Volume 13, Number 4 **ISSN 1095-6328**

ACADEMY OF EDUCATIONAL LEADERSHIP JOURNAL

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Academy Information
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Whitney Press, Inc.

Printed by Whitney Press, Inc.
PO Box 1064, Cullowhee, NC 28723
www.whitneypress.com

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CONTENTS

LETTER FROM THE EDITORS

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

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

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AN IMPORTANCE-EFFECTIVENESS ANALYSIS OF THE CONTEMPORARY AUDITING COURSE

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ABSTRACT

The Sarbanes-Oxley Act, legislation enacted in 2002, increased the prominence and responsibilities of the audit profession. Historically, the profession has urged the academic community to institute changes in the accounting curriculum and specifically to the auditing course to prepare students for entry into the profession. This paper surveys auditing faculty members and obtains their opinions on the importance and effectiveness of topical coverage in the auditing course. Given that the American Accounting Association Audit Section Committee's (2003) analysis of syllabi found that the course content was highly dependent on textbook topics, this research asks auditing educators to assess the effectiveness of the auditing text in developing 63 auditing topics. Nine topics relate specifically to the Sarbanes-Oxley Act. Analysis of the results identifies topics with respect to both the importance and the effectiveness of textbooks in developing these topics. Unlike prior research that focused only on importance, this study, by using effectiveness as well, permits the translation of results into action.

INTRODUCTION

Recent highly publicized business failures have cast doubt on the effectiveness of auditors and have led to a weakening of public trust in the auditing profession. Scandals such as Enron, Worldcom, HealthSouth and other public companies have alarmed the public and attracted the attention of Congress. The Sarbanes-Oxley Act (SOX), legislation enacted in 2002, increases SEC powers to police the profession and provides for greater oversight of reporting practices. It also requires public companies to attest to the effectiveness of their internal controls over financial reporting. SOX also introduced sweeping changes to the institutional structure of the accounting profession, including the establishment of the Public Company Accounting Oversight Board. All these changes potentially impact university auditing courses.

The university accounting curriculum provides students with an understanding of the accounting function and the activities of the accountant in order to prepare them to compete in the contemporary workplace. As part of the accounting curriculum, auditing is viewed as a significant course for all accounting majors, with more than 90 percent of accounting programs requiring an introductory financial auditing course at the undergraduate level (AAA Auditing Section Education Committee, 2003). On numerous occasions surveys of practicing CPAs have reported dissatisfaction with the university auditing course [AICPA, 1978; Martin & Whisant, 1982; and Kanter & Pitman, 1987]. Prompted by these and other studies [American

Accounting Association, 1986; Kullberg et al, 1989; and Albrect & Sack, 2000], accounting practitioners, as well as educators, have taken a number of steps towards addressing meaningful curricula changes. The American Accounting Association (AAA) responded by creating the Accounting Education Change Commission to lead the effort to make meaningful changes in accounting education with the objective to improve accounting curricula so that entrants to the profession possess the skills, knowledge, and aptitude required for success in accounting. These undertakings concluded that, due to the dynamic nature of the profession, auditing educators should strive to constantly examine the content of the auditing course and take the necessary steps to maintain its relevance and effectiveness.

Partly in response to recent accounting scandals, the National Association of State Boards of Accountancy (NASBA) (2005) recently developed a proposal that attempted to change the curriculum requirements for all CPA candidates. Reckers (2006) offers a critical analysis and historical perspective of both the proposal and public reaction to the proposal. He contends that the formative education of accountants is now recognized as important; and public reaction indicates that all stakeholders, including politicians, legislators, and regulators have come to recognize the crucial role auditors and accountants play in protecting society. Unfortunately it has required financial disasters to achieve this recognition.

Previous research by Engle & Elam [1985] established a direct relationship between undergraduate auditing classroom emphasis and auditing textbook emphasis. In addition, a study commissioned by the American Accounting Association's (AAA) Auditing Section to assess the status of auditing courses in the undergraduate accounting curriculum [Frakes (1987)] found the content of the first auditing course to be textbook dependent. Bryan and Smith [1997] surveyed auditing educators to determine their perceptions concerning the importance of 31 auditing topics based on the content of several leading auditing textbooks. More recently, the AAA's 2000-2001 Auditing Section Education Committee (2003) conducted a survey in which course syllabi from 285 auditing and assurance courses were analyzed on a number of dimensions, including identifying auditing topics, and compared to prior surveys of auditing courses (Frakes 1987; Groomer and Heintz, 1994). Like Frakes, the AAA study also found that textbooks are the most common learning activity in introductory auditing courses.

Given this key role, this study provides an assessment of auditing textbooks to aid in the examination of the auditing course content and to facilitate the steps necessary to maintain both its relevance and its effectiveness. This assessment is achieved by employing a survey of auditing educators to assess both the importance and the effectiveness of individual auditing topics gleaned from the topical coverage in several popular auditing texts that span the offerings in the introductory undergraduate auditing textbook market. The results should provide both auditing faculty teaching the introductory auditing course and auditing textbook authors with the means for assessing the relevance of auditing topics covered and the effectiveness of the auditing texts in developing these topics.

This study expands the previous research of Engle and Elam [1985], Bryan and Smith [1997], and the AAA's Auditing Section Education Committee (2003) in several ways. While those studies examined the emphasis of various auditing topics within the auditing course from the perspective of auditing educators, Engle and Elam [1985] focused on the average time spent in class on 36 auditing topics, and then used time spent to rank the topics on importance. Unfortunately, "time spent" may not necessarily equate to "relative importance." Although Bryan and Smith [1997] did focus on the relative importance of auditing topics, the number of auditing topics they specifically addressed was limited. While the Bryan & Smith questionnaire listed 31 topics, four dealt with instructional methods used (e.g., use of group projects) rather than specific

auditing topics. The AAA's Auditing Section Education Committee (2003) study analyzed syllabi from 285 auditing and assurance courses taught at 188 colleges and identified 37 auditing topics that were included in at least 5% or more of the sample syllabi. To provide a more in-depth evaluation of the auditing course, the current research expands the number of auditing topics assessed on relative importance to 63.

