regardless, both studies found that CBT is not a determent to a student's assessment.

The possible reasons for the higher mean score in the computer based testing group should also be examined. All methods of cheating would presumably be maintained at the same level as in the traditional assessment environment due to the inclusion of a proctor. One explanation may be that the students feel more comfortable interfacing with a computer than using a pencil and paper. If this is the case, then score-reducing forms of test anxiety, referred to by Sarason and Mandler (1952) as task-

irrelevant anxiety drives (i.e. worry that is extraneous to the completion of the test), may be mitigated during computer based testing. Test anxiety as a score mitigating factor is further reinforced when considering Anakwe's (2006) method of switching between test formats, a method that could conceivably increase test anxiety, thereby reducing the possible cathartic benefits of CBT for the student. The manner in which CBT would reduce anxiety merits further research.

Regardless of whether computer based testing increases or has no effect upon a students score, the limited amount of research on proctored computer based versus traditional assessment indicates that given the same instruction (Anakwe, 2008; Clariana and Walalace, 2002), computer based testing does not result in lower scores for students.

As previously mentioned, the between and within subject analysis of variance also allows for the consideration of the possible learning curve associated with potential lack of experience with CBT. It could be reasoned that if a learning curve existed in a manner that was significantly different from one testing medium to another, an interaction would be present as the scores for subsequent tests would become increasingly different. Although the difference in scores between CBT and paper may be increasing (refer to chart one) the interaction is not significant (as shown in table two). This may indicate that students are already comfortable using computer technology as a means for assessment.

Moving forward, an analysis of student emotional and physical response to computer based testing would be a logical follow-up study to the results found in this report. Such an analysis may be accomplished through distributing a survey seeking to determine the students' level of distraction during the assessment, pre- and post- assessment worry, and level of perceived stress before and during the assessment; followed by an regression analysis on the survey data as it relates to performance on computer based testing.

The findings of this study, taken into conjunction with those of previous studies, suggest that proctored CBT provides an accurate assessment of a student's abilities. Given the aforementioned benefits of computer based testing to the professor as well as the student, it seems logical that academic as well as professional organizations should continue to move toward computer based testing.

REFERENCES

Anakwe, Bridget. (2008). Comparison of Student Performance in Paper-Based Versus Computer Based Testing. *Journal of Education for Business,* September/October, 13-17.

Bonham, S. (2006). Reliability, compliance and security of web-based pre/post testing. *Proceeding of 2006 Physics Education Research Conference* (pp. 133-136). Syracuse, NY: American Institute of Physics.

Bugbee Jr., Al. (1996). The Equivalence of Paper-and-Pencil and computer based Testing. *The Journal of Research on Computing in Education*, 28, 282-290.

Bull, J. & McKenna, C. (2001). Blueprint for computer-assisted assessment.

Clariana, R. & Wallace, P. (2002). Paper-based versus computer based assessment: Key factors associated with the test mode effect. *British Journal of Educational Technology*, 33, 593-602.

DeSouza, E. & Fleming, M. (2003). A comparison of in-class and online quizzes on student exam performance. *Journal of Computing in Higher Education*, 14, 121-134.

Graham, J.M., Mogel, L.A. Brallier, S.A. & Palm, L.J. (2008). Do you online?: The advantages and disadvantages of online education. *Bridges* 2, 27-36.

Erturk, I. Ozden, Y. & Sanli, R. (2004). Students' Perceptions of Online Assessment: A Case Study. *Journal of Distance Education,* 19, 77-92.

Everding, G. "Repeated test-taking better for retention than repeated studying, research shows." Washington University in Saint Louis News and Information. 2006. Washington University in Saint Louis. 1 Mar. 2006, from http://news-info.wustl.edu/tips/page/normal/6715.html

Keiso, D.E., Warfield, T,D., and Weygandt, J.J. (2006). *Intermediate Accounting*. New York: Wiley.

Harmon, O.R. & Lambrinos, J. (2008). Are online exams an invitation to cheat? *Journal of Economic Education,* 39, 116-125.

Rovai, A.P. (2000). Online and traditional assessments: what is the difference? *The Interned and Higher Education,* 3, 141-151.

Rowe, N. C. (2004). Cheating in online student assessment: Beyond plagiarism. *Online Journal of Distance Learning Administration*, 7(2), 1-10.

