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GENUSOLOGY AND GENIUS EDUCATION METHODOLOGY: A GENIUS SOLUTION FOR FASTEST GROWTH, DEVELOPMENT, AND IMPROVEMENT

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David A. Smarsh, International Academy of Genius**

ABSTRACT

Development of Geniusology (the science of genius, Aleinikov, 2003) leads to understanding that genius is not a person with high IQ, but a person who either solves a problem of great importance faster or a person who arrives to a great solution first. A simple proof lies in the fact that huge numbers of people with high IQ never do anything great or are recognized as great. On the other hand, some geniuses of the past (very well recognized) had relatively low IQs, and one of them was even called "a genius with the IQ of a moron." The Geniusology definition of genius as a mega-recognized mega-innovator stands against both these counter examples. In addition to the new definition, Geniusology demystifies the concept, debunks the traditional myths of genius, offers a new classification of geniuses, and provides a new methodology of studying geniuses. This re-defining of genius makes it possible to teach genius thinking and genius behavior to achieve outstanding results very fast. Since people are the backbone of every system, the development of Genius Education Methodology (GEM, already labeled "the GEM of education" by the media) provides the fastest way to any growth and improvement. If you take into account the statement "Nature has no problems; People do," then aiming at people to achieve the fastest result in education and training, technology and science looks like a genius solution to all problems. Examples of application of Genius Education Methodology to students, teachers, schools, centers, colleges in Pakistan, Russia, Singapore, South Africa, Thailand, and the U.S.A. only illustrate how successful this approach can be. For more information please see www.academyofgenius.com and www.lawsofconservation.com.

THE PROFESSIONAL WRITING INITIATIVE: PROVIDING SUPPORT FOR BUSINESS STUDENTS

Stephen C. Betts, William Paterson University
Andrew McCarthy, William Paterson University

ABSTRACT

Employers emphasize that proficiency in business writing is a critical skill that they seek in job applicants. They also point out that recent college graduates are frequently deficient in this area. In this presentation we will briefly outline our recent initiative to diagnose problematic areas, develop assessment rubrics, and design procedures and protocols for improving student writing. Then we will facilitate a workshop style discussion of ways to improve student business writing, drawing on the experiences and ideas of session attendees. Finally we will explore possible designs for writing centers located in a college of business.

INTRODUCTION

The importance and value of proper business writing has been recognized at least since 1396 when Thomas Sampson wrote his book "Modus Dictandi" or "Method of Letter Writing" (Thomas, 2003). Modern Employers and business educators recognize that writing skills are among the most important skills to possess (Quible & Griffin, 2007). Feedback from a variety of our stakeholders consistently pointed to business writing skills as being critical for success but somewhat lacking in our graduates. We knew that 'writing across the curriculum' programs were frequently used for developing business writing skills (Carnes, Jennings, Vice & Wiedmaier 2001) however those programs met with mixed success (Plutsky & Wilson, 2001). Programs that were successful used a faculty centered approach (Farrington Pollard & Easter, 2006). Interdisciplinary approaches (Krajicek, 2008) and those that use writing within the context of a class (Prater & Rhee, 2003) were among the most successful business writing efforts, especially when there is active help from the instructor (Pittenger, Miller & Allison, 2006). An alternative for or supplement to writing across the curriculum approaches is a business writing center. Such centers function most effectively when they coordinates with the classroom faculty (Griffin, 2001).

Schools used many mechanisms for improving writing. Some started in the freshman year with an 'abstract writing' assignment (Cox, Bobrowski & Maher, 2003).

Some use online approaches to learn business writing (Karr, 2001), using web-based lessons and self-tests (Cleveland & Larkins, 2004) and even blogs (Quible, 2005). Some schools used utilized peer feedback to improve writing skills (Holst-Larkin, 2008; Rieber, 2006). One school even combined online methods with peer review and used virtual teams to correct and edit each other on a discussion board (Barker & Stowers, 2009).

We decided to start with a measured approach and start with a diagnostic phase, however we knew it was possible to assess writing while still providing meaningful feedback (Fraser, Harich, Norby, Brzovic, Rizkallah & Loewy, 2005). The use of heuristics (Hershey, 2007), guidelines (Jameson, 2006) and rubrics (Rau, 2009) had been shown to help with writing assessment and development. We decided to start by using course embedded assignments, and develop a rubric for assessing student writing.

OUR WRITING INITIATIVE

In an effort to enhance student writing on the part of Cotsakos College of Business students, a plan was proposed and implemented consisting of the following:

- Data gathering of student writing
- Editing of student writing
- Comparison of student writing before and after these efforts
- Assessment of student writing using a specially designed rubric
- Establishment of future steps

METHODOLOGY

The plan was to provide feedback several times for each student (and applied in two classes: Marketing, and Management) and see if their writing improved over the course of one semester. The student writing would be measured against rubric components that included such metrics as "staying on topic," "answering the question," and "use of grammar and punctuation." That is, students would be required to practice good sentence structure and form as well as to articulate in their writing proper business-related logic.

Initially, use of five assignments was planned. Because only one Writing Coach acted as assessor, this proved a bit too ambitious; the contact protocols were inefficient. The result was a logistical logjam and inconsistent feedback. The 'logjam' was addressed by extending paper deadlines. Instead of comprehensive feedback to each student on each assignment, the Writing Coach targeted his comments on areas of particular need on a paper-by-paper basis. In that way the feedback was still very useful to the students.

For the Fall 2009 semester portion of the Project, fewer assignments with wider timeframes were instituted and most certainly smoothed the overall process. In addition, with the addition of an effective, clear rubric as a definitive metric, students knew at the outset what their writing will be measured against.

The Management Class cohort was approached as a needs analysis. The class provided a 'proof of concept' or trial run for incorporating editing/writing advice into the course. Students responded positively to coaching, rubric measures, editing, and in-class analysis of student work. Also very helpful was advice online and in-person from the Writing Coach, who had oversight with student writing for the duration of the term (15 weeks). This was repeated in the Fall.

Without apriori established rubrics or research protocol, needs analysis was accomplished through a multi-method approach that had as its basic components:

- A writing survey (see Table 1)
- Analysis of student writing
- In-class discussion
- Student feedback
- In-class workshops
- Literature searches.

Table 1
Writing Survey Questions

Question 1	Do you like to write?
Question 2	Do you consider yourself a good writer?
Question 3	What constitutes 'good writing' in your opinion?
Question 4	Has writing come easily to you over the years? Why or why not?
Question 5	Does it help to have someone edit your writing?
Question 6	What did past teachers do to help your writing?
Question 7	How is your Grammar?
Question 8	How is your Spelling?
Question 9	How is your Punctuation?
Question 10	How is your Sentence Structure?
Question 11	Do you like to read?

OUTCOMES

From the methodology and structure of the project, several outcomes were garnered. First was an identification of general level of student writing. That is, strengths and weaknesses, particular problems, central tendencies, and range of abilities. Through our survey we also were able to ascertain students perceptions of writing (survey results available on request). Our second outcome was a rubric for evaluating student business writing (rubric available on request). We started with the New Jersey State Core Content Curriculum Standards, and adjusted for the particular demands of business writing (from literature search and stakeholders meetings) and the current level of our students writing (from needs analysis). We left the project with the knowledge that this type of project, with steady implementation, will clearly help students write better and enhance the quality of student performance

The Editing/Writing advice proved to be quite important. A project of this nature has to provide help to the students while being developed; therefore, a 'learn-as-we-go' approach to helping students was appropriate. We started with the idea of providing feedback on five small assignments per student, augmented by class visits from the 'writing coach'. In practice, it was unfeasible to provide substantive feedback in a timely basis for so many assignments. The two in-class visits consisted of one lecture/discussion by the writing coach (with invited guests), and one editing workshop. The needs analysis conducted in the management course helped when this objective was resumed in the fall as did a streamlined workload and goal structure.

FUTURE PLAN

We plan to extend the project out by involving more classes in the project: We started with management and marketing during the first semester, and have included finance, accounting and financial planning in subsequent semesters. These courses contained a variety of different assignments. In addition, the Writing Coach will continue to gather data and work with both students and professors. Using rubrics, we hope that assessment will show that steady tutorials result in better writing. By using the rubrics in different classes with a variety of assignments we can develop the feedback processes, hone the rubrics and develop optimal procedures to improve student writing.

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THE IMPORTANCE OF TEACHING PRESENCE IN ONLINE AND HYBRID CLASSROOMS

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ABSTRACT

The Community of Inquiry (COI) model provides a comprehensive view of how instructors can enhance the learning experience by understanding three dimensions of higher-order thinking: social, cognitive and teaching presences. The purpose of this study was to determine the extent to which the COI model distinctly exists in blended and online courses in a university setting. Goals of the study included determining the psychometric properties of the COI model, examining the relationships between COI and demographic variables, and providing recommendations instructors can use to improve teaching presence in virtual classrooms. First- and second-order factor analysis and ANOVA provided critical results regarding both the importance of teaching presence, and the connection between teaching presence and student satisfaction with the learning experience. The findings of this study indicate that student satisfaction can be enhanced by improving teaching presence. The results further suggest that students may exhibit significant gains in the learning experience when relevant teaching techniques and interactions are effectively applied by the instructor. Implications and applications are presented aimed at improving teaching effectiveness in blended and online course delivery.

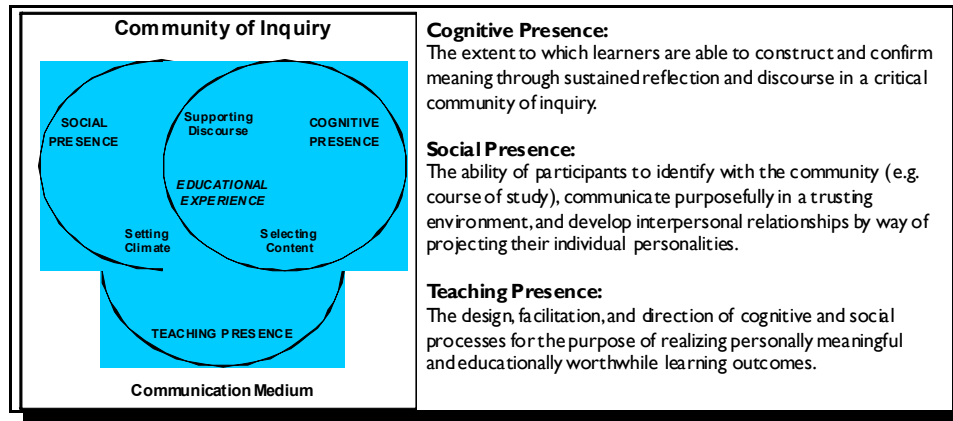
INTRODUCTION

The development of a learning community is based on the members of that classroom community having feelings of belonging and trust. Students need to feel that they are safe; free to express themselves; trust that members' educational needs will be met through their commitment to shared goals (McKeachie, Svinicki, & Hofer, 2006). Castelli's (1994; 2006) research on the motivation needs of adult learners reinforces this view where findings of the study showed an inverse effect on motivation if instructors fail to establish and maintain trust. McKeachie, et al. (2006) and Castelli's (1994; 2006) works imply that an important role of the instructor is to establish an environment that is safe for participants to express themselves, where trust is established, and participant contributions are acknowledged and valued.