Previous research did not include the topics addressed in the Sarbanes-Oxley Act. These topics, dealing with fraud, independence, audit committees, and reporting on internal control, have just now found their way into the auditing textbooks and course in response to the financial scandals and the resultant legislation. Watson, Apostolou, Hassell and Webber (2007) reviewed 223 accounting articles from the period 2003 through 2005. Their review did not find auditing course literature that directly addressed the issues covered by the Sarbanes-Oxley Act. Our research includes nine auditing topics directly related to the Sarbanes-Oxley Act.

Finally, one problem with survey research of this type is translating the research results into action. In part this comes from examining only one side of the issue at hand, i,e., addressing importance only. The results, while interesting, do not provide a guide for action or change. By addressing the effectiveness of the course along with the importance, this research overcomes that obstacle and provides a means of evaluating the perceptions of key stakeholders in auditing education, auditing professors, as to how well contemporary auditing textbooks prepare students for entry into the profession. To facilitate this interpretation, we use importance-effectiveness analysis to evaluate the adequacy of auditing texts in developing the necessary auditing topics needed for success in the auditing profession (Martilla & James 1977).

It is important for accounting educators to review the content of the auditing course and take steps to maintain its relevance. Albrect & Sack [2000, p. 64], state:

> *We do not need to cover all the traditional material. Students can be exposed to many of these topics at the 25,000-foot level and if we do not get all the topics covered in equal depth, then that's fine. What is important is teaching students how to find answers and how to learn. Frankly, educators have little comparative advantage over practice in delivering high-level technical material. Rather, our competitive advantage is on focusing more on fundamental/foundational material and skill building.*

Furthermore, they counsel that "*the important thing is that each school take a "zero-based" approach to its curriculum—throw away what is no longer needed and try to make its program as value-added as possible."* Thus, the challenge for accounting faculty is to examine the accounting curriculum thoroughly and take the necessary steps to enhance the curriculum so as to ensure its relevance and effectiveness. Our research provides a rational methodology to identify the topics that the faculty believes add value to the students' education experience and focusing on topics the accounting curriculum deems appropriate for the department's education mission.

METHODOLOGY

Questionnaire

The questionnaire asks auditing educators to rate the relative importance of 63 auditing topics to accounting graduates for entry-level work and career advancement using a six-point Likert scale that ranges from extremely important (6) to not important (1). Topic selection was determined by analyzing the topical

coverage in several prominent auditing texts that span the undergraduate auditing-textbook market. Given the inclusion of these topics within prominent auditing textbooks, there is an implied assumption of importance for professional development. As a result, the importance rating scale focuses primarily on relative importance, and only one scale value indicates that the auditing topic is not important. Table 1 lists the specific auditing topics contained in the questionnaire.

Table 1: Auditing Topics

ID	Individual Auditing Topics
1	Nature of the audit profession and how it differs from that of other practicing accountants
2	Generally Accepted Auditing Standards
3	Statements on Auditing Standards - their origin and use in audit practice
4	Quality Control Standards - their origin and use in audit practice
5	Auditor's decision process for issuance of an audit report
6	Detailed analysis of the unqualified audit report
7	Conditions requiring departure from the standard unqualified audit report
8	Materiality
9	Detailed analysis of the qualified audit opinion
10	Detailed analysis of an adverse audit opinion
11	Detailed analysis of a disclaimer of an audit opinion
12	Other audit engagements or limited assurance engagements
13	Attestation engagements
14	Auditor association with prospective financial statements
15	Reporting on internal control structure related to financial statements
16	Compilation services and reports
17	Review services and reports
18	Review of interim financial information
19	Business ethics and ethical dilemmas
20	Code of Professional Conduct, including concepts such as independence, objectivity, confidentiality, etc.
21	Enforcement of Code of Professional Conduct
22	Definition of audit risk, business failure and audit failure
23	Legal concepts, terminology, and auditor liability to clients and third parties under common law
24	Legal concepts, terminology, and auditor liability to clients and third parties under federal securities law
25	Nature of persuasive audit evidence
26	Types of audit evidence
27	Purpose and timing of analytical procedures

Table 1: Auditing Topics	
ID	Individual Auditing Topics
28	Management's and auditor's responsibilities concerning financial statements
29	Planning the audit
30	Working papers and documentation
31	Assessing business risk
32	Materiality and risk in preliminary phase of the audit
33	Internal control reportable differences
34	Overview and understanding of internal control structure
35	Assessing control risks and testing of key controls
36	Audit objectives and tests related to accounting transactions
37	Design and use of audit program procedures related to tests of balances
38	Business functions- cycles (revenue, acquisition, inventory, etc.) and related records, transactions, and documents
39	Tests of internal controls and substantive tests of transactions for business functions
40	Evaluation and effects of results of tests of internal controls and substantive test of controls
41	Tests of details of account balances
42	Evaluation and effects of details of account balance tests
43	Statistical and nonstatistical sampling concepts
44	Attribute sampling and applications
45	Sampling for tests of details of balances - eg. monetary unit sampling and variable sampling procedures
46	Analysis of statistical results and implication on audit procedures
47	Internal EDP controls
48	Use of computers in the audit of client records and financial statements
49	Contingent liabilities
50	Subsequent events review
51	Discovery of facts subsequent to issuance of audit report
52	Evaluation of results and communication of facts to audit committee and management
53	Internal auditing and various tasks performed by internal auditors
54	Governmental auditing and generally accepted government accounting principles
55	SOX section 404 combined report on financial statements and internal control over financial reporting
56	SOX - auditor independence
57	Public Companies Accounting Oversight Board, including concepts such as ethics, independence, etc.
58	SOX - Audit Committee responsibilities

Table 1: Auditing Topics	
ID	Individual Auditing Topics
59	SOX - Requirements for auditor reporting on internal control
60	Fraud - SAS 99 - Consideration of fraud in a financial statement audit
61	Fraud and analytical procedures
62	Recognize specific fraud areas and develop procedures to detect fraud
63	Corporate governance oversight to reduce fraud risks

A dilemma inherent in asking faculty to assess the effectiveness of contemporary auditing courses is that individual faculty members design the content of their auditing courses. Accordingly, inquiring as to the effectiveness of their course in developing specific auditing topics amounts to self-assessment and an accompanying lack of independence. Conveniently, auditing textbooks play a very significant role in determining contemporary auditing course content at the undergraduate level [Engle & Elam (1985), Frakes (1987), Bryan and Smith (1997), and AAA Auditing Section Education Committee (2003)]. Accordingly, auditing educators are asked to rate the effectiveness of the auditing textbook used in their course in developing each of 63 individual auditing topics in preparing students for entry-level work and career advancement. With respect to effectiveness, the questionnaire uses a six-point Likert scale that ranges from very effective (6) to very ineffective (1). The Likert scale for Importance and Effectiveness is itemized below.