Sarason, S. B., & Mandler, G. (1952). Some correlates of test anxiety. *Journal of Abnormal and Social Psychology*, 47, 810-817.

Serwata, J. (2003). Assessment in on-line CISs Courses. *Journal of Computer Information Systems,* 44, 16-20.

Waschull, S.B. (2001). The online delivery of psychology courses: Attrition, performance, and evaluation. *Teaching of Psychology*, 28, 143-147.

Wise, S. L., Barnes, L. B., Harvey, A., & Plake, B. S. (1989). The effects of computer anxiety and computer experience on the computer-based achievement test performance of college students. *Applied Measurement in Education*, 2, 235-241.

Zandvliet, D. & Farragher, P. (1997). A comparison of computer-administered and written tests. *Journal of Research in Computing Education*, 29, 423-439.

DOCTORAL PROGRAMS IN ACCOUNTING AND INTELLECTUAL CONTRIBUTIONS OF ACCOUNTING FACULTY AT NON-DOCTORAL INSTITUTIONS

B. Brian Lee, Prairie View A&M University
Munir Quddus, Prairie View A&M University
Reginald L. Bell, Prairie View A&M University

ABSTRACT

This study examines the curricula and training of doctoral accounting students and intellectual contributions of accounting faculty at non-doctoral institutions in Texas. The Association to Advance Collegiate Schools of Business International Standards classifies faculty intellectual contribution into three fields: discipline-based scholarship research, contributions to practice, and pedagogical research. We find that doctoral accounting students are primarily trained to promote discipline-based scholarship research, while accounting faculty in selected non-doctoral institutions produce intellectual contributions on applied and pedagogical topics.

INTRODUCTION

The purpose of this study is to evaluate the role of doctoral accounting programs in training accounting faculty members who would teach in schools accredited by The Association to Advance Collegiate Schools of Business (AACSB) International. Accreditation for business programs in colleges and universities is comparable to the ISO9000 and ISO14000 certification in the industry as a way to improve the quality of processes and products (Munilla et al. 1998). Under the pre-1991 standards, AACSB accreditation was confined to large and research-oriented institutions with adequate resources to meet rather narrowly defined criteria of academic scholarship-publications in quality refereed academic journals. As small and medium-sized institutions with teaching as their primary mission also wanted to improve their educational programs through accreditation, AACSB International gradually adopted new standards to allow both research- and teaching-oriented institutions to seek accreditation.

Under the mission-driven standards adopted in 1991 and 2003 (continuously updated afterwards) (AACBS International 2008), institutions can take advantage of their unique strengths in higher education. For example, previous standards on intellectual contributions refer to basic or discipline-based scholarship only (the discovery of new knowledge that is published in refereed academic journals), but new standards in 1991 and 2003 broadened the definition by adding two additional categories: 1) contributions to

practice and 2) learning and pedagogical research. Standards in 1991 and 2003 employ different, but comparable, terms to describe each of the classified faculty intellectual outputs: basic research, applied research, and intellectual development in 1991, but discipline-based scholarship, contributions to practice, and learning and pedagogical research in 2003. This paper uses terms employed in the 2003 document.

Under the 2003 standards, membership in AACSB International is open to any academic institution that demonstrates the intellectual activities of their faculty in line with its announced educational mission. For example, institutions with doctoral programs place emphasis on discipline-based scholarship, while institutions with a primary undergraduate teaching focus select learning and pedagogical research as their primary categories in intellectual contributions. Institutions with master's degree programs could balance three areas (McKenna et al. 1997). In each case, faculty members must demonstrate competence through intellectual activities for attaining initial AACSB accreditation and maintenance (Swinney et al. 2002).

AACSB International Standards classify faculty into two distinct groups based on their academic qualifications: academically or professionally qualified faculty members. The former is trained to perform academic research with a terminal degree in their area of teaching, while the latter is expected to bring real-world experience into the classroom. Since business academic curricula must address real-world issues, a combination of instruction in both academic rigor and current real-world experience would equip business graduates with critical thinking as well as applicable knowledge and skills in business. In general, academically qualified faculty members produce intellectual outputs that enable their institution to move toward achieving its educational mission.