The Community of Inquiry (COI) model of Garrison et al. (1999) provides a comprehensive view of how the instructor can enhance the learning experience by understanding three dimensions of higher-order thinking that occur when a group is gathered for the common goal of learning. As shown in Figure 1, the dimensions of COI are social, cognitive and teaching presences, and Garrison

et al. felt that educational experiences were maximized in a "community of inquiry" environment composed of instructors and students who demonstrate critical thinking, interpersonal and interaction skills. According to the COI model, the successful classroom is safe and welcoming. The model also assumes that valuable learning in online and blended courses is a function of the interaction between social presence, cognitive presence and teaching presence (Arbaugh, 2007).

Figure 1 - Community of Inquiry (COI) Model (Arbaugh, 2007)



The purpose of this study was to determine the extent to which the COI dimensions of social, cognitive and teaching presence distinctly exist in blended and online courses in a university setting. The goal of the study was threefold: Determine the relationships between COI and demographic variables, address the implications of these findings, and provide recommendations instructors can use to improve teaching presence in virtual classrooms. The following research questions were addressed:

1. To what extent does social, cognitive and teaching presences relate to demographic characteristics (gender, age, degree status)?
2. To what extent does the relationship between social, cognitive and teaching presences support online and blended communities of inquiry?
3. To what extent does the relationship between teaching presence (instructor interaction) and student satisfaction exist in an online and blended COI model?

Data for this study were collected over two phases. In the first phase, data from the authors' institution were analyzed to help understand and explain ways to increase learning effectiveness for blended and online courses by focusing on teaching presence. In the second phase, data from participants recruited from other colleges and universities are being collected and will be analyzed in the future to expand the results and improve generalization.

METHODS

A total of 97 students enrolled in blended courses (a mix of on-ground and online delivery components) and online-only courses served as participants during the first phase of this study. More

than 65% of the students were male ($n = 64$), half were undergraduates ($n = 47$), 27% ($n = 26$) were enrolled in online-only courses, 59% ($n = 58$) were enrolled in a mixture of online and blended courses, and 14% ($n = 13$) were enrolled in blended-only courses. Using email communications, each student was invited to voluntarily participate in the study by filling out a 20 minute web-based survey in the fall semester of 2007. Research was approved by the Lawrence Tech IRB.

Participants responded to a 50-item survey designed by Shea et al. (2005). Sixteen items assessed demographic and educational characteristics, and 34 items assessed the COI model: teaching presence (13 items), social presence (9 items), and cognitive presence (12 items). These items were scored according to a 5-point Likert scale, from strongly disagree =1 to strongly agree =5. COI items were subjected to reliability testing and assessment of internal consistency (Cronbach's alpha), face-validity, and construct validity via exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA was conducted in SPSS using principle axis factoring as the extraction method, followed by direct oblimin rotation (Comrey & Lee, 1992), and CFA was conducted in Mplus using maximum likelihood estimation. We also used SPSS to conduct ANOVA in order to examine the connection between COI dimensions, learning context, student satisfaction, and knowledge in online courses. In the present study, we focus on the impact of the teaching presence dimension.

RESULTS AND DISCUSSION

Results of reliability analyses found excellent internal consistency for the full COI model ($\alpha = .974$), teaching presence factor ($\alpha = .969$), social presence factor ($\alpha = .922$), and cognitive presence factor ($\alpha = .963$). According to the EFA, three factors with eigenvalues greater than 1.0 were extracted. These factors accounted for 71% of the variance of the 34 items that comprise the COI model. Of the three factors, teaching presence and cognitive presence items loaded very well for our sample, with item loadings ranging from .412 to .943. Items on the social presence factor also loaded very well, ranging from .346 to .838. However, 5 of the 9 social presence items cross-loaded on the cognitive presence factor. In evaluating the CFA results, models that are good representations of the data have a χ^2/df ratio of less than 2 to 1, a CFI and TLI value $\geq .90$, and a RMSEA that is less than .08 (Bentler, 2007). For this study, the higher-order CFA model had the following goodness of fit indices, which met many of the requirements for an acceptable fit: $\chi^2(2508) = 801.51$, $p < .001$, CFI = .911, RMSEA = .077 (.067-.087). Second-order CFA loadings were all significant: teaching presence = .722, social presence = .685, and cognitive presence = 1.086. Taken together, our results indicate the COI model had good psychometric properties in our sample. Future analyses with the addition of the phase 2 participants will test the reliability and validity of the COI model in students from multiple institutions.

Tables 1 and 2 present ANOVA results in which the relationships between COI dimensions and course satisfaction, course knowledge and learning context were examined. As shown in Table 1, teaching presence is significantly related to both course satisfaction and course knowledge. Specifically, participants who were satisfied with both the course and the knowledge they acquired, perceived high levels of teaching presence. These results also indicate that students who were strongly dissatisfied with the course and the knowledge they received perceived low teaching

presence. These results imply teaching presence in online courses is an important factor for sustaining both student satisfaction and knowledge.

Table 2 shows that students who perceived learning more in traditional courses, or who perceived that online components inhibited the learning experience perceived the highest level of teaching presence. Additionally, over 40% of the students indicated that online components improved their learning. Taken together, these results suggest blended courses may balance the best of on-ground classroom instruction with online components to meet the learning needs of students. Additionally, our phase 1 sample has indicated that teaching presence needs to be increased in online and blended courses.

Table 1: Results for Course Satisfaction and Knowledge				
Course Satisfaction	N (%)	Teaching Mean (SD)	Social Mean (SD)	Cognitive Mean (SD)
Strongly dissatisfied	38 (39.6)	1.42 (0.53)**	1.70 (0.54)**	1.58 (0.46)**
Dissatisfied	27 (28.1)	2.28 (0.39)	2.30 (0.53)	2.33 (0.44)
Neutral	11 (11.5)	2.70 (0.76)	2.46 (0.70)	2.78 (0.49)
Satisfied	11 (11.5)	3.24 (0.75)	3.12 (0.93)	3.72 (0.76)
Strongly satisfied	9 (9.4)	4.11 (0.92)	3.17 (1.18)	3.40 (1.21)
Course Knowledge				
Strongly dissatisfied	35 (36.5)	1.37 (0.37)**	1.75 (0.55)**	1.56 (0.44)**
Dissatisfied	23 (24.0)	2.20 (0.64)	2.22 (0.70)	2.20 (0.49)
Neutral	18 (18.8)	2.71 (0.76)	2.18 (0.62)	2.45 (0.62)
Satisfied	11 (11.5)	3.69 (0.81)	2.90 (1.03)	3.79 (0.73)
Strongly satisfied	9 (9.4)	3.44 (1.09)	3.56 (0.60)	3.69 (0.68)
** p<.01 ANOVA * p<.05 ANOVA				

Table 2: Results for Learning Context				
Online vs. Traditional (any course)	N (%)	Teaching Mean (SD)	Social Mean (SD)	Cognitive Mean (SD)
Learned more in traditional	28 (38.9)	3.01 (1.00)**	2.98 (0.92)**	3.14 (0.96)**
No difference	30 (41.7)	1.92 (0.86)	1.94 (0.61)	1.95 (0.68)
Learned more in online	14 (19.4)	1.62 (0.85)	1.63 (0.46)	1.80 (0.56)
Online vs. Traditional (similar course)				
Online improved learning	22 (40.7)	1.94 (0.99)*	2.13 (0.70)**	2.00 (0.76)**
No impact on learning by online course	23 (42.6)	2.16 (0.86)	2.05 (0.69)	2.05 (0.67)
Online inhibited learning	8 (14.8)	3.28 (1.34)	3.32 (0.95)	3.57 (0.99)
No response/NA	1 (1.9)	3.00	3.00	3.00
** p<.01 ANOVA * p<.05 ANOVA				

Rovai & Jordan (2004) state that the quality of a course and the learning experience of the students can vary due to a number of factors, including the capabilities of professors who design and teach the course. Teaching presence is a significant determinate of student satisfaction, perceived learning and sense of community (Garrison, 2007). Furthermore, the findings of this study indicating that student satisfaction can be enhanced by improving teaching effectiveness suggest that students may exhibit significant gains in the learning experience when relevant teaching techniques are effectively applied by faculty. Our research has demonstrated that teaching presence is important to student satisfaction, student knowledge and learning context. Students who were dissatisfied indicated that teaching presence was low. Therefore, faculty need to do more to improve teaching presence. Improved teaching presence in the online and blended courses may in turn promote student interest and increase participant and effort by ensuring student satisfaction with the learning experience.

RECOMMENDATIONS

The outcome of our research emphasized the faculty's critical role in enhancing the student learning experience. Therefore, general recommendations include offering faculty education and training initiatives as they relate to social, cognitive and teaching presences, with the focus on improving teaching performance. Specifically, our results indicate the need for faculty to develop interventions aimed at improving teaching presence and, ultimately, student satisfaction. These interventions need to move beyond the mechanics of simply using a particular software package or feature, and include opportunities for faculty to share ideas, concerns, frustrations and best practices in a safe community with other faculty who may be experiencing the same challenges.

Through the development of an environment that is respectful, relevant, responsive, fair, and open, online faculty and students are likely to feel safe in honestly expressing their views, concerns and recommendations to improve the online educational experience. Furthermore, by creating a safe community environment, faculty will be encouraging participants to freely debate relevant issues and take up their role as partners in the larger development of an online learning community in both online and blended classrooms (Arbaugh, 2007; Garrison, 2007; Palloff & Pratt, 2007). Teaching presence is crucial to establishing a learning environment that will allow the social and cognitive presences to take shape and create a community where learning can be effective. Vaughan and Garrison (2006) support the need for a community of inquiry or community of practice in faculty development:

"It has been shown here that a blended approach to a faculty learning community may provide an optimal experience between community support and addressing the practicality of time constraints. The challenge is to recognize the changing dynamics of the faculty learning communities over time and the need to adjust social, cognitive and teaching presence strategies to meet the evolving demands of inquiry for faculty development."