Importance Scale	Point Value	Effectiveness Scale
Extremely Important	6	Very effective
Very Important	5	Effective
Important	4	Slightly effective
Moderately Important	3	Slightly ineffective
Slightly Important	2	Ineffective
Not Important	1	Very ineffective

Note that the scales for importance and effectiveness are not equivalent. Since the auditing topics were textbook determined, an assumption of being necessary for professional success is assumed. Hence, the importance scale focuses on relative importance with only one scale value indicating that the auditing topic was not important. The effectiveness scale, on the other hand, is more balanced. Accordingly, comparisons of results between the two ratings focus on comparing the relative rankings and not the rating means.

Survey Population

Selection of the survey population utilized three criteria: (1) membership in the Audit Section of the American Accounting Association; (2) teaching at an AACSB business accredited institution; and (3) listed in Hasselback (2006-07) as having auditing as an area of teaching and research interest. Although Engle and Elam [1985] and Bryan and Smith [1997] found no differences among faculty at AACSB business accredited schools and those at non-accredited schools, the current AACSB standards (focusing on mission, process, assessment, mandate for continuous assessment of curriculum, and involvement of all stakeholders, including practitioners) accord auditing faculty at AACSB accredited schools increased awareness and understanding of the contemporary needs of the public accounting profession. For these reasons, the selection criteria employed establishes an appropriate population for performing an importance-effectiveness assessment analysis of the topical coverage of auditing curriculumcourse.

Questionnaires were sent to 276 auditing professors. Each faculty member received a cover letter describing the study, a questionnaire, and postage-paid return envelope. A second request was sent four weeks after the original mailing. Responses were received from 71 professors, representing a 25.7% response rate. This response rate compares favorably with other surveys involving accounting faculty [cf., Bryan & Smith, 1997: 30.3%; Morris et al, 1990: 22.3%; Cargile and Baublitz, 1986: 24.8%].

Demographics

With respect to faculty rank, 29 of the faculty respondents are full professors, 25 associate professors, and 17 assistant professors. Fifty-eight respondents indicate that in addition to having AACSB business accreditation, their school also has AACSB accounting accreditation. Sixty-five respondents hold a Ph.D. degree, and 36 are CPAs. Within their undergraduate accounting programs, 62 report that they require one auditing course. Four indicate that they require two auditing courses, and five state that no auditing course is required as part of their undergraduate accounting curriculum.

MANOVA Comparisons

Given that each respondent rates 63 different auditing topics, it is appropriate to employ multivariate analysis of variance tests (MANOVA) to determine whether any of the demographic variables has an impact on the importance and effectiveness-rating outcomes. One-way MANOVA tests were performed to determine whether rank of respondent (full, associate, or assistant professor), AACSB accounting accreditation status (yes or no), and professional certification (CPA) influence the mean responses. No statistically significant differences were found in any of these cases. Table 2 shows the results of these statistical tests.

Olson [1974] found that when performing MANOVA the test statistic based on Pillai's trace is the most robust and has adequate power to detect true differences under different conditions. Moreover, Pillai's trace can be transformed into an exact F-ratio, and for the case when comparing two groups, Pillai's trace can be transformed into Hotelling's T or an exact F-ratio. Accordingly, the ratings on importance of the 63 auditing topics appear to be consistent among the responding accounting educators despite differing demographic variables as no significant differences are present with the MANOVA analysis.

Table 2: MANOVA Test Results			
Variable	Pillai's Trace	F-value	Significance
Importance Dimension			
Rank (full, assoc. or asst.)	1.833	1.223	0.351
AACSB Accounting Accreditation	0.941	1.779	0.216
CPA vs. nonCPA	0.862	0.695	0.794
Non-response Bias	0.934	1.574	0.275
Effectiveness Dimension			
Rank (full, assoc. or asst.)	1.817	1.106	0.443
AACSB Accounting Accreditation	0.944	1.861	0.197
CPA vs. non CPA	0.933	1.543	0.285
Non-response Bias	0.925	1.375	0.351

Non-Response Bias Considerations

The potential for non-response bias is present in every mail survey due to the inability to obtain responses from all members of the original sample. Research has found that those subjects who respond less readily are more like non-respondents, and that average responses from successive mailings can be used to estimate the potential responses of non-respondents [Armstrong & Overton, 1977]. To test for non-response bias, we compare both the importance and effectiveness mean responses between the first and second mailings for each of the 63 auditing topics employing Hotelling's T, a multivariate t-test. The results are in Table 2. The lack of significant differences in the foregoing tests indicates the absence of material non-response bias.

RESULTS

Table 3 displays the mean ratings responses for both importance and effectiveness for all the topics where the auditing topics are arranged based on their mean importance ratings ranking. Grand means for both importance and effectiveness are calculated as reference points representing the average importance and effectiveness levels for all the auditing topics. The overall grand means for importance and effectiveness are 4.56 and 4.26, respectively. Scanning the rankings on the mean importance ratings clearly shows that educators assign high importance ratings to almost all the auditing topics as only two of the topics have a mean importance rating below 3.00. Further breakdown reveals that two topics have mean values greater than 5.50, and they are accorded an importance level of *Extremely Important.* Thirty-four topics have mean values between 5.50 and 4.50 and, thus, are assigned an importance level of *Very Important,* 22 topics have mean values between 4.50 and 3.50 and so are ascribed an importance level of *Important,* and only five topics have mean values between 3.50 and 2.50 and, thus, are accorded an importance level of *Moderately Important*. Given that the selected educators have an explicit commitment to auditing, the high responses on importance are not surprising. However, since this research does not permit an absolute assessment of importance or

effectiveness but rather a subjective assessment of each dimension, this research focuses appropriately on the relative responses. Accordingly, 35 topics have mean importance ratings above or equal to the grand mean (4.56) on importance and 28 topics are lower than the grand mean.