Academically qualified faculty members are a product of doctoral programs. In particular, their research capability is heavily influenced by what they learn in the doctoral program. Doctoral institutions have a stated mission to pursue excellence in the discipline-based scholarship; their faculty members earn prestige and recognition through distinguished contributions to the existing body of knowledge in their discipline. In general, applied knowledge and pedagogy are not a major concern for business faculty employed in doctoral institutions.

Faculty members with a terminal degree work in either doctoral or non-doctoral institutions. The intellectual contribution portfolio is one of the most important considerations for non-doctoral institutions in applying for AACSB accreditation and continued maintenance (Kachelmeier et al., 2005). Therefore, faculty members at both doctoral and non-doctoral institutions are engaged in intellectual activities but with different emphasis guided by a stated mission of their institution and the resources available. An important question is how faculty at doctoral institutions trained in basic research can develop skills and expertise required to conduct research in practice and pedagogical topics.

The standards of AACSB International do not address what doctoral students should learn or how they should be trained. Rather, they assume that researchers with a terminal degree could migrate into other fields of research. There is no close coordination between doctoral institutions and AACSB International about the doctoral curriculum (Mowday, 1997). Rather, doctoral curricula in business are primarily determined by stated missions at individual institutions.

A review of the accounting doctoral programs at seven institutions in Texas reveals that doctoral students are trained to perform basic academic research in accounting, namely, discipline-based scholarship, and to develop their effective teaching (or communication) skills. In our sample, however, no accounting doctoral students are required to obtain pedagogical knowledge about student learning; no course in the education department is recommended. Rather, doctoral students choose fields that could provide supporting theoretical and methodological skills in the course of conducting their research in accounting, for example, statistics, econometrics, economics, psychology, and the like. Further, no specific mechanism exists in accounting doctoral programs to assist students in gaining practical experience in accounting. As a result, doctoral accounting curricula do not adequately address research topics in practice and pedagogy.

In order to evaluate the intellectual contributions of accounting faculty members, we reviewed Self-Evaluation Reports (SERs) prepared by five Texas business schools that had successfully applied for AACSB accreditation in the last five years. The institutions had published 224 intellectual contributions during the accreditation review period. Of the 224 intellectual contributions, 206 (92%) are in research about practice and pedagogy, and 18 (8%) are associated with basic research.

In conclusion, a large discrepancy exists between research topics and skills that doctoral accounting curricula address and those that are required by accounting faculty members at non-doctoral institutions. In terms of quantity, accounting faculty with a terminal degree appear to successfully migrate into other fields of research as demonstrated by the bulk of their research. In terms of quality, nonetheless, their migration is not well supported, as only one of the 126 articles in applied research appears in the 11 widely circulated practice-oriented journals.

LITERATURE REVIEW AND RESEARCH QUESTION

New AACSB standards in 1991 and 2003 have made accreditation feasible for more institutions as research excellence is no longer the only path for accreditation. A large number of small- and medium-sized institutions can use teaching as their primary mission and receive accreditation for programs that are designed to achieve their educational mission as long as they can establish that their programs are of high quality. Accordingly, the definition of intellectual contributions (IC) has been broadened to include three categories: learning and pedagogical research, contributions to practice, and discipline-based scholarship. Learning and pedagogical research contributes to "the teaching-learning activities of the school. Preparation of new materials for use in courses, creation of teaching aids, and research pedagogy all qualify" (AACSB International 2008, p. 24). Contributions to practice is associated with "professional practice in the faculty member's field. Articles in practice-oriented journals, creation and delivery of executive education courses, development of discipline-based practice tools, and published reports on consulting all qualify" (AACSB International 2008, p. 24). Discipline-based scholarship contributes to "the theory or knowledge base of the faculty member's field. Published research results and theoretical innovation qualify" (AACSB International 2008, p. 24).

This categorization of a faculty's intellectual contributions is consistent with the inspiration of Cheit (1985), who proposed two distinctive approaches to higher education in business: academic and professional. The academic approach is designed to improve the intellectual capacity of students in business to deal with unknown problems in the future through general intellectual training that includes creativity, analytical competence, teamwork, habits of mind, sound judgments, and others. Thus, the curricula in business schools under the academic approach do not have to be directly related to business practice in industries. Alternatively, the professional approach focuses on the development of students' skill and judgment to effectively handle complex and unstructured business issues. Under this model, faculty should actively incorporate applied business problems in classroom discussions. Thus, Cheit (1985) argues that business schools should be able to appropriately balance both approaches in their curricula.