CONCLUSION

Results from this study underscore the importance of the COI model for providing a requisite foundation to advance research in teaching effectiveness. Specifically, our study found that student satisfaction can be enhanced by improving teaching effectiveness. Implications of this finding are that students may exhibit significant gains in their learning experiences when relevant teaching techniques are effectively applied. Future research should include continued implementation of the COI survey each semester to gain a larger data set, and continued data analysis. Our immediate plans are to incorporate phase 2 participants with the current sample in order to increase ecological validity of our results, and also to compare our research findings with those conducted by other researchers at various institutions (e.g., Anderson, Rourke, Archer, Garrison, Arbaugh, et al.). Research is needed to explore the relationship between COI and specific motivational strategies that may increase interest and effort in blended or online learning environments. Additionally, research is needed that addresses the impact of the COI model to online learning in a broad sample of national and international students.

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THE IMPACT VOLUNTARY ACCOUNTABILITY ON THE DESIGN OF HIGHER EDUCATION ASSESSMENT

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ABSTRACT

Few institutions of higher education today question the merit of careful and consistent assessment of student learning. The assessment movement, which started in earnest in the late 1980s, is now well entrenched in higher education accreditation and expected by its diverse stakeholders. Assessment was a relatively easy sell to higher education since well-designed outcomes assessment is used to drive changes that enhance student learning, and, presumably, all the participants in higher education share that lofty goal. Countless assessment workshops are held annually to encourage colleges and universities to ask the tough questions of themselves, and to use the answers to these questions to drive continuous improvement. Honesty and critical self-analysis are touted as the linchpins of great assessment, since "slam dunk" self-promoting activities waste time and do nothing to improve the learning process.

The transparency and accountability movement followed quickly on the heels of the assessment campaign, and has gained steam with the Spellings Report and its aftermath. The intent was good: Colleges and university would provide their stakeholders consumer-friendly information about (among other things) student learning, and this information would be used to assist students in making good educational choices.

The contradiction between the two assessment purposes is obvious and has been the topic of much research. Is the primary role of assessment self-improvement or accountability? If the driving function of assessment is self-improvement, it must uncover information that is less than stellar. If, instead, the primary function of assessment is accountability, the measurements chosen will be designed to produce data that are attractive to potential students.

Until recently, colleges and universities were able to construct two separate sets of assessment data - one for internal use and the other for public consumption. Since what was disclosed was voluntary, institutions could easily measure important learning outcomes for self-improvement and more palatable data for disclosure. Typically, learning outcomes were used internally for curriculum improvement, and information such as graduation rates and scholarship awards were posted publicly. The call for transparency is becoming louder, though, and some accrediting agencies are requiring institutions to post the results of their voluntary outcomes assessment activities on their websites.

The purpose of this paper is to examine the implication of this transparency requirement among business administration programs accredited by the International Assembly of Collegiate Business Education (IACBE), which has recently added the public disclosure requirement to its accreditation process. In January 2010, a survey will be sent to all schools accredited by the IACBE to determine how individual institutions are dealing with the new reporting requirement. Are

colleges going to change what they measure because they are required to make the results of their assessments public? An analysis of the results of these surveys will be conducted to determine whether the call for public accountability in any way undermines the self-improvement focus of outcomes assessment.

IMPACT OF BEHAVIORAL FACTORS ON GPA FOR GIFTED AND TALENTED STUDENTS

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ABSTRACT

This research explores various behavioral factors and their relationship to success for academically talented students at an upper-level residential school located in the south-central US. Students in their junior and senior years were given the DISC (Dominance, Influence, Steadiness, Conscientiousness) behavioral instrument and tracked over a two year period to identify behavioral factors leading to higher grade point averages. Data were collected from 211 students, including academic and personal demographic information along with DISC scores.

Success in this study was measured as the outgoing grade point average (GPA) of the student. Students were partitioned into three groups according to their GPA ranking (independent variable). Eight areas of behavior (dependent variables) were compared across the three GPA groupings. ANOVA was used to assess for differences in the mean values of the dependent variables. Results indicate that three behavioral factors - Analysis of Data, Organized Workplace and Frequent Change - had significantly different mean scores between the three GPA groupings. The other five behavioral factors did not have significantly different mean scores. The findings can also be used to help improve retention at the institution and better predict those who may be at most risk of attrition.

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PREDICTING AND MONITORING STUDENT PERFORMANCE IN THE INTRODUCTORY MANAGEMENT SCIENCE COURSE

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ABSTRACT

This study examines the factors that influences students' grade and could predict their performance in the Introductory Management Science course. Previous research works have identified factors that influence performance of undergraduate students in the Introductory Management Science - a core course requirement for many business degree programs. This paper follows up the authors' previous work on a multivariate model that related performance to a diverse range of factors (D'Souza & Maheshwari, 2009). A multiple linear regression model was developed and tested at appropriate level of significance. This research extends application of the regression model to predict performance of incoming students and to monitor their performance during the course of the semester. The independent variables included in the model were: current grade point average, average homework score, course utilization ratio, and completion of pre-calculus prerequisite. The regression model is used to create a Grade Prediction Table. A unique feature is use of the Grade Prediction Table to determine conditional probabilities of a student earning a final letter grade at the end of the semester after knowing her/his predicted letter grade at the beginning of the semester. The incoming students at a predicted risk of failure can be identified and appropriate guidelines are suggested to improve their performance. By taking early action, it is estimated that the number of failing students (27%) could be reduced by around 20%, while 22% of non-failing students could improve their predicted grades.

INTRODUCTION

There is a growing concern about poor performance of undergraduate students in the introductory management science course, which is a core requirement in many business degree programs and a prerequisite for advanced courses. Various studies have been conducted to determine the factors influencing the performance. These studies have identified the possible causes of poor academic performance in introductory courses across several disciplines but do not necessarily agree on the reasons for poor performance. It appears that each institute needs its own model to reflect their course design and teaching methodology. Statistical techniques have produced models for evaluating the performance of students but have fallen short in predicting and monitoring the performance. An extended study is necessary to understand the predictability characteristic of these models for monitoring performance during the semester.

This is a continuation of a two-part study conducted on the Quantitative Methods course over a three-year period covering sections taught during the fall 2005 to fall 2007 semesters. In order to protect the confidentiality of student, personal identities were not disclosed and the study was approved by the University's Institutional Review Board (IRB).

The first part of the study conducted during fall 2005 to spring 2007 semesters by D'Souza and Maheshwari (2009) developed a multiple regression model that included four independent variables as a predictor of student performance. The independent variables included in the model were: current grade point average, average homework score, course utilization ratio, and completion of pre-calculus prerequisite. The model explained 51% of the variations in performance. In this follow up study, the previously developed multiple regression model is utilized to develop an approach to predict performance of students enrolling in this course. A comparison of the predicted performance with the actual performance shows that the model provides a good fit with an average error (residual) of +0.51. The predicted performance was further validated on a new batch of students during the following fall 2007 semester resulting in an average error (residual) of +1.64, suggesting that the model could predict performance fairly accurately.

LITERATURE REVIEW

The relationship between the student performance and possible explanatory factors using multivariate analysis has been documented by researchers from different disciplines. Brookshire and Palocsay (2005) applied multiple regression analysis to determine significant factors that impact performance of students in an undergraduate management science course and found overall academic performance (GPA) had the strongest correlation with performance, while other variables included in the model: SAT math score, prerequisites (calculus and statistics), major, and instructor had a lesser significance on the performance. Kruck and Lending (2003) developed a multiple regression model that used five independent variables to predict grades in an introductory information science course. D'Souza and Maheshwari (2009) studied the performance of approximately 300 students in an introductory management course. Controlling for instructor and institution, it was found that four variables, GPA, home work grade, pre-calculus and course utilization ratio, directly relate to the performance of the students in the management science course.

PERFORMANCE DATA ANALYSIS AND RESULTS

The course studied for this research was a three credit hour introductory management science (Quantitative Methods) course required by all business majors and used as an elective by students from other majors. This sophomore level course is sequenced during the fourth semester and requires pre-calculus and statistics prerequisites. The classes were taught by a single tenured faculty on Monday, Wednesday, and Friday between 8:00 AM and 11:00 AM. A common course syllabus and grading scale was used covering deterministic and probabilistic models outlined in the sample course design by Borsting, et. al. (1988). Powerpoint presentation was used as a teaching tool in all sections and made available electronically to students. The final score was compiled as a weighted sum of three tests (45%), final examination (20%), homework (10%), quizzes (10%), class project (10%), and attendance/participation (5%). A course letter grade was assigned according to the

University's grading system. The tests and final examination consisted of a combination of multiple-choice questions (30%) and numerical problems (70%). Homeworks and quizzes were assigned at the end of each chapter and were graded and returned back to students. The class project demonstrated an application of a management science technique covered during the course. The attendance/participation score was computed based on the number of unexcused absences. Students require a C or higher grade to pass the course.

The complete study was carried out in two parts over a three-year period covering sections taught during the fall 2005 to fall 2007 semesters. The first part, conducted by D'Souza and Maheshwari (2009) on a sample of 297 students during fall 2005 to spring 2007 semesters investigated the basic research question: What factors determine academic performance in an introductory management science course? A preliminary statistical analysis of 22 possible factors resulted in nine being included as independent variables in a multiple regression model. The final multiple regression model was created using stepwise method (SPSS Inc, 2003) resulting in four independent variables as a predictor for student performance. These four variables that explained 51% of the variations in performance were current grade point average, average homework score, course utilization ratio (ratio of total hours earned by total hours attempted), and completion of precalculus prerequisite.

The main objective of this study is to develop an approach to predict and monitor the student performance in this course. The regression model developed in the previous study (D'Souza and Maheshwari, 2009) is utilized to predict student performance in the beginning of the semester.