Table 3: Auditing Topics Ranked by Mean Importance Rating

		Importance	Effectiveness		
ID	Individual Auditing Topics	Rank	Mean	Rank	Mean
2	Generally Accepted Auditing Standards	1	5.54	1	5.20
34	Overview and understanding of internal control structure	2	5.52	12	4.61
22	Definition of audit risk, business failure and audit failure	3	5.38	7	4.82
8	Materiality	4	5.31	26	4.41
60	Fraud - SAS 99 - Consideration of fraud in a financial statement audit	5	5.28	22	4.46
19	Business ethics and ethical dilemmas	6	5.27	51	3.89
28	Management's and auditor's responsibilities concerning financial statements	7	5.24	2	5.00
20	Code of Professional Conduct, including concepts such as independence, objectivity, confidentiality, etc.	8	5.20	6	4.87
35	Assessing control risks and testing of key controls	9	5.18	31	4.38
26	Types of audit evidence	10	5.17	4	4.99
32	Materiality and risk in preliminary phase of the audit	11	5.14	33	4.37
56	SOX - auditor independence	12	5.13	17	4.54
29	Planning the audit	12	5.13	9	4.69
15	Reporting on internal control structure related to financial statements	14	5.11	37	4.31
25	Nature of persuasive audit evidence	14	5.11	14	4.59
36	Audit objectives and tests related to accounting transactions	16	5.07	10	4.63
27	Purpose and timing of analytical procedures	17	5.04	23	4.44
7	Conditions requiring departure from the standard unqualified audit report	18	5.01	2	5.00
61	Fraud and analytical procedures	19	5.01	49	3.93
40	Evaluation and effects of results of tests of internal controls and substantive test of controls	20	5.00	38	4.30
41	Tests of details of account balances	20	5.00	8	4.73
5	Auditor's decision process for issuance of an audit report	22	4.97	26	4.41

Table 3: Auditing Topics Ranked by Mean Importance Rating					
		Importance	Effectiveness		
ID	Individual Auditing Topics	Rank	Mean	Rank	Mean
59	SOX - Requirements for auditor reporting on internal control	23	4.96	35	4.34
39	Tests of internal controls and substantive tests of transactions for business functions	24	4.93	17	4.54
33	Internal control reportable differences	25	4.90	46	4.07
55	SOX section 404 combined report on financial statements and internal control over financial reporting	26	4.87	39	4.27
42	Evaluation and effects of details of account balance tests	26	4.87	25	4.42
57	Public Companies Accounting Oversight Board, including concepts such as ethics, independence, etc.	28	4.82	26	4.41
62	Recognize specific fraud areas and develop procedures to detect fraud	29	4.77	55	3.65
31	Assessing business risk	30	4.75	43	4.17
50	Subsequent events review	31	4.70	14	4.59
52	Evaluation of results and communication of facts to audit committee and management	32	4.69	42	4.23
37	Design and use of audit program procedures related to tests of balances	32	4.69	29	4.39
63	Corporate governance oversight to reduce fraud risks	34	4.62	57	3.56
38	Business functions- cycles (revenue, acquisition, inventory, etc.) and related records, transactions, and documents	35	4.61	16	4.58
49	Contingent liabilities	36	4.54	23	4.44
58	SOX - Audit Committee responsibilities	37	4.48	48	4.00
3	Statements on Auditing Standards - their origin and use in audit practice.	38	4.41	31	4.38
6	Detailed analysis of the unqualified audit report	39	4.39	5	4.89
43	Statistical and nonstatistical sampling concepts	40	4.35	35	4.34
1	Nature of the audit profession and how it differs from that of other practicing accountants	40	4.35	19	4.49
47	Internal EDP controls	42	4.30	58	3.51
30	Working papers and documentation	42	4.30	43	4.17
44	Attribute sampling and applications	42	4.30	21	4.48

Table 3: Auditing Topics Ranked by Mean Importance Rating

		Importance	Effectiveness		
ID	Individual Auditing Topics	Rank	Mean	Rank	Mean
46	Analysis of statistical results and implication on audit procedures	45	4.25	45	4.10
48	Use of computers in the audit of client records and financial statements	46	4.23	62	3.13
9	Detailed analysis of the qualified audit opinion	46	4.23	10	4.63
24	Legal concepts, terminology, and auditor liability to clients and third parties under federal securities law	48	4.21	33	4.37
51	Discovery of facts subsequent to issuance of audit report	49	4.20	29	4.39
21	Enforcement of Code of Professional Conduct	50	4.17	51	3.89
23	Legal concepts, terminology, and auditor liability to clients and third parties under common law	50	4.17	39	4.27
45	Sampling for tests of details of balances - eg. monetary unit sampling and variable sampling procedures	52	4.03	41	4.24
11	Detailed analysis of a disclaimer of an audit opinion	53	3.97	19	4.49
4	Quality Control Standards - their origin and use in audit practice	54	3.94	53	3.87
10	Detailed analysis of an adverse audit opinion	55	3.80	12	4.61
53	Internal auditing and various tasks performed by internal auditors	56	3.79	61	3.34
12	Other audit engagements or limited assurance engagements	57	3.62	50	3.92
13	Attestation engagements	58	3.58	47	4.03
18	Review of interim financial information	59	3.45	59	3.49
17	Review services and reports	60	3.34	55	3.65
16	Compilation services and reports	61	3.14	54	3.70
14	Auditor association with prospective financial statements	62	2.93	60	3.37
54	Governmental auditing and generally accepted government accounting principles	63	2.89	63	2.48

On the effectiveness dimension, the educators assigned 18 topics to an effectiveness level of *Effective* as their mean effectiveness ratings are between 5.50 and 4.50, 40 topics to an effectiveness level of *Slightly Effective* with mean effectiveness ratings between 4.50 and 3.50, and only five topics to an effectiveness level of *Slightly Ineffective* as their means are below 3.50 but above 3.00. Once more, the focus is directed toward

the relative effectiveness with 40 auditing topics having mean effectiveness ratings above the grand mean (4.26) on effectiveness and 23 topics below the grand mean.