The classification of a faculty's intellectual contributions described in AACSB International standards reflects a need to balance the alternate approaches to educate business students by taking advantage of the distinctive missions and strengths of each institution. Institutions with doctoral programs favor discipline-based scholarship, while their counterparts with an undergraduate focus devote their resources to the pursuit of applied knowledge and pedagogical improvement.

AACSB International defines two types of faculty: those who are academically qualified (AQ) and those who are professionally qualified (PQ). In general, AQ faculty should hold a doctoral degree in the teaching area, while PQ faculty are non-doctoral instructors who are expected to bring their real-world experience in business and industry into the classroom. Nonetheless, both groups of faculty are expected to maintain currency in their teaching area by producing research outputs in their specialized area. In addition to faculty members who individually need to maintain currency in their field of instruction by following alternate paths (publishing papers, attending conferences, or participating in professional workshops), the institution as a whole should produce an appropriate level of intellectual contributions in each discipline. For example, Standard 2 of AACSB International indicates that "The mission includes the production of intellectual contributions that advance the knowledge and practice of business and management" (Section 2.2. p. 13). This requirement, further defined as "the portfolio of intellectual contributions should emanate from a substantial cross-section of faculty in each discipline; the school should have established clear expectations for the intellectual contributions responsibility of individual faculty members" (p. 48). Accordingly, accredited institutions would like to recruit and retain more AQ faculty who are trained and able to produce intellectual contributions in their fields of specialization.

The three classifications of intellectual contributions defined by AACSB International standards are also consistent with the ideas of Boyer who divides scholarship in four ways:

> *What we urgently need today is a more inclusive view of what it means to be a scholar - a recognition that knowledge is acquired through research, through synthesis, through practice, and through teaching* (1990, p. 24).

Boyer defines research as a discovery of new theories or knowledge that contributes to the intellectual world of human beings, while synthesis is the combination of isolated facts and theories into comprehensive, meaningful concepts. Thus, research and synthesis constitute discipline-based scholarship according to AACSB International standards. Practice represents the application of theories and knowledge discovered in useful and meaningful ways. Boyer emphasizes teaching as the dissemination of knowledge and skills to others, so teaching itself is emphasized. Thus, AACSB International Standards 15-21 include detailed guidelines on the assurance of learning standards. In addition, AACSB International includes learning and pedagogical research as one of the required areas of intellectual contributions. As a result, faculty members at accredited institutions are encouraged to pursue a broad range of intellectual activities in addition to disciplined-based scholarship, which was previously the primary source of intellectual contributions.

The question is whether or not doctoral programs in accounting have been updated by reflecting the expanded scope of intellectual activities. Standard 21 of AACSB International states "[S]tudents of doctoral level programs demonstrate the ability to create knowledge through original research in their areas of specialization" (p.17). Accordingly, AACSB International considers the ability of doctoral students to conduct discipline-based scholarship as the primary educational goal of their programs. Yet, no similar specification exists for other intellectual activities: contributions to practice and learning and pedagogical research. Rather, terms such as "advanced knowledge" or "advanced theoretical or practical research skills" in Standard 21 imply the importance of original research in the specialized area.

Standard 21 indicates that "preparation for teaching responsibilities in higher education (for those students who expect to enter teaching careers)" (p. 17). A number of doctoral students are recruited by institutions where teaching is their primary responsibility; they are expected to be effective communicators in the classroom. Accordingly, doctoral students are primarily trained to be effective classroom communicators. That training process is not necessarily involved in academic inquiries into teaching methodologies and their advancement.

Doctoral institutions could customize their doctoral programs by including additional learning activities consistent with their mission, as indicated in the sixth clause in Standard 21, which says that "other areas as identified by the school" (AACSB International 2008, p. 17). Thus, this paper is motivated to examine how individual doctoral institutions address in their doctoral curriculum the expanded scope of faculty intellectual activities including applied and pedagogical research for doctoral students who will work for non-doctoral institutions.