The grade prediction equation developed in the earlier work was used to predict the average grade (AVGTp) defined as the simple average of four in-class examinations including final examination, for each student. The AVGTp was then used to provide corresponding predicted letter grades (LETGp). Three of the four predictor variables--GPA, HE/HA, and P1 were obtained from the students' transcripts. The fourth predictor variable, average homework score (AHW), was assigned an average value of 7.5. This was done since average homework grades were not available in the beginning of the semester. The actual performance (AVGTa) and corresponding letter grades (LETGa) were computed from the average score on the three tests and final examination at the end of the semester.

The predicted performance (AVGTp) computed by the regression model was compared with actual performance (AVGTa) during the fall 2005 to spring 2007 semesters. The scatter plot of average grade illustrated a very good agreement between predictor (AVGTp) and actual (AVGTa) variables. The scatter plot shows some outliers at the lower AVGTa indicating that prediction from the model slightly diverges for the poorly performing students. In general, it appears that the model provides a good fit with a low average error (residual) of +0.51 suggesting that the model could accurately predict performance. A paired sample t-test was calculated to compare the mean AVGTp to the mean AVGTa. The mean and standard deviation were 79.04 and 5.36 for the AVGTp and; 78.53 and 9.31 for the AVGTa respectively. No significant difference from AVGTp to AVGTa was found ($t(297) = 1.279, p > 0.05$).

The relationship between the predicted grade (LETGp) and actual grade (LETGa) was analyzed using a cross-classification or a contingency table (Lind et al., 2006). The letter grades were classified into A- to A+, B- to B+, C to C+, and C- and lower. A contingency table was

created as shown in Table 1. This contains frequency of observations (counts and percentages) occurring at the various combinations of LETGp and LETGa.

Predicted Grade (LETGp)	Actual Grade (LETGa)				Total
	A- to A+	B- to B+	C to C+	C- and Lower	
A- to A+	9 (90%)	1 (10%)	0 (0%)	0 (0%)	10
B- to B+	25 (21%)	67 (58%)	20 (17%)	5(4%)	117
C to C+	1 (.8%)	38 (28%)	42 (31%)	53 (40%)	134
C- and Lower	0 (0%)	5 (14%)	8 (22%)	23 (64%)	36
Total	35	111	70	81	297

This total shows that 141 (48%) students achieved the grade as predicted by the model, while 77 (26%) students earned higher grade and 79 (26%) earned lower grade than predicted. Around 27% (81/297) of the students were predicted to earn a C- and lower grade and thus, fail the course (actual failing rate was 30.5%). However 58 (53 from C to C+ and 5 from B- to B+ group) students, who were predicted to pass the course, failed the course. That is 20% (58/297) of the students who were predicted to earn higher than C could avoid failing the course if appropriate action was taken early. Similarly, 7% (21/297) students, who passed but with lower than predicted grades, could be monitored and be advised for better potential grade. Table 1 also show that 64 students (approximately 22%) of the non-failing students performed better than the predicted grades. Most of these students came from B- to B+ or C to C+ category of predicted grades. These students could be further encouraged to improve their predicted grades.

The Grade Prediction Probabilities were validated with different data sample taken from the Fall 2007 semester. The grade prediction equation developed earlier was applied to predict the expected performance of incoming students during the start of the semester. The independent variables used were students' GPA, ratio of hours earned to hours attempted (HE/HA), passing grade in the prerequisite class-pre-calculus mathematics (P3), and an estimated value of average homework score of 7.5. The students' performance was monitored during the semester. The predicted performance (AVGTp) was compared with the actual performance (AVGTa) for students who completed the course (n = 56). The scatter plot of the AVGTp versus the AVGTa showed most points fall very close to a possible regression line except for a few outliers at the lower AVGTa values. It appears that the model provides a good fit with an average error (residual) of +1.64 suggesting that the model could predict performance fairly accurately though slightly optimistic. A paired sample t-test was calculated to compare the mean AVGTp to the mean AVGTa. The mean of the AVGTp was 80.7 (sd = 5.82) and the mean of the AVGTa was 79.07 (sd = 11.15). No significant difference from AVGTp to AVGTa was found ($t(56) = 1.475, p > 0.05$).

The corresponding predicted letter grades (LETGp) were computed at the beginning of the semester and compared with the final letter grades (LETGa) earned at the end of the semester. Around 54% of students maintained the same predicted letter grades, while 9% improved and 37 % lowered their grades. The students in the C to C+ category were more prone to sliding to C- and

Lower. The number of students earning a lower grade could have been reduced by early action recommended in the Guidelines for Monitoring Grades (Table 2).

The faculty members may use guidelines presented in Table 2 to monitor student performance during course of the semester. Grades of all incoming students need to be predicted at the beginning of the semester using the grade prediction equation (i). The actions recommended for different classification of predicted grades maybe reviewed during the course of the semester. Students at a high risk of failure (C- or Lower) need to be advised early on during the semester and after the midterm evaluations. Similar proactive ways aimed at flagging students performing inconsistently have been implemented by elementary school systems (Daily Press, 2008).

Table 2. Guidelines for Monitoring Grades

GP Range	Action Recommended
A- to A+	Student has a very high chance (90%) of maintaining the predicted grade and a low chance (10%) of earning less than predicted grade. It may be due reduced effort or complacency on the part of student. These students are highly motivated and require little or no intervention.
B- to B+	Student has a high chance (79%) of maintaining or improving the predicted grade. Student has some chance (21%) of falling below the predicted grade. Moderate professor guidance will be useful to keep these students motivated and interested in the course. These interventions could include advisement, tutoring, assistance during office hours.
C to C+	Student has a good chance (59.8%) of maintaining or slightly improving the predicted grade. However, there is a good chance (40%) of falling below the predicted value which means failing the course. Well designed intervention plan is needed for these students; this may include extra help sessions, extra explanation on homework, more homework, tutoring, assistance during office hour, advisement for better study habit, etc. A continuous monitoring of these students is highly recommended specially their attendance, homework scores, and test scores.
C- and Lower	Student has a high chance (64%) of failing this course that is students are less likely to improve performance or they fall below the predicted grade. However, there is some chance (36%) to improve as well. These students can be advised to take the class with lighter overall load, study harder for the class, or can be helped with well designed intervention plan as described above section (C to C+). These students would be strongly advised to strengthen and to review math pre-requisite skills.

CONCLUSIONS

In order to utilize the model to predict and monitor performance over a larger student group taught by multiple instructors within the University, or among different colleges and universities it is recommended to implement similar course content, methodology, and grading system. A larger study including multiple instructors from different institutions would be required to arrive at a universal predictive model. In such a study, the dependent variable may be affected by different independent variables at the individual student level and university level. The individual students will be nested within universities thus requiring the application of Multilevel Regression Analysis (Bickel, 2007). Such large data sets could also be analyzed using data mining techniques (Han and Kamber, 2001).

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Provided upon request.

EVALUATING GLOBAL COURSES OR PROJECTS FOR CONTEXTUALIZED CRITICAL THINKING

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ABSTRACT

One of the most prominent trends in higher education is incorporating global issues into courses, or global courses into a business curriculum. Most universities have taken significant steps to include global courses into their required business core, include global learning objectives across the business curriculum, require international study or trips abroad, or some combination of the above. Discussion in this area is beginning to move toward evaluating the effectiveness of such efforts, evaluating curriculum and/or course design, and assessing whether or not student learning objectives are being met. The authors present a process in which to evaluate whether global courses or projects are appropriately designed to meet targeted learning levels, critical thinking levels, and non-sociocentric thinking objectives. Results from the process can be used for continuous course improvement or program assessment reports.

FACTORS THAT INFLUENCE SUCCESS FOR STUDENTS REPEATING ACCOUNTING PRINCIPLES

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ABSTRACT

The purpose of this research is to evaluate the effects of different factors that may influence students' success when repeating an introductory Accounting course. Often students may need to retake a difficult course such as accounting principles. When a student repeats a course, it may be helpful to understand if there are any factors that might increase his/her probability of succeeding in that course. In this study, students were surveyed concerning their experience with the subject matter (such as number of times the course has been taken and when, if at all, the course was dropped) and the instructor (if the course was retaken from the same professor). Additional information concerning homework completion, class attendance, SAT (or equivalent) scores, past success in college mathematics, and college major as well as demographic data were also gathered for each student. These factors are compared to the students' final course grade to determine which factors might influence student's overall success in the course. The results could indicate ways to increase students' chances for success in situations where the student needed to retake the course.

CHESS IN RURAL ARKANSAS: PAST, PRESENT AND FUTURE

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We would like to discuss some of the challenges of organizing and maintaining a chess club at a small university in rural Arkansas, where not many people play chess, the budget for student activities is limited, and athletic performance is valued more highly than academic or intellectual achievement. First of all, it would be fair to say that we view the Chess Club as a work in progress, not a completed project. In fact, perhaps some suggestions that we may receive from readers will help us to improve the club.

One of the first things we needed to do was to publicize the club. This we have done through weekly notices to the campus community via e-mail, as well as occasional announcements on the radio and in local newspapers. We have also sent out invitations to the high schools in the area.

The next important step was to establish and maintain the support of the University's Administration. To do this, we discussed the importance of the Chess Club with the Chancellor, Provost, deans and other University officials. We emphasized the fact that chess helps students develop habits of thought and mental discipline that can be helpful to them in their academic pursuits.¹ We also discussed the fact that chess is a way to make thinking fun, and that there are likely to be spillover benefits in the classroom once students see that intellectual pursuits can be enjoyable.

Of course, the most important step is to get students to enjoy playing chess. This means getting them to come to Chess Club in the first place, and to keep them coming back. By publicizing the Chess Club, it is our hope that students will want to give it a try. In our notices, we make it clear that beginners are welcome, and that we will work with them.

PREVIOUS EXPERIENCE

There was no active chess club in 1989 when Mr. Nelson arrived at the University of Arkansas – Monticello (“UAM”). However, several students expressed an interest in chess when they learned that he had been president of his college chess club. Interest in chess grew during that his first semester at UAM. Students particularly enjoyed his stories of having competed in a couple of Pan American Intercollegiate Chess Team Championships. It did not take long for a chess club to form.

Within a year or so, we had about 20 players and a Chess Ladder to encourage improvement.

Quite a few of our football players became “two sport” specialists and the football player that achieved the highest rung on the Ladder in a given week was usually not shy about discussing it.

¹ For a discussion of parallels between chess and academics, see Graber, Robert, “Business Lessons from Chess”, *Academy of Educational Leadership Journal*, Vol. 13, 2009, pp. 79 – 85.

Soon there was enough interest to field a 4-board collegiate team. The next step was to seek sources of funding.