While importance can stand on its own merits, the real value of effectiveness is with respect to achieving a goal. Consequently, the useful interpretation of the effectiveness ratings rests on determining how effectively the auditing textbooks develop the more important auditing topics. Ideally, for a textbook to be efficient, it should be more effective in developing the higher rated topics on importance. That is, an ideal situation would be one where the Spearman rank correlation coefficient between the two rankings on importance and effectiveness is close to +1.0. For the two rankings in Table 3, the Spearman rank correlation coefficient is positive (r_S = + 0.581) and significant at the 0.000 level. Thus, current auditing textbooks' efficiency appears less than ideal, and significant differences between the importance and effectiveness rankings signal both topical areas in which the textbooks are underperforming and topical areas where the texts are, in a sense, over-performing and could be replaced by topics perceived as more important.

Importance-Effectiveness Diagram

Creating an importance-effectiveness analysis diagram (Martilla & James, 1977), yields a better perspective of the results shown in Table 3 and allows for an analysis of the relative performance of the auditing curriculum course with respect to each of the 63 auditing topics. Figure 1 provides such an analysis diagram with the individual auditing topics, each identified by the ID number assigned in Table 1, plotted on a two-dimensional grid with importance being the y-axis and effectiveness being the x-axis. The origin or reference point within the grid is determined by the grand means on importance and effectiveness. The positioning of the auditing topics is determined by subtracting the grand means on importance and effectiveness from their respective mean values for each of the topics. Thus, each topic's position is made relative to the overall average ratings on importance or effectiveness.

To facilitate interpretation and to provide guidance for curriculum course development, the four quadrants are labeled. Quadrant I (upper right) — labeled "Keep up the Good Work" — contains topics that respondents considered relatively more important (i.e. above the average) and the textbooks' effectiveness in developing these topics as above average. Quadrant II (upper left) — labeled "Concentrate Here" — contains topics that are relatively more important, but respondents considered the effectiveness of the textbooks in developing these topics as below average. Quadrant III (lower left) is labeled "Lower Priority" since the topics in this quadrant are considered to have lower relative importance and the effectiveness of the textbooks in developing these topics is below average. Quadrant IV (lower right) is labeled "Possible Overkill." The topics that fall into this quadrant are considered to have lower relative importance and the effectiveness of the textbooks in developing these topics is above average. Obviously, the positioning of the vertical and horizontal axes on the grid is a matter of judgment and will change the quadrant into which a particular topic is positioned. However, using the grand means initially provides a relative basis for positioning the auditing topics.