This paper reviews the curricula of doctoral programs in accounting at selected institutions to determine whether the curricula are broad enough to encompass potential doctoral faculty who could conduct research in all three areas. The accounting program is chosen because of its professional nature. The accounting discipline was initially organized to train competent accountants who produce financial statements and auditors who attest to financial statements' conformity with generally accepted accounting principles. Professional knowledge and skills play an important role in designing the accounting curriculum. For example, Mounce et al. (2004) reports that accounting professors with relevant

professional experience are of higher quality than their counterparts who lack professional experience as perceived by students. Thus, applied and pedagogical research might be an important part of intellectual activities for the accounting faculty.

REVIEW OF ACCOUNTING DOCTORAL PROGRAMS IN TEXAS

We reviewed doctoral accounting programs of seven universities in Texas: The University of Texas at Austin (UT-Austin), Texas A&M University (TAMU), Texas Tech University (TTU), The University of Houston (UH), The University of North Texas (UNT), The University of Texas at Dallas (UTD), and The University of Texas at San Antonio (UTSA). Table 1 includes a summary of learning objectives and associated doctoral programs curricula at these institutions.

Table 1: Accounting Doctoral Programs in Texas

Universities	Focus of Doctoral Curriculum	Courses
University of Texas-Austin	-Abilities to advance knowledge in accounting-researcher -Teaching experience-teacher	-Foundation courses in accounting, mathematics, economics, and statistics -Courses in major and minor fields -Teaching one course for students without prior teaching experience
Texas A&M University	-Development of comprehensive knowledge of methods and concepts in business research disciplines -Performance of quality research and dissemination of findings through teaching and writing -Preparation for academic or similar positions that require research and analytical skills	-Courses in research methodology: statistics and econometrics -Courses in major and minor areas
Texas Tech University	-Basic research skills -Quantitative and economic tools of analysis -Expertise in accounting	-Foundation courses -Courses in research methods -Courses in major and minor fields
University of Houston	-Scholars to contribute to the body of academic and practical knowledge in accounting -Educators to teach future accountants and business persons	-Courses in research methodology -Courses in major and minor areas
University of North Texas	-Careers in teaching and research at the university level -Careers outside academia	-Foundations courses - teaching and research -One of the two tracks of research methodology -Courses in major and minor areas

Table 1: Accounting Doctoral Programs in Texas		
Universities	Focus of Doctoral Curriculum	Courses
University of Texas at Dallas	-Fundamental scholarship to advance theory and practice -Applied scholarship to address practical issues -Development of teaching skills	-Research method courses in statistics, econometrics, economics, data processing, and operations research -Courses in major and minor fields -Elective courses -Teaching assignments
University of Texas at San Antonio	-Academic careers in teaching and research by focusing on strong analytical skills, broad knowledge in accounting -Ability to conduct quality research independently	-Foundation courses -Courses research methodology: statistics, econometrics, economics, and others -Courses in major and minor fields
Note: Seven doctoral accounting programs in Texas were identified by visiting their websites. Table 1 was constructed by summarizing what individual universities describe about their doctoral accounting programs at their website. Each doctoral program in accounting is designed to educate students to develop research skills needed to conduct research independently. Students in the doctoral programs must take a number of courses in research methodology such as statistics and econometrics to develop analytical skills. Additionally, doctoral students in accounting are required to take courses in one or two other fields to augment their overall expertise in accounting. Overall, doctoral students in accounting are trained to contribute to the body of accounting literature by discovering new knowledge, i.e. discipline-based scholarship.		

The descriptions of doctoral programs in accounting at four institutions (UT-Austin, TAMU, TTU, and UTSA) do not include words or terms that imply applied or practical knowledge in accounting. On the other hand, three other doctoral programs address their interest in practical knowledge in accounting. For example, the doctoral program from UH emphasizes that Ph.D. holders in accounting should be able to contribute to the body of practical knowledge in accounting; UNT indicates that the flexibility of their accounting doctoral program allows students to pursue their careers outside academia; UTD specifically includes the term "applied scholarship" in the description of their accounting doctoral program to prospective students.