When asking around the UAM campus as to how to apply for funds to the Student Government, there were mostly blank looks and little information. It turned out that the mechanism for all forms of funding, including funding for student organizations, was located in the Chancellor's Office. So we would need to make a direct appeal to the Chancellor.

We developed a Chess Club constitution, which states:

The purpose of the UAM Chess Club is to promote chess as both a character and intellect-building creative activity that is open to all members of the UAM community. The UAM Chess Club is also to represent and enhance the prestige of the student body by team participation in intercollegiate competitions. The UAM Chess Club will also provide facilities; instruction and competition for the UAM community members who wish to play and improve at chess.²

As discussed above, there appear to be academic benefits to chess as a form of intellectual exercise and the Chancellor was convinced. All sports are recognized as providing opportunities for the development of character, and chess is no exception. The Chess Ladder itself is a remarkable testimony both to excellence of achievement within an axiomatic system and the independence of self-worth from any such system. Students were able to learn that ability at chess does not imply superior worth as a human being. We are all in this world together.

The Chancellor was amenable to these considerations, and supported the idea of a travel budget for the Chess Club. Many of our students had never been out of state, so when an opportunity to travel to the Pan-American Intercollegiate Chess Team Championship in Chicago presented itself, students were enthusiastic. The top four students on the Chess Ladder had an opportunity to represent our university at the Championship. This included a stay at the Palmer House Hilton in Chicago, which was the first experience with a luxury hotel for our students, and might have fueled their ambition for future success and its rewards.

Having been to a Championship in 1992, albeit having lost most of our games, we expected the enthusiasm generated to lead to future Championship participation in 1993. We now knew the mechanisms for securing funding for travel, and our Chess Club had a viable Constitution. As Chess Club Advisor, Mr. Nelson encouraged students to improve their playing skills, and to represent the University again in Pan American competition. He reminded students as the deadline for registration approached. However, for reasons that remain unclear, students did not show enough interest to pursue a return engagement.

PRESENT SITUATION

There has been a declining interest in chess in subsequent years. The club muddled along until Dr. Graber assumed sponsorship in 2005, and Mr. Nelson remained active as a co-sponsor. It

² Article II, UAM Chess Club Constitution, www.uamont.edu/FacultyWeb/Nelson/chess/Constitution.PDF

has been an uphill battle. With budget cuts, the Chess Club no longer has a budget for travel and other activities. But we continue to advertise the Chess Club in various media, experiment with meetings on different days of the week to accommodate students' schedules, and invite area high schools to participate.

Once students come to meetings to give chess a try, we give them pointers to help them improve their games. This is perhaps one of the biggest challenges to a Chess Club sponsor. At the same time that we help them improve their games, we need to be careful not to intimidate them by giving too much feedback all at once. Just as with academics, it is important to give correction a little bit at a time, in order not to overwhelm students to the point that they lose interest and give up. To accomplish this goal, we try to get the stronger players to help the weaker ones, but again we need to be sure that the weaker players do not become discouraged. So we encourage competition, but we also encourage cooperation in the form of giving guidance and constructive feedback to beginners.

Another challenge we face is that the students who come to Chess Club are generally the better students, which means that they take their classes seriously. Of course, this is a good thing, because we seek to improve students' focus and logical thinking, which should make them better students. But the really good students are often unwilling to take time away from their studies, even if it is only a couple of hours a week.

By opening the Chess Club to high schools in the region, it is our hope that those students who come here to play chess will get to know and like the University, and may eventually enroll here. In addition, it may encourage current University students to come to Chess Club if they have the opportunity to help high school students to improve their skills. Many people really like to teach, and players can often improve their own understanding of the game by teaching.

FUTURE PLANS

We are still experimenting with having the Chess Club meet on different days. One often-heard comment is that more people would come if they could fit it into their schedules. So we try meeting on different days of the week, or at different times of the day. We might even consider lunchtime or evening meetings if it will attract more people.

As we said at the beginning, the Chess Club is a work in progress, not a *fait accompli*. So while we are determined to have a viable University Chess Club and to help students see that playing chess will help strengthen their overall reasoning and learning skills, we are also committed to helping students see that chess is fun, and ultimately to see that thinking and learning can be enjoyable. But, as a work in progress, we are constantly looking for ways to improve the club. Suggestions and comments from readers would be very welcome.

COMMERCIAL VS. INTERNALLY DEVELOPED STANDARDIZED TESTS: THE CASE OF A SMALL REGIONAL SCHOOL

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ABSTRACT

The paper compares commercially available and internally developed standardized tests and evaluates their limitations and shortcomings in assessing student learning outcomes. Problems faced by a small regional school are discussed. The paper describes the process of developing an internal standardized test. Preliminary findings are presented. The paper concludes by explaining the additional steps needed to assess both the reliability and the validity of the test to be a useful instrument in the school's effort to assess educational attainment and student learning outcomes.

In an effort to meet AACSB accreditation schools have to develop student learning goals and objectives and use a program to assess and document student learning. AACSB does not specify the learning goals or the methods for assessing these goals. This decision is up to individuals schools. The AACSB standard 16 states that after considering the school mission and cultural differences the "...school specifies learning goals and demonstrates achievement of learning goals for key general, management-specific, and/or appropriate discipline-specific knowledge and skills that its students achieve in each undergraduate degree program" (AACSB, 2007, p.3).

The purpose of this paper is to describe the experience of a small regional business school in developing a standardized test to assess "Basic Business Knowledge". The article begins with a brief overview of the assessment instruments and discusses advantages and disadvantages of commercially available and internally developed exams. The paper then describes the steps taken to develop the test. It concludes with the steps needed to document the reliability and the validity of the test and the expectations of the faculty.

CHANGING FROM ONE TO FOUR MBA PROGRAMS: THE PROCESS OF CREATING BOUTIQUE MBA PROGRAMS AT WKU

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ABSTRACT

This is a time of change in demand for, and the design of, MBA degrees. Harvard offered the first MBA in 1908. For decades part-time evening programs were offered at regional and urban colleges while full-time programs were offered at PhD institutions. The first Executive MBA (EMBA) started in 1940 at the University of Chicago and then spread to other PhD-granting and select private institutions. There was little variation in MBA program design for 50 years until the first online MBAs emerged in 1990. Western Kentucky University is a comprehensive "R2" university with about 20,000 students, 2,000 business and about 150 MBA students. In 2004 WKU was faced with declining enrollment in its only program, a part-time evening program. It was also faced demands from its regional campuses for courses at distant sites. This paper discusses how the faltering one-program MBA design was replaced by a successful set of 4 programs using a "boutique" design approach. Decision points, internal strategies, enrollments, novel design features, marketing, and student satisfaction scores are discussed.

POTENTIAL IMPACT or INTEREST: This paper would be particularly interesting to those interested in the MBA program design, those administering small MBA programs, those interested in the use of alternate delivery technologies and schedules, and those operating MBA programs with limited resources.

THE RETAIL INVENTORY METHOD: A TEACHING NOTE

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ABSTRACT

Intermediate accounting texts do an outstanding job explaining the LIFO, FIFO and weighted average inventory valuation methods. The texts usually develop a framework to help explain these traditional valuation methods. The analysis of the traditional inventory valuation methods is then typically followed by an explanation of the implementation of the lower of cost or market (LCM) requirement and inventory estimation techniques.

The discussion of the retail inventory method (RIM) in texts usually combines the LCM determination into the analysis for estimating ending inventory. The analysis of the RIM is usually developed using an analysis that is very different from that which is used in the evaluation of the traditional inventory valuation methods. The purpose of this paper is to develop a framework for the retail inventory method that is consistent with that of the traditional inventory valuation methods including the evaluation the LCM. It is argued that the proposed approach is easier for students since it utilizes familiar concepts and does not require the student to grapple with a new framework of analysis.

RITUAL SCAPEGOATING AND OTHER FACTORS SURROUNDING EXECUTIVE SUCCESSION

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ABSTRACT

Every organization is either heading for failure or a new leader. Granted, the timeline will vary from one organization to another. The fact remains that every successful organization will have a new leader eventually. Kirkland (1990) cited three factors of concern when an organization changes. Ritual Scapegoating, Strategic Replacement and Reorganization are the focus of this early work. This study attempts to discern if those factors exist when an organization changes its leader.

COMMUTER STUDENTS: INVOLVEMENT AND IDENTIFICATION WITH AN INSTITUTION OF HIGHER EDUCATION

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ABSTRACT

Many institutions of higher education cater to an ever-increasing number of commuter students. Previous research has shown that commuter students differ in their demographic and psychographic profiles when compared to non-commuter students. Additionally, it is important to understand the differences in commuter students' attitudes and opinions as they relate to identification with the institution. This study examines both demographic and psychographic differences between commuter and non-commuter students as they may impact institutional offerings and marketing efforts. This research shows that there are significant differences between commuters and non-commuters in such key areas as age, employment, and life responsibilities. In turn, these differences lead to differences in commuter student involvement with institution-sponsored activities, attitudes and opinions about the institution's reputation, identification with the institution, and one's inclination to join the school alumni association. Finally, implications for institutional marketing efforts and individual class formats are discussed.

Keywords: commuter students, demographics, psychographics, institution identification, institution commitment, involvement, alumni association

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RECALL AND THE SERIAL POSITION EFFECT: THE ROLE OF PRIMACY AND RECENCY ON ACCOUNTING STUDENTS' PERFORMANCE

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ABSTRACT

This study investigates whether or not the serial position effects can be observed in a classroom setting where students have to recall a larger amount of information over a longer time frame. This study also looked at the teaching and test item presentation order effects on the students' performance. Contrary to some prior studies, we did not find any order effect on students' performance. With respect to the serial position effects, we found primacy effects to be stronger than recency effects. The authors discuss the results and their implications as well as areas for further research.

SHOPPING EFFORT CLASSIFICATION: IMPLICATIONS FOR SEGMENTING THE COLLEGE STUDENT MARKET

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ABSTRACT

Market segmentation strategies based on levels of consumer shopping effort have long been utilized by marketing professionals. Such strategies can be beneficial in assisting marketers with development of appropriate marketing mix variables for segments. However, these types of strategies have not been assessed by researchers examining segmentation frameworks for various types of programs in higher education. This paper attempts to fill this void in the literature by specifically examining ways that levels of customer shopping effort might be utilized to more effectively segment markets for higher education programs. The relative effectiveness of various elements of the marketing mix is also examined and recommendations are provided for colleges and universities attempting to target various markets segmented by levels of consumer shopping effort.