FIGURE 1
IMPORTANCE-EFFECTIVENESS ANALYSIS OF AUDITING TOPICS

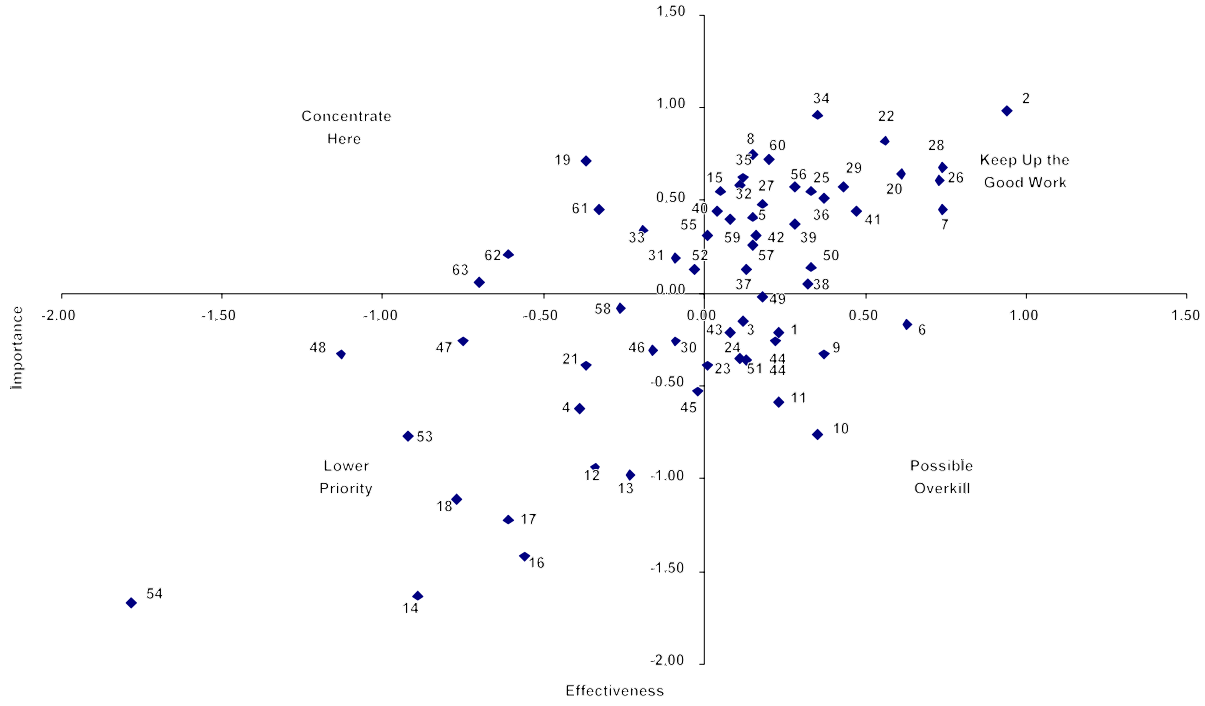

Figure 1 shows that the auditing educators feel the textbooks are doing a very good job with respect to the 28 topics that plot in the first quadrant of the importance-effectiveness grid where both importance and effectiveness are above average. However, the educators believe more effort is required in developing the seven topics that fall in Quadrant II where importance is above average but effectiveness is below average. Thus, to improve course performance, auditing faculty and auditing-textbook authors need to concentrate on the following topics plotting in Quadrant II: *Corporate governance oversight to reduce fraud risks* (ID=63), *Recognize specific fraud areas and develop procedures to detect fraud* (ID=62), *Business ethics and ethical dilemmas* (ID=19), *Fraud and analytical procedures* (ID=61), *Internal control reportable differences* (ID=33), *Assessing business risk* (ID=31), and *Evaluation of results and communication of facts to audit committee and management* (ID=52). These topics have become more important given the business failures of the recent past and the Sarbanes-Oxley 2002 legislation. Of the first four topics mentioned above, three are unique in that they are topics specifically identified in the questionnaire as Sarbanes-Oxley issues. Faculty need to consider alternative approaches to the textbook to increase student learning and understanding of these topics. Alternative approaches that faculty might consider include additional outside reading, case studies or outside speakers whose expertise focus on these areas. Auditing textbooks should present these topics in more effective ways.

Since each quadrant of Figure 1 encompasses a large area, the location of an auditing topic's plot within the quadrant is very important. Unfortunately a "perfect tradeoff metric" that can be used to optimize course performance has yet to be developed. Auditing faculty and auditing textbook authors must use their own judgment and experience when making decisions to improve the performance of an auditing course. In general, as the importance of an auditing topic increases, the effectiveness of its development should increase. But, clearly some topics are more easily developed than others. Note that some topics appearing in Quadrant I may be higher in importance than others that are more effectively developed. For example, *Types of audit evidence* (ID=26), *Conditions requiring departure from the standard audit report* (ID=7), *Code of Professional Conduct, including concepts such as independence, objectivity, confidentiality, etc.* (ID = 20), *Test of details of account balances* (ID = 41), *Subsequent events* review (ID = 50), and *Business functions—cycles (revenue, acquisition, inventory, etc.) and related records, transactions, and documents* (ID = 38) are more effectively developed than other topics in Quadrant I that have equal or higher ratings on importance. Thus, viable course tradeoffs may occur between auditing topics within the same quadrant as well as between auditing topics plotting in different quadrants. For example, it may be possible to spend less classroom time on the auditing topics just listed given the rather effective development of these topics by the textbook, and spend more time on those with higher importance ratings that are being less effectively developed. Likewise, it is clear from Figure 1 that the four topics plotting farther to the left in Quadrant II (IDs = 19, 61, 62, and 63) need more attention than the three topics plotting farther to the right (IDs = 33, 31, and 52), which also plot within Quadrant II. Additionally, topics ID 61, 62 and 63 deal directly with fraud, and today's students will be expected to have a much better understanding of these topics and their importance to the audit process in light of the Sarbanes-Oxley Act.

The third quadrant represents auditing topics that are perceived to be below average in importance and, therefore, it is quite acceptable to have these topics receive a below average rating in the textbook's effectiveness in developing these topics. That is, auditing educators perceive that, on a relative basis, lower priority should be assigned to these sixteen topics. Again, plot location would indicate that *SOX – Audit Committee responsibilities* (ID=58) would have a much higher priority than *Government auditing and generally accepted government accounting principles* (ID = 54).

Twelve auditing topics plot in the fourth quadrant. They represent topics that are below average in importance but are developed with above average effectiveness. As such, they represent topics that could be used in acceptable tradeoffs. That is, the resources and time allocated to developing the topics that are lower in importance but are already effectively developed can be shifted to those topics plotting in Quadrant II, considered very important but not being effectively developed. Here again, the plotting within the quadrant is important. Thus, appropriate action to improve the performance of an auditing course would be for faculty to decrease, for example, their efforts in developing the following seven topics: *Detailed analysis of the unqualified* report (ID = 6), Detailed *analysis of a qualified audit report* (ID = 9), *Detailed analysis of an adverse audit opinion* (ID = 10), *Detailed analysis of a disclaimer of an audit opinion* (ID = 11), *Nature of the audit profession and how it differs from that of other practicing accountants* (ID=1), *Attribute sampling and applications* (ID=44), and *Discovery of facts subsequent to issuance of audit report* (ID=51). Thus, these topics would rightly move westward in Figure 1 toward the third quadrant as they have a lower priority. However, other topics in Quadrant 4 such as *Contingent liabilities* (ID=49), *Statements on Auditing Standards – their origin and use in audit practice* (ID = 3), and *Statistical and nonstatistical sampling concepts* (ID=43) already plot close to the origin and represent average performance and average effectiveness. Thus, their tradeoff potential is less appealing.

DISCUSSION

The auditing educators' overall assessment of the effectiveness of auditing textbooks in developing auditing topics is that the texts are performing quite well. Forty-four of the 63 topics appropriately plot in Quadrants I and III. However, ample room for improvement still exists, particularly with regard to the seven topics plotting in Quadrant II. An important outcome of importance-effectiveness analysis is assessing the potential tradeoffs that exist within a curriculum course that could improve its performance. For example, one could spend less time on topics that plot in the fourth quadrant and reallocate that effort to the topics plotting in the second quadrant. In addition, potential tradeoffs can exist within each of the quadrants. Thus, this research represents an improvement over past studies through its ability to translate research results into guides for action to improve auditing course performance.

The subjective nature of importance-effective analysis needs to be emphasized for several reasons. First, the auditing educators' responses are subjective and have only relative values, not absolute values. Second, no simple metric exists to assess the potential tradeoffs. While in an ideal case, high importance topics would have high levels of effectiveness and vice-versa, the intuitive appeal of having individual topics plot on a line with a positive slope must be tempered with judgment and a sound understanding of the nature of auditing course. Unquestionably two topics rated equally on importance can require substantially different amounts of time and effort for the curriculum course to effectively prepare students for the auditing profession. Thus, the potential benefits of de-emphasizing one topic to allocate the freed resources to another topic will clearly depend not only on the two topics selected for the tradeoff but also on the experience and skill of the instructor vis-à-vis each of these topics. Hence, different instructors may perceive potential tradeoffs differently.