Nonetheless, the curricula of the accounting doctoral programs at UH, UNT, and UTD are fairly similar to those of their counterparts, UT-Austin, TAMU, TTU, and UTSA in terms of courses required in research methodology, major, minor, and supporting fields. A majority of learning activities in each of these doctoral programs takes place in the classroom setting with emphasis on quantitative analysis to improve the rigor of research findings; thus, this curriculum is mainly designed to promote discipline-based scholarship skills.

Contributions to practice are associated with academic solutions to current issues and topics in industries, for example, implications of changes in a given tax law for firms in the oil and gas industry. It could be a challenge for scholars to identify concerns in the industry and to provide relevant solutions for them as they do not necessarily have contact with practitioners. Also, solutions to practical issues may

require intense knowledge in the industrial practice beyond mathematic or economic formulas. Thus, we examine in some depth the doctoral program curriculum in accounting at UTD that specifically states "applied scholarship" as one of the learning goals for students. This investigation will determine if special efforts are undertaken to incorporate practical issues into the doctoral accounting curriculum at UTD.

The admission criteria for the accounting doctoral program at UTD include (1) a minimum GMAT test score of 600, (2) an undergraduate degree, (3) letters of recommendation, and (4) a personal statement of learning goals. Thus, students without work experience can be admitted to the doctoral accounting program at UTD. Additionally, the general description of the doctoral program states:

> *Students admitted into the program typically devote two years to the doctoral proficiency course work and research projects. They then take a comprehensive qualifying exam, based on the course work. Following passing the qualifying exam, each student develops his or her dissertation research area, which is usually completed over the next two years.*
>
> *Doctoral proficiency encompasses courses in research methods, electives or a specialization, doctoral seminars, and a written and oral qualifying examination* (University of Texas-Dallas Graduate Catalog 2006-2008. 2007)

During the first two years in this program, students focus on academic subjects, which lead to a comprehensive qualifying exam. This is the typical coursework for most doctoral programs. Most doctoral students in their first two years of the program do not have time for anything else except to prepare for the comprehensive qualifying exams, which mainly focus on academic knowledge and skills in major and supporting areas. After passing the comprehensive exams, students at UTD begin working on their dissertations. The content and structure of their doctoral dissertation depends on the decision of the dissertation chair and committee; however, doctoral dissertations must include a comprehensive review of related literature and a demonstration of academic rigor in the methodology and findings. The above examination reveals that, although UTD highlights the importance of applied scholarship in its doctoral program, in reality this doctoral accounting program is not much different from those of other universities where an entire emphasis is placed on academic knowledge and skills to advance theory.

We also reviewed the doctoral accounting program at UNT, which emphasizes accommodating the needs of some doctoral students interested in careers outside academia. UNT, however, does not run two-tier doctoral programs, one for academicians and another for practitioners in the industry. Instead, there are two tracks of coursework in research methodology but each track seems to be designed for academic research. An examination of the doctoral program at UH supports a similar conclusion: no requirement is embedded in the doctoral coursework to build skills to conduct applied research by acquiring industry-specific knowledge.

Instruction is another educational goal of the doctoral accounting programs because most graduates find employment as faculty at higher educational institutions. UT-Austin requires students without prior

teaching experience to take at least one teaching seminar course; doctoral students at UNT also take one teaching seminar. TAMU considers teaching to be a means of disseminating research findings. The doctoral accounting programs emphasize the ability of their students to effectively deliver knowledge and course material to students in the classroom without involving in academic research in education. Doctoral accounting students are required to take courses in supporting fields to augment their overall expertise in accounting. Thus, even though no restriction is in place regarding which supporting fields should be taken, students choose their supporting fields to contribute to the mastery of their specialized subjects in accounting. For example, the list of suggested supporting fields includes financial economics, psychology, behavioral economics, sociology, computer science, statistics, etc. Nonetheless, no doctoral accounting programs suggest education or curriculum development as supporting fields.

In conclusion, a review of seven doctoral programs in accounting reveals that doctoral students are trained to primarily conduct basic research. Even though several programs indicate that applied scholarship is one of the learning objectives in their programs, their curricula only pay lip service to their goal. Doctoral accounting programs are generally standardized in terms of their program curriculum despite some superficial differences in their program learning goals and objectives. Almost every doctoral program in accounting seems to emphasize teaching skills; students are encouraged to develop their effective communication capabilities. Nonetheless, no doctoral accounting program requires doctoral students to take courses in education or curriculum developments from which students could learn how to improve the effectiveness of accounting education.