INTRODUCTION

Customers are the key to any successful business. This, of course, is true for institutions of higher education. Colleges and universities must acquire and retain students to be successful. Typically, colleges and universities spend large amounts of money on promotional efforts to attract students. Additionally, colleges and universities increasingly are developing and funding programs specifically aimed at student retention. However, the potential target market for a college level education is extremely diverse, consisting of a number of very different segments. In order to maximize efficient use of limited funds, individuals involved in higher education marketing must therefore be aware of the different segments which exist, and target segments with an appropriate marketing mix. Such a strategy will produce not only a higher initial return on promotional investments in terms of number of students attracted, but should also result in higher retention rates.

LITERATURE REVIEW

Targeting potential customers correctly is a necessity in order for higher educational institutions to thrive. Correct targeting is critical to the success of any marketing effort. As Cao and Grucda (2205) noted, various segments differ greatly in their response to a particular institution's marketing mix. However, simply attracting potential students to a university is not sufficient for

success. Student retention is also critical for success. Retention is frequently utilized as a criterion for evaluation of the quality of colleges and universities. Clearly, unsatisfied students are unlikely to remain at a university, and are also likely to spread negative word of mouth regarding the institution. Thus, satisfaction and retention clearly impact performance (Boulding, Staelin, Ehret, & Johnston, 2005), and retention is related directly to the quality of relationships between institutions and their customers (Gustafsson, Johnson, & Roos, 2005).

How and why students elect to attend a particular institution of higher learning is clearly imperative to insuring high levels of satisfaction, and thus creating a high level of customer value (Lewis, 2005). Because of the importance of good customer relationship management and measurement on profitability (Ryals, 2005; Srinivasan. & Moorman, 2005), and the importance of customer management to both marketing (Payne, & Frow, (2005) and a firms' overall marketing strategy (Rogers, 2005), it is critical to target a customer segment which is most likely to be satisfied with the offering of the institution of higher learning (Cao & Gruca, 2005).

Researchers have identified several different ways that the market for higher educational programs might be segmented. For example Kline, Scott, and Clark (2001) found that significant differences in preferences for various institutional attributes existed between "community oriented" and "campus oriented" students enrolled in a large urban university. Research by Cafun, Eidson, and Palmer (2007) also found variations in preferences to exist between subsets of students segmented by on-campus versus off-campus residency, older versus younger students, and upperclassmen versus lower classmen. Findings from both of these studies indicated the need for admissions officials to develop effective segmentation strategies that will attract certain types of prospective students.

Rogers, Finley, and Kline (2001) proposed a "learner-based" segmentation model in which six market segments were identified. They include prospective students who stress: 1.) the perceived link between completion of programs and employment opportunities, 2.) intellectual curiosity, 3.) maintaining flexibility in career opportunities throughout the degree completion period, 4.) cost minimization, 5.) a blend of academic and extracurricular opportunities, and 6.) being undecided and perhaps attending college on the basis of the wishes of others (e.g., parents). This particular framework seems very instructive in assisting admissions officials with identifying the primary motivation why individuals plan to attend college which, in turn, should hopefully lead to the development of more targeted promotional messages.

Levinson and Hawes (2007) proposed a two dimensional segmentation framework that segmented prospective students by buyer type (i.e., quality, value, or economy-seeking) and learner type (i.e., career oriented, socio-improvement, leisure learner, and ambivalent). This particular model is quite instructive in that it not only addresses potential reasons why individuals are in the market for higher education, but it also assesses the extent to which individuals are willing to make tradeoffs between perceived quality of programs and cost.

Numerous researchers have suggested dividing customer groups on the basis of degrees of effort that which individuals are willing to put forth during their selection of a particular product or service. The product/service types are convenience, shopping, and specialty products (see for example, Kerin, Hartley, & Rudelius, 2004). Convenience goods are those products that customers put forth very little effort in making a purchase decision. In many cases, there is literally no comparison shopping performed by individuals. In the case of prospective students, those who view

higher education as a convenience good might include individuals who are placebound and have one or a very few local alternatives, can only afford to attend a particular institution, such as a community college, or individuals who are already loyal to a particular institution, such as legacy students or student athletes who aspire to play for a particular institution. Alternatively, shopping goods are items that individuals are willing to devote considerable time and energy in engaging in activities such as information acquisition regarding alternatives and in making comparisons among those alternatives prior to making purchase decisions. In the case of the market for higher education, those individuals viewing programs as specialty goods would be more even more likely to engage in an extensive information search and to make even more detailed comparisons among alternatives. These individuals could possibly be searching for a particular program or track of study that is very specialized, a program or institution that is perceived to be of very high quality or image, or an institution that offers some unique blend of attributes such as academics, extracurricular activities and/or location. product.

PURPOSE

This paper describes a methodology for targeting customers based on the amount of shopping effort that they are likely to put forth during their search for a higher educational program. Operating under the general assumption that individuals view higher education as either a convenience, shopping, or specialty good, use of this typology may allow colleges and universities to more effectively target appropriate market segments by being more receptive to variations in shopping efforts among different groups of prospective students.

SEGMENTATION BASED ON DEGREES OF SHOPPING EFFORT

Potential students may be segmented into groups based on the amount of effort they are willing to put forth in searching for degree programs. Individuals who view higher education as a convenience good may devote little time in searching for programs and may instead explore only one or very few alternatives. An optimal distribution strategy for this group of individuals might involve offering programs in multiple locations as well as perhaps offering on-line options and/or other modes of distance learning degree completion opportunities that are convenient for students. This group would likely be receptive to competitive pricing strategies, but certain sub-segments may also be willing to pay price premiums based on adequate time and place utility of program offerings (e.g., on-line courses, evening offerings, program offered in a convenient location, etc.).

Product offerings in terms of degree program offerings would likely be basic with very few specialized degree programs. However, accelerated degree programs and articulation agreements with community colleges within a specified region may be attractive selling points to this particular market segment. Promotional strategies would likely take the form of mass media advertising within a geographic region that focuses on building awareness of key attributes of academic programs. Due to the fact that individuals within this segment of the market may only consider one or a very few options, the applicant inquiry to enrollment conversion rates may be relatively high and may not normally require extensive personal selling efforts by admissions specialists.

The market segment consisting of individuals who view higher education as a shopping good would likely devote considerable time and energy to seeking out information regarding various programs and, subsequently, in making comparisons regarding key attributes of programs. Such a process might include comparisons of a diverse array of attributes such as perceived qualitative dimensions of programs, curricular content, specialized tracks of study, extracurricular functions, costs of attendance, and/or links to career objectives. In order to market programs effectively to this group, colleges and universities must fine tune their marketing efforts and focus more heavily on stressing attributes that are viewed as key strengths to specific subsets of individuals. This process very much becomes one of "picking and choosing" based on competitive strengths of various institutions and commensurate market potential. For those members of this group that place a high priority on value, price may also be a very important consideration. However, it is important that colleges and universities take measures to ensure that low pricing of programs does not result in the creation of perceptions of inferior quality or service. Moreover, colleges and universities that are stressing attributes viewed as being relatively unique and/or institutions stressing attributes to more affluent markets may wish to position themselves at the higher end of the price spectrum. Relative to the situation when marketing programs to convenience shoppers, distribution is likely to be much more limited when catering to the "shopping group" of individuals and perhaps based more on either limited distribution in order to stress exclusivity and image. However, in other cases, distribution may be fairly widespread in order to capture additional market share via programs being offered on-line and/or at multiple locations. Promotion to this group of shoppers is also likely to be more specialized and focus heavily advertising in specialty media outlets that stress comparative advantages of institutions. Given that yields (i.e., inquiry to enrollment ratios) will likely be much lower, personal selling by admissions personnel becomes a much more important part of the promotion process.

Individuals who view higher educational programs as specialty goods are typically willing to allocate considerable time and effort in making a decision regarding attendance at a particular institution. These individuals are often seeking out very specialized degree programs and/or other institutional attributes that are perceived as being in short supply. Generally speaking, institutions catering to this group of students can adopt a premium pricing strategy so long as demand for the specialty attributes are stable or are growing. In order to maintain exclusivity, distribution to this group would likely be limited to a program of study only being offered at a single physical (or perhaps virtual) location. In terms of promotion, little in the way of mass marketing would be used. Instead, promotional efforts would be targeted to individuals via advertising in specialized outlets, direct contact modes, and extensive personal selling.

CONCLUSION

The consumer shopping effort framework outlined above may be utilized by admissions officials in conjunction with segmentation variables that explicitly address motivations for attending programs of study as well as potential tradeoffs that individuals might be willing to make between perceived quality and price. Thus, it is not intended to be a replacement for existing frameworks but rather a mechanism to enhance and more finely tune existing methodologies in order to account for

levels of shopping effort by various groups of individuals. In turn, elements of an institution's marketing mix may be adjusted accordingly.

In all likelihood, admissions officials will also need to assess how levels of shopping effort put forth by various groups of prospective students might be impacted by factors such as fluctuations in the economy, changes in demand for individuals with certain types of degrees, and the increased number of on-line and corporate university options. In all likelihood, the influences of these types of variables differentially impact shopping efforts of various sub-groups of prospective students. Admissions officials will then need to assess how to best promote their programs to selected target markets based on these contingencies as well as the information needs of prospective student groups.

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SKILLS THAT STUDENTS PERCEIVE AS IMPORTANT

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ABSTRACT

Accounting education is frequently criticized for emphasizing content mastery while ignoring the development of critical skills that rarely become obsolete and are usable and necessary throughout one's career. This manuscript examines the opinions of students to determine what skills they deem to be important for their future careers. This study expands on previous studies by closely examining the relative rankings between accounting majors and other disciplines-specifically, to determine if the skills seen as most important by accounting majors are the same skills deemed important by other business students and by accounting and business professionals.

The results of this study are mixed for the accounting profession. Many of the skills that accounting majors rank as important for their future are not surprising. Skills such as written and oral communication, motivation, decision making, financial analysis, and professional demeanor are critical for every accountant to be successful.

The findings that accounting majors ranked critical functional areas as unimportant leads to the inference that accounting majors may be suffering from a "silo effect." Accounting students are not able to fully grasp how other areas impact the accounting profession whether working in a CPA firm, industry, or government. These results demonstrate that the curriculum of the schools of accountancy needs to be refined. While a major curriculum overhaul may not be necessary, it is apparent that the curriculum will have to include more courses that focus on a variety of business disciplines rather than stand alone business courses based upon the traditional subject matter.