Another contribution of this paper is providing vital communication between two important stakeholders in auditing education: auditing textbook authors and a national sample of auditing educators. The task of textbook authors is facilitated as they understand the perceptions of auditing educators on both the relative importance of a broad array of auditing topics in preparing accounting graduates and the effectiveness of auditing textbooks in developing each of these topics.

Finally, the survey results clearly demonstrate an apparent shortcoming within current auditing texts with respect to their effectiveness in developing the necessary knowledge and skills in recognizing, evaluating and dealing with fraud and ethics. A logical course of action for auditing faculty to undertake in this circumstance is to supplement their auditing course with added materials on fraud and ethics. Peterson (2003) provides an excellent source of additional material including academic and trade books, case materials, journal articles, and videos all relating to fraud examination, detection, and control. Several casebooks have been written dealing with ethics. For example, Mintz and Morris (2008) have several short and extensive cases dealing with audit ethics. These cases can supplement the textbooks' treatment of ethics. With the wealth of material found in textbooks and constraints of time, educators might look to extracurricular activities as a way to enhance learning experiences in the classroom. Many schools have active student organizations, like the Student Chapter of the IMA and Beta Alpha Psi. These organizations can sponsor speakers that discuss topics of fraud and ethics.

Survey respondents, asked to comment on ways their auditing course has changed due to SOX legislation, made a number of comments. The auditing course is only part of the accounting curriculum, and some topics could be found in or moved to other courses. A number of respondents reported that an ethics course had been added to the curriculum. This helps students develop a sense of business ethics and an ability to identify ethical dilemmas and free up time in the auditing course to devote to other topics.

Respondents also reported that many of the internal control topics identified in the study are addressed in most accounting information system courses and need not be covered in an auditing course. Some schools, however, do not have an accounting information systems course in their curriculum. Internal control topics were deemed to be among the most important topics in an auditing course. If internal control topics are moved to an accounting information systems course, integration of these concepts with the auditing course objectives would be crucial. Respondents also reported dropping peripheral topics such as auditor's legal liability and sampling so they could include SOX in their auditing course and put more emphasis on fraud topics.

In summary, accounting educators need to look for overlapping course topics and consider curriculum review. The curriculum review can then shift topics from one course to another or re-enforce the students' understanding of important topics not effectively presented by the textbook. Further, the educator may have to expect that students will get some of the less effectively presented topics on their own as they mature in their chosen careers.

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HOW CAN INTERDISCIPLINARY COLLABORATION BETWEEN SCHOOLS PROMOTE CULTURALLY DIVERSE STUDENTS' SUCCESS?

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ABSTRACT

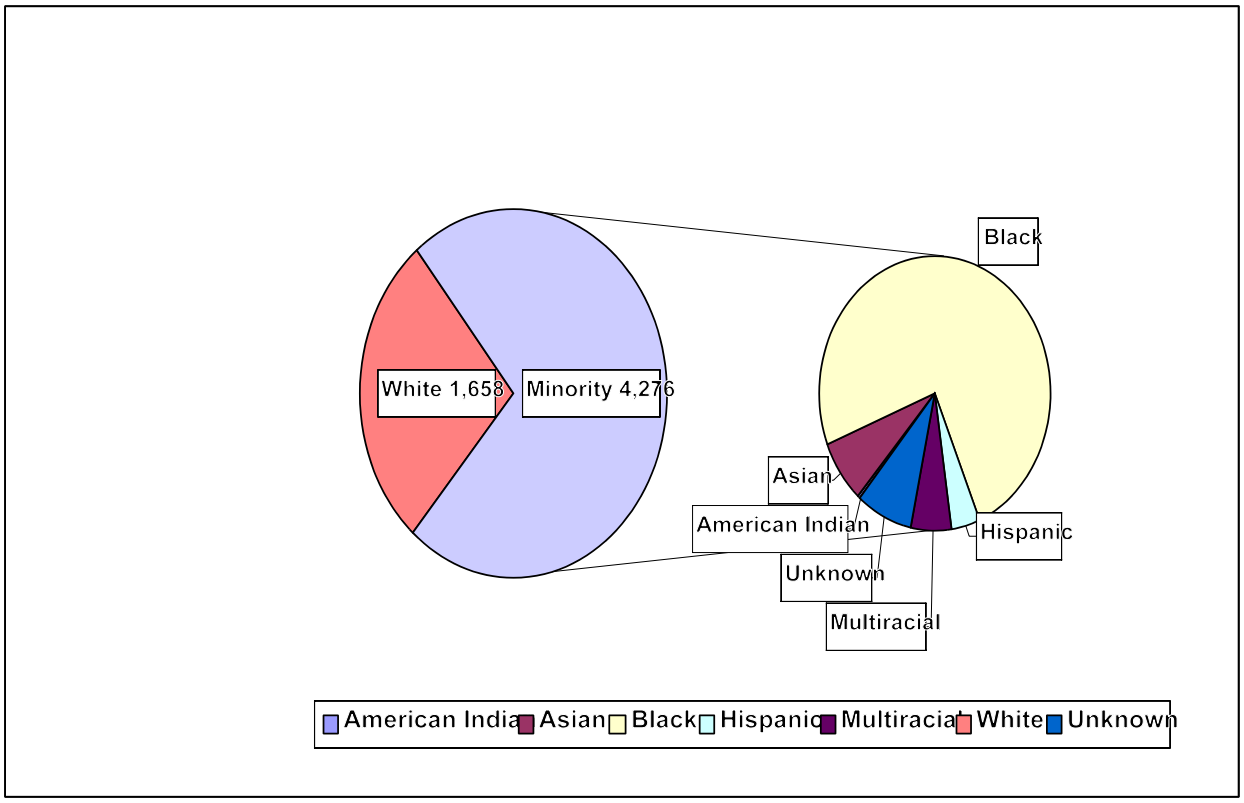
This paper will attempt to explain how interdisciplinary collaboration between different two career schools (i.e., School of Nursing and School of Business within the same university) can improve the academic success of culturally diverse students. Existing collaboration between the schools will be reviewed and statistical supporting data will indicate why retention is a challenging problem for diverse student populations. Once diverse students' problems have been identified, the study will focus on (a) how two schools attempt to understand the diverse student population, and (b) how both schools developed innovative enrollment and retention models for students who were not progressing satisfactorily.