This paper also reviews the intellectual contributions of accounting faculty members at selected institutions that successfully applied for AACSB accreditation. The comparison between the curricula of accounting doctoral programs and the intellectual contributions of the accounting faculty provides some insight into whether doctoral students in accounting are equipped with the skills and knowledge desired by future employers, in particular, small- and medium-sized universities.

REVIEW OF INTELLECTUAL CONTRIBUTIONS OF ACCOUNTING FACULTY MEMBERS

SERs for AACSB accreditation include classified intellectual contributions of faculty. Thus, we reviewed SERs that were prepared by five small and medium-sized institutions in Texas that successfully applied for AACSB accreditation of their business programs within the past five years. The main educational mission of their business programs is to educate undergraduate and graduate students. Even though some schools run specialized programs such as a Master of Science in Accounting (MSA), a Master of Business Administration (MBA) is a major program degree for their graduate students.

As shown in Table 2, five universities hired 25 accounting faculty members, of whom 20 have a terminal degree. One accounting faculty member without a terminal degree reported intellectual contributions, but the rest (four faculty members) did not report any intellectual contribution. Nonetheless,

all accounting faculty members with a terminal degree except for one are engaged in intellectual activities; thus, they are a major source for the production of intellectual contributions at their institutions.

Table 2: Intellectual Contributions of Accounting Faculty Members at Selected Recent AACSB Accredited Institutions in Texas

Institutions	No. of Faculty		Basic	Applied	Instruct-ion	Total	Content
	With Ph.D.	Without Ph.D.					
A	4	3	12	23	29	64	Journal articles & proceedings
			19%	36%	45%	100%	
B	4	0	0	13	1	14	Journal articles & book chapters
			0	93%	7%	100%	
C	4	0	0	13	27	40	Journal articles, proceedings, & presentations*
			0	32%	68%	100%	
D	5	2	6	66	9	81	Journal articles, proceedings, & presentations
			7%	82%	11%	100%	
E	3	0	0	11	14	25	Refereed & non-refereed
			0	44%	56%	100%	
Total	20	5	18	126	80	224	
			8%	56%	36%	100%	

Notes: Five universities in Texas that have successfully applied for AACSB accreditation over last five years. 'C' institution reports two categories: basic and applied research vs. instructional development. The intellectual contributions in basic and applied research are composed of seven journal articles and six in other outlets, including proceedings and presentations. We reviewed the seven journal articles' titles and concluded that these journal articles were mostly associated with applied research. Thus, assuming that proceedings and presentations are related to applied research, all 13 intellectual contributions are classified into applied research.

Basic: Referring to basic research (discipline-based scholarship) in AACSB standards in 1991 (2003).

Applied: Referring to applied research (contributions to practice) in AACSB standards in 1991 (2003).

Instruction: Referring to instructional development (learning and pedagogical research) in AACSB standards in 1991 (2003).

AACSB standards in 1991 partition intellectual contributions into three types: basic research, applied research, and instructional development. As SERs were prepared under standards in 1991, the categorization of intellectual contributions in Table 2 is based on standards in 1991. Each school organizes the table that includes partitioned intellectual contributions of faculty in a slightly different way.

Institution 'A' partitions both journal articles and proceedings into the three categories. Institution 'B' includes journal articles and book chapters in its partitioned intellectual contributions. Institution 'C' presents journal articles, proceedings, and presentations in two categories: basic and applied research vs. instructional development; basic and applied research includes 13 intellectual contributions of which seven are journal articles. We reviewed the titles of the seven journal articles and concluded that the seven journal articles are associated with applied research. Institution 'D' partitions journal articles, proceedings, and presentations into three categories. Institution 'E' includes both refereed and non-refereed intellectual contributions in the partitioned intellectual contributions.

Five institutions report 224 intellectual contributions by faculty, which are divided into 18 (8%) in basic research, 126 (56%) in applied research, and 80 (36%) in instructional development. Thus, accounting faculty members at these institutions are primarily involved in applied research and instructional development (92%). Basic research represents only (8%) of their intellectual contributions.