STUDENT USE OF AN ONLINE TEXTBOOK: EVEN IF IT'S FREE, WILL THEY BUY IT?

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College**

ABSTRACT

The amount of money that university students spend on textbooks each year is a major concern to many groups, from students, to parents, to teachers and school administrators. One possible solution to this problem is the use of lower cost electronic textbooks. This study examines the practices of students who were offered a free online textbook or a low-cost paper version of the same book. The results show that many students did not use the book even when it was offered at no cost, and the majority of those who used the book purchased a paper copy.

INTRODUCTION

Textbook prices are a concern to many groups as college students spend an average of \$700-1000 per year on textbooks (Allen, 2008). A 2005 report by the United States Government Accountability Office (GAO) concluded that the price of college textbooks and supplies has risen at twice the rate of inflation over the last two decades. Prices of these goods were 186% higher in December 2004 compared to December 1986, while the prices of other goods rose only 72%. As a result, many students do not purchase the text, even if it is "required." (Owuor, 2006).

One possible solution to this problem is the use of e-books, which are cheaper to produce and distribute (Annand, 2008). Major US publishers sold \$241 million in e-textbooks in 2007, out of a total of \$3.5 billion in sales (Guess, 2008). Many e-textbooks are offered on a subscription model in which students rent access to material for a limited time, such as six months (Caldwell, 2008; Hacker, 2010). Other companies offer free materials while earning revenue from selling hard copies of the books and extra materials (such as study guides, interactive quizzes, and podcasts) or by selling ads within the book (Owuor, 2006; Rampell, 2008).

This study examines the practices of students who were given the opportunity to use an online textbook for free and/or purchase a low-cost paper copy. The following section reviews the literature on e-books compared to paper books. The results of this study are presented.

E-BOOK AND PAPER BOOKS

Reading on a computer screen is different from reading on paper in terms of both speed and practice. Several studies have shown that reading speed is lower on computer screens compared to paper (Krug, 2006; Matthiasdottir & Halldorsdottir, 2007; Mayes, Sims & Koonce, 2001; Nielsen, 2000). Comfort is one of the primary issues in the preference for paper over e-books (Gelfand, 2002; Ismail & Zainab, 2005; Klute, in Redden, 2009; Matthiasdottir & Halldorsdottir, 2007; Mercieca, 2003; 2004; Spencer, 2006; Vernon, 2006). Spencer (2006) found that students prefer paper copies

of books because of their portability, reliability and ease of use, including the prevention of eye-strain. In a study by Mercieca (2004), discomfort in reading led students to report that they would only buy an e-textbook if the price were approximately one-third the price of a printed book.

Vernon (2006) expected that students would prefer an e-book over a paper book due to cost savings, but 14 of 22 students who provided data regarding their general practices made paper copies, while 3 more reported printing or reading online depending on the circumstances, and 5 generally read the book online. Similarly, Matthiasdottir and Halldorsdottir (2007) found that 67% of the people in their study stated that they would choose to read text that is printed rather than text on a computer screen, and 70% would buy a printed, rather than electronic book, given the chance. A study by the Student Public Interest Research Group determined that 75% of students would prefer a printed book to an e-book (Allen, 2008; Redden, 2009), and a majority (60%) even stated that they would buy a low-cost (\$30-40) print copy even if an e-book were available at no cost. Similarly, Gelfand (2002) found that when the price is under \$50, students prefer to purchase a paper copy which might be sold after the course is finished.

This study explores exactly that proposition as students were offered the use of a free online e-book or a paper book that cost \$30-40. The next section presents the results of a study examining the use of one such open textbook which allowed students to read online for free, to print the material, or to buy a hard copy of the book.

METHODOLOGY, RESULTS AND ANALYSIS

To investigate the extent to which students would use a textbook if it were offered free of charge online, a survey was conducted in December 2009 among students in two sections (one traditional and one hybrid) of a Principles of Management course using the e-book offered by Flat World Knowledge. Of the 28 total students, 21 submitted fully completed survey forms. The "required" textbook was also available in a hard copy from the campus bookstore for \$40 or from the publisher for approximately \$30. Table 1 shows the results regarding book access and behaviors related to using the book.

Bought a paper copy from book store	23.8%
Bought a paper copy from FWK	9.5%
Obtained book (paper or e-book)	52.4%
Went to FWK site to see how it works	28.6%
Read the online version of the book	19.0%
Printed out a book	9.5%
Used online study tools	14.3%
Electronically highlighted sections	9.5%
Took online notes from the e-book	4.8%
Told others about the free online textbook	14.3%

Despite the textbook being available without cost, only 52.4% of the students reported accessing it by either reading it online or buying a paper copy. Approximately half of those who read it online also used the various other features and functions such as study tools and electronic highlighting and note-taking. Further analysis showed that those who printed the book were just as likely to use the online study tools and electronic highlighting as those who only read the online version.

While half the students in this survey reported buying the book or using the free version, 66.7% reported that they always buy a "required" book (see Table 2) and 23.8% always buy a "recommended" book. Not surprisingly, there was a clear difference between the percentages of students who buy required and recommended textbooks as students were more likely to purchase required books. However, 19.1% of them only buy a required book half the time or even less often. This percentage rises to 61.8% for a recommended book. These numbers are fairly consistent with the estimate by the National Association of college Store Foundation that 65% of students do not purchase all the "required" course materials (Owuor, 2006).

How often do you normally buy the textbook for class when the textbook is	"required"	"recommended"
Never	0%	19%
25% of the time	4.8	19.0
50% of the time	14.3	23.8
75% of the time	14.3	14.3
Always	66.7	23.8

Students were also asked about the extent to which the price of a textbook influences their decision to buy it (see Table 3). The highest proportions were evident at both ends of the scale, with 38.1% reporting that price matters to a great extent, while 23.8% held that price did not matter at all. This could explain why 19.0% said that the (free) price of the textbook did not influence them to buy it. However, the majority (71.4%) rated the price as being at least 5 on the scale, and over 60% gave a 5 or higher to the importance of the price in influencing their use of the textbook.

Taken together, these results suggest that textbook prices do indeed influence the purchase of textbooks by some, but not all, students. Furthermore, some students do not read textbooks even when they have access without cost. A clear preference for a paper book, as shown in these results, is consistent with previous research (Allen, 2008; Annand, 2008; Ismail & Zainab, 2005; Klute, in Redden, 2009; Matthiasdottir & Halldorsdottir, 2007; Mercieca, 2003; Spencer, 2006; Vernon, 2006) showing that students prefer paper books over e-books. Another reason for the popularity of the paper book may be that the textbook was online, but internet access was not available in the classroom. Yet another reason may be the fairly low cost of the paper book. As one student stated, "For \$30 I'll just buy it."

Table 3: Influence of Price and Online Access		
In general, to what extent does the price of a textbook influence your decision to buy it		
1		23.8%
2		4.8
3		14.3
4		9.5
5		9.5
6		0
7		38.1
To what extent did the price of the online textbook influence you to	Obtain access to it	use it
1	19.0%	28.6%
2	4.8	9.5
3	0	0
4	4.8	0
5	19.0	23.8
6	14.3	19.0
7	38.1	19.0
*1=not at all, 7=to a great extent		

CONCLUSION

Although students frequently express concerns about the price of textbooks, and many say they cannot afford to buy a given textbook for a class, almost half of the students in this survey still did not use the book even when it was offered free of charge. On the other hand, one-third of the students still chose to buy the book in order to obtain a paper copy. This is similar to Allen's (2008) findings that 60% of students would still buy a textbook even if a free e-book were offered if the paper copy was available for \$30-40. It is also consistent with Vernon (2006) who expected that students would prefer the cost-savings of an e-book, but found they would rather spend money to read from paper.

This research was limited to two small sections of a course given in a single semester. Future research should further examine student use of textbooks and their preferences for various formats given various prices. As e-books become more common and the technology to read them develops so that physical discomfort is reduced, readers' preferences may change.

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DISTANCE LEARNING IN A CORE BUSINESS CLASS: DETERMINANTS OF SUCCESS IN LEARNING OUTCOMES AND POST-COURSE PERFORMANCE

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ABSTRACT

In this paper, we outline the results of a study at a small Midwestern university regarding distance learning education in a core business class. In a comparison of distance- and non-distance-learning students in Introduction to Business classes, we follow students both before and after taking a newly-created distance learning class. In particular, we are interested in factors contributing to success in the distance learning class and compare learning outcomes of students in the distance learning class with those who took the course in a traditional classroom setting. In addition to comparing learning outcomes in the class itself, we look at student performance in the semesters after they have taken the distance learning class.

INTRODUCTION

One of the most rapidly growing areas in college education is the offering of distance learning courses. Although there exist today many online-only colleges, many traditional college institutions are introducing and expanding distance learning programs for their students in addition to offering courses in a traditional classroom setting. Distance learning courses offer benefits to both the students who take the course and the institutions offering them. At the same time, some have expressed concerns about the quality of education that students receive in distance learning classes relative to their peers taking similar courses in the traditional classroom setting. The purpose of this paper is to explore and compare the determinants of student learning outcomes in distance learning courses with traditional classroom-based courses.

Course Delivery

One of the unique characteristics of distance learning courses is the delivery method. In addition to the traditional classroom delivery, the courses are taken online. Since these are popular business courses, they interest students in many majors and locations. Many of these students cannot physically attend class so instruction is delivered online asynchronously.

The online courses are delivered using the Blackboard software using traditional instruction design methods to construct the course. The course content is identical when delivered online as on campus. The asynchronous delivery accommodates the various time zones and geographical challenges for

students. The software allows for electronic posting of content to supplement the textbook, electronic submission of assignments, discussions, and online testing.

Benefits of Distance Learning Education

From a student standpoint, there are at least two advantages to being able to take courses online. In most cases, distance learning courses are asynchronous, allowing students to fulfill course requirements at their own pace, rather than having to attend class at specific times, such as is the case for traditional classroom-based courses. Such flexibility of scheduling improves students' abilities to schedule coursework around family, work, and other obligations. In addition to more flexible scheduling, distance learning courses typically offer students flexibility of location. In being able to take a course via distance learning, students are no longer confined to living near the campus from which the course is taught.