DISCUSSION AND CONCLUSIONS

Students at accounting doctoral programs in Texas are primarily trained to carry out basic research in accounting. Even though a couple of accounting doctoral programs highlight the importance of applied topics in accounting, their doctoral curricula are not much different from other programs. All doctoral curricula emphasize the rigor of academic research methodology. Further, accounting doctoral students at these programs are not required to have work experience in the accounting area prior to joining the doctoral program or during the program. In other words, it is not clear how accounting doctoral students without necessary work experience are able to identify issues and concerns in accounting that are directly relevant to accounting practitioners or managers. Furthermore, accounting doctoral students are not required to take any courses from the educational department.

To the contrary, accounting faculty members at small and medium-sized institutions spend a great portion of their efforts on research in applied and pedagogical topics (92% of all intellectual outputs). This observation implies that accounting faculty have successfully migrated their basic research skills into other fields such as applied and pedagogical topics.

We further examined how the intellectual outputs of faculty at the sample institutions have drawn attention from target readers by referring to the quality of journals in which they were published. Bell et al. (1993) provide a list of practice-oriented journals in accounting, including 11 widely circulated journals such as *Tax Notes*, *Taxes*, and *Journal of Accountancy*. We can reasonably assume that articles in these journals deal with topics and issues that appeal to practitioners compared to those that appear in relatively unknown outlets. Out of the 126 articles in applied topics, one article was published in one of the 11

journals. This finding implies that faculty in the sample institutions might be concerned about the volume of publications in the course of applying for AACSB International accreditation. Thus, it is not clear whether accounting faculty could identify topics and related solutions that appeal to practitioners in the industry. We did not investigate the cause of our findings, but assumed that excessively academic-oriented research findings may not appeal to accounting practitioners. The incorporation of practical knowledge and skills in the doctoral accounting program could make it easier for accounting faculty at the non-doctoral institutions to publish research findings that are relevant to accounting practitioners.

The findings of this study are limited to newly AACSB accredited universities and doctoral accounting programs in Texas so that their generalizability is restricted. Thus, future studies should expand the scope of their investigation on this issue by including accounting faculty at universities and doctoral accounting programs across the country.

REFERENCES

AACSB International. (2008). *Eligibility Procedures and Accreditation Standards for Business Accreditation*, retrieved June 28, 2009 from, http://www.aacsb.edu/accreditation/standards.asp.

Bell, T. B., Frecka, T. J., & Solomon, I. (1993). The relation between research productivity and teaching effectiveness: empirical evidence for accounting educators. *Accounting Horizons*, *7*(4), 33-47.

Boyer, E. (1990). *Scholarship reconsidered: Priorities of the professoriate.* Princeton, NJ: The Carnegie Foundation.

Cheit, E.F. (1985). Business schools and their critics. *California Management Review, 27*(3), 43-62.

Kachelmeier, S. J., Madeo, S.A., Plumlee, D., Pratt, J.H., Krull, G., & Thornton, G. (2005). *Report of the AAA/AAPLG AD Hoc Committee to Assess the Supply and demand for accounting Ph.D.* University of Texas at Austin.

McKenna, J.F., Cotton, C.C., & Van Auken, S. (1997). The new AACSB accreditation standards: a prospect of tiering? *Journal of Organizational Change Management*, *10*(6), 491-502.

Mounce, P.H., Mauldin, S., & Braun, R.L. (2004). The importance of relevant practical experience among accounting faculty: An empirical analysis of students' perceptions. *Issues in Accounting Education, November, 19*(4), 399-411.

Mowday, R.T. (1997). Reaffirming our scholarly values. *Academy of Management, 22*(2), 335-345.

Munilla, L.S., Bleicken, L.M., & Miles, M.P. (1998). Social responsibility and AACSB accreditation standards: how ISO 14000 can integrate environmental issues into the marketing curriculum. *Marketing Education Review, 8*(3), 57-66.

Swinney, L., Sneed, J., & Morgan, D.A. (2002). The emphasis on teaching and research at AACSB and non-AACSB institutions. *Journal of Accounting and Finance Research*, pp. 1-9.

University of Texas-Dallas Graduate Catalog 2006-2008. (2007). School of Management, Doctor of Philosophy. Retrieved June 28, 2009 from, http://utdallas.edu/dept/graddean/cat2006/contents.htm