While there are still conflicting opinions on distance learning, now a research base supports the value of online distance education. According to Prester & Moller (2001), "Today's computer-mediated communication tools are used to create rich learning environments where many-to-many relationships can flourish. At the same time that technological advancements are improving our capacity to deliver instruction at a distance, two forces are reshaping education and workplace learning: the reexamination of what learning means and the willingness to reconsider instructional formats". The business courses lend themselves to this type of delivery. Another advantage is that students are introduced to and use the technologies used in business (Leidner & Jarvenpaa 1993).

The benefits that accrue to students in distance learning classes end up being advantageous to the colleges offering the courses as well. In eliminating the traditional classroom setting, distance learning courses mean a reduced burden on university facilities and reduce overhead costs overall on a per student basis. Since distance learning courses can be offered at locations independent of the main campus, this also allows the university to attract students from outside of a school's traditional recruiting areas. Distance is becoming important option within education because it facilitates the sharing of costs, information and expertise in multiple locations (Webster & Hackley 1997). This can help schools increase overall enrollment and/or increase the quality of the average student at the school.

Concerns About Distance Learning Education

Despite the benefits associated with distance learning, some have expressed concern about the quality of distance learning courses relative to those based in a traditional classroom. Much of this concern is rooted in the lack of face-to-face interaction between professor and student in many distance learning courses. College administrators interviewed in *The Chronicle of Higher Education* (Carr, 2000) agreed that course completion rates in distance education courses are often lower than in traditional classes. Distance learning courses also tend to have more flexible schedules than those of their distance learning counterparts.

Distance learning courses often have minimal face-to-face interaction between student and instructor. In order to compensate for this, distance learning courses often build in other interactive

activities such as discussion forums and chat rooms. Whereas traditional lectures typically take place one or more times per week at the same time and in the same place, distance learning classes often have lessons and activities available on demand. Regardless of the advantages and disadvantages of each method of course delivery, the fact remains that the two methods differ in their approach to teaching. As such, the purpose of this paper is to begin to explore the factors that affect students' enrollment and ultimate success in distance learning courses.

The remainder of this paper is divided into four sections. In Theory and Hypotheses, we develop a series of hypotheses that will be tested later in the paper. In Data and Methods, we detail the data collection and statistical methods used to test the hypothesis. In Results, we discuss the outcomes of our data analyses and results of our hypothesis testing. In Discussion, we explore the meaning of the results as well as their implications for both researchers and educators.

THEORY AND HYPOTHESES

As students progress in their college programs, demands on their time often increase. As students age, they are more likely to be married and/or have children that are demanding of their time. As their time in school progresses, many if not most students have to deal with climbing student debt loads and may need to work in order to meet those financial obligations. We believe that these pressures may encourage students to gravitate toward the flexibility of distance learning courses.

As well, students will become more accustomed with the obligations and expectations of coursework at their school of choice, increasing the likelihood that a student will feel comfortable to enroll in a distance learning course. Taken together, we expect to find that:

Hypothesis 1: Students will be more likely to take distance learning courses later in their academic programs.

As discussed previously, there are both advantages and disadvantages associated with the provision of courses via distance learning. In terms of the net effect of distance learning on student performance, we have no reason to believe that students' performance will differ significantly from those of their peers who are taking the course in a traditional setting, leading to the following hypothesis:

Hypothesis 2: There will be no significant difference in the performance of students enrolled in a distance learning course in comparison with students enrolled in a traditional course.

In addition to expecting no performance differences between distance learning and traditional students, we also do not expect to find performance differences as students move on to other coursework in their program.

Hypothesis 3: There will be no significant difference in post-course performance between distance learning and traditional students.

DATA AND METHODS

Data was collected from 85 students enrolled in four different Management 101 Introduction to Business courses offered in the Spring and Summer semesters of 2009. Two of the courses were distance learning (44 students total) and two were taught in a traditional classroom setting (41 students total).

Variable Definitions

In order to identify the learning format of each course, a dummy variable, Distance Learning, was created, which took the value of 1 in the case of a Distance Learning course and 0 for a Traditional format course. We used two different methods to assess a student's stage of their program. Semester of Program was coded as a number from 1 to 8. This number took integer values and represents increments of fifteen hours' worth of courses that the students has completed (0-15 hours=1; 16-30 hours=2 and so on). In order to compare the performance of students inside and outside of the school of management, we created a dummy variable (School of Management) that took a value of 1 if the student was enrolled in a management major and zero otherwise. Grade in Next Management course was used to assess the performance of students after they had taken Management 101. This course was designated as the first management course taken after Management 101. Due to varying majors and stages of their respective programs, this grade came from a wide variety of management courses. Post-101 Change in Grade was a simple difference between a student's performance in Management 101 and their next management course. Constructing this variable allows us to look at students' change in participation while controlling for their own performance.

Analyses

All hypotheses were tested using one-way ANOVA analyses, with an F-test used to test for significant differences between means. Missing data was deleted listwise. The most significant source of missing data was a result of many students in the sample not having completed another management course after completing Management 101. Table 1 represents the results from our ANOVA analyses.

RESULTS

Results of our data analyses provided strong support for Hypothesis 1, indicating that students enroll in distance learning courses significantly later in their programs than do their peers who attend classes in a traditional setting. On average, students enrolled in the distance learning course (Management 101) sometime between their fourth and fifth semester (Mean=4.37), while students took the traditional version of the course more than 1.5 semesters earlier in their respective programs (Mean=2.82). Testing the hypothesis using credit hours completed revealed similar results. The average distance learning student had completed 31 more credit hours than their traditional counterparts (Means of 69.74 and 38.40 hours respectively).

Hypothesis 2 predicted that there would be no significant difference between distance learning and traditional students. This hypothesis was contradicted: those in the distance learning course earned significantly higher grades in Management 101 in comparison with their traditional counterparts (a Mean of 2.71 in comparison with a Mean of 2.18 for the traditional students). Next, we considered the post-101 performance of both groups of students. Hypothesis 3 was tested in two ways and was supported both times. First, we looked at students' grades achieved in the first management course that they took post-101. In this case, there was no significant difference between the grades achieved by the students who had taken 101 via distance learning in comparison with the students who had taken 101 in a traditional classroom setting. In an attempt to control for students' performance leading up to the post-101 management course, we took the difference between each student's 101 score and the score that they achieved in their next management course. A positive score would reveal a performance improvement while a negative score would reveal a deterioration in performance. As expected, our analyses revealed no significant difference in post-101 performance.

ANOVA	Condition	N	Mean	Std. Dev.	Min.	Max.	F	Sig.
Semester of Program	Traditional	44	2.82	1.795	1	8	11.280	0.001**
	Distance Learning	41	4.37	2.426	0	8		
	Total	85	3.56	2.249	0	8		
Credit Hours Completed	Traditional	43	38.40	28.323	0	114	14.235	0.000**
	Distance Learning	41	69.74	46.130	0	236		
	Total	84	53.70	40.987	0	236		
Grade in Management 101	Traditional	44	2.18	1.281	0	4	4.087	0.046*
	Distance Learning	41	2.71	1.101	0	4		
	Total	85	2.44	1.219	0	4		
Grade in Next Management Course	Traditional	21	2.38	1.071	1	4	1.676	.204
	Distance Learning	17	2.88	1.317	0	4		
	Total	38	2.61	1.198	0	4		
Post-101 Change in Grade	Traditional	21	-.0952	1.09109	-2	2	.055	.816
	Distance Learning	17	.0000	1.41421	-2	3		
	Total	38	-.0526	1.22909	-2	3		
†. Correlation is significant at the 0.10 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).								

DISCUSSION

In general, our analyses indicate that students are waiting longer in their programs before enrolling in distance learning courses, supporting our first hypothesis. We were surprised to find that distance learning students appeared to out-perform their traditional peers in Management 101, contradicting our second hypothesis. Although there were apparent performance differences between the two groups in the treatment course, those performance differences were not apparently sustained in the courses that followed. Although this provides apparent support for our third hypothesis, the movement of the distance learning students from out-performing their peers backward to performing at the same level as their peers is worth further investigation, attempting to answer the question: why did the distance learning students outperform their peers in Management 101, but not in subsequent courses?

In future studies, we plan to expand our sample size and to look at more comprehensive measures of student performance. With a larger sample size, we can be more confident in our conclusions and it will also allow us to employ techniques such as least squares regression in an effort to control for possible alternate explanations.

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COGNITION & RISK PERCEPTION IN BUSINESS ENVIRONMENTAL SUSTAINABILITY EDUCATION

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ABSTRACT

Serious global environmental challenges such as climate change, loss of biodiversity and other pollution issues are creating substantial risks and associated strategic opportunities for business enterprises. Many experts suggest that rapid responses are required from all societal institutions to include government, industry and academia. Nevertheless, many leaders in these institutions still deny the criticality of these problems and, as a result, the rate of adaptive change is frustratingly slow. This paper uses the theories of cognitive and behavioral decision sciences to forward an integrative framework seeking to explain why business executives may inappropriately discount such environmental risks as well as their responsibilities in addressing these challenges. Following an articulation of the key variables in this framework, the author then suggests practical classroom strategies that have been used in executive, graduate and undergraduate business education to counteract judgment biases and errors that predispose individuals to deny their responsibilities in addressing the imperatives of environmental sustainability. Educators as well as internal and external change agents and consultants will find this paper useful in promoting environmental awareness and responsible decision making.

Keywords:

- Judgment
- Cognitive Model
- Heuristics
- Decision making
- Mental Model
- Risk assessment
- Environmental perception
- Environmental policy

INTRODUCTORY ACCOUNTING FOR BUSINESS MAJORS: REVISITED

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ABSTRACT

This paper reports on a research project in the area of accounting education. Business faculty members at three colleges/universities were surveyed for their opinions about the essential accounting knowledge needed by business majors. This project was designed to provide necessary information for evaluating and developing curricula for principles of accounting courses in colleges and universities. The objectives of the study were to: (1) identify a common body of accounting knowledge essential for business majors, (2) to determine the level of knowledge perceived to be necessary for the various topics in the common body, and (3) to compare the perceptions of business faculty members by discipline.

The study results show faculty agreement on a common body of knowledge for the principles courses. The perceived levels of knowledge identified by all faculty members are in line with the Position No. 2 by the Accounting Education Change Commission. Although there were no significant mean differences in comparing the responses by school, there were significant differences in comparing the responses by discipline. These study results should be very helpful in evaluating introductory accounting courses during program assessment.