INTRODUCTION

This article discusses interdisciplinary collaboration at Clayton State University (CSU), a technology-focused, suburban, commuter university with a very diverse student population. Although it is located in a suburban area, CSU, located in Morrow, Georgia, shares many characteristics of urban universities. Its diverse student body varies by age, culture, and ethnicity. In the spring of 2008, the average age of the 5,935 students in the university (and in the School of Business) was 28 years, and the average age of the nursing students was 29 years. The university student body was 70.0% females and 30.09% males. Both the 2002 and the 2005 editions of *America's Best Colleges*, published by U.S. News and World Report, stated that CSU had the most diverse student body among comprehensive baccalaureate granting colleges in the southern United States. As of spring, 2008, the university's student body included a population of 27.94% White and 54.21% African-Americans.

CSU SPRING 2008

Although the institution embraces its richly diverse student population, there are challenges to teaching and retaining them due to a variety of factors. Many students attending CSU are first generation college students, single parents, hold full time jobs and/or speak English as their second language. According to Schmidt (2008), the single factor that has made a difference on behalf of minority students is the attention given to them and improving how they are served. This paper describes collaborative efforts between the School of Business and School of Nursing to fulfill the institution's mission to improve student success. Prior to describing these collaborative strategies, a brief literature review is provided on the meaning of interdisciplinary collaboration.



THE MEANING OF INTERDISCIPLINARY COLLABORATION IN A UNIVERSITY SETTING

Collaboration implies "collective action oriented toward a common goal" (D-Amour et al., 2005, p. 116). A review of seminal educational literature reveals the common characteristics of collaboration that include the sharing of common goals and values, engagement in an interactive process, mutual control over decisions made and actions taken, and shared ownership of responsibilities and outcomes (Casto & Julia, 1994; Hord, 1986; Knapp, 1998; McCroskey & Einbinder,1998; Wood & Gray, 1991).

In their review of the literature for definitions of collaboration, D-Amour, et al. (2005) identified the term *sharing* used in the form of shared responsibilities (Arcangelo, 1994; Arslanian-Engoren, 1995; Cowan & Tviet, 1994; Henneman, Lee & Cohen, 1995; Liedtka & Whitten, 1998; Lindeke & Block, 1998), shared values (Clark, 1997; Henneman, 1995), and shared planning and intervention (Baggs & Schmitt, 1988; Lindeke & Block, 1998). They also identified the term *partnership* that is characterized by a collegial relationship (Arslanina-Engoren, 1995; Henneman, 1995; King, 1990).

Martin-Rodriguez, et al. (2005) describes the educational system as "one of the main determinants of interprofessional collaborative practice" (p. 137) and explains that interdisciplinary collaboration promotes students' awareness, sharing and the "integration of their knowledge and practices" (p. 137). They further explain that, although university faculty work together on collaborative projects to promote the university's mission,

members of each profession know little about the values and expertise of their colleagues because of their involvement in teaching their respective discipline-specific frameworks. Therefore, understanding the roles of other disciplines in the university facilitates the development of interdisciplinary collaboration and the accomplishment of the university's mission, in this case, to promote student success (Silen-Lipponen, et al., 2002).

Institutional support is critical not only to academic disciplines as they promote the fulfillment of the institution's mission, but also when disciplines seek collaboration as a means to draw upon the strengths of each to develop strategies to promote student success. The School of Business and the School of Nursing became interested in collaborating during the establishment of the university's Quality Enhancement Plan (QEP) in preparation for the Southern Association of Colleges and Schools (SACS) reaffirmation visit. Part of this process involved the appointment of representing members from every academic discipline to develop a focus of the QEP. The success of this process was based largely on the institutional support received and the committee members' commitment to fulfill the university's vision, promoting student success as evidenced by improved retention. Abelman, et al. (2007) defines institutional vision as a way of knowing about the university's learning community. Vision also "fosters genuine commitment among all concerned parties (p. 4). It is within this spirit that the School of Business and School of Nursing began its collaborative efforts to promote student success.

THE NEED FOR COLLABORATION: BACKGROUND AND ISSUES RELATED TO SUTDENT ATTRITION AND GRADUATION

Student attrition and graduation rates are two major factors that many institutions use to measure the quality of their programs. Dr. Johnetta Cross Brazzell, the past vice-president of Spelman College aptly stated, "Retention is the lifeblood of an institution" (Hurd, 2000). A review of applicable literature in the area of student attrition and retention offers an insight into many variables affecting the retention rate of universities.

Since African-American students comprise 54.21 % of the student population at CSU (Spring, 2008, Office of Institutional Research and Planning), it is important that the institution's academic units pay close attention to their retention rates. According to the Frederick D. Patterson Institute (Historically Black Colleges and Universities, 1999), the national average retention rate of African-American students is 45% after five years, compared to a 57% average retention rate for White students. The academic performance of first-generation students, especially African-Americans and Latinos, also tends to be lower because those students often have trouble balancing the demands between family and school (Comarow, 2000). Most of the students enrolled in the programs from the two schools are first generation college students.

In another study of African-American colleges and universities, Hurd (2000) reported that two common reasons African-American students have poor academic performance are a lack of financial well being and academic under-preparation. Additionally, many African-Americans are first generation college students, so the family support of "been there, done that" is not available, and more and more students are holding a full-time job and taking a full load of classes (Hurd, 2000).

Students describe the Bachelor of Science in Nursing (B.S.N.) and Bachelor of Business Administration (B.B.A.) programs as rigorous. They inform faculty that they have to give up their social lives, rearrange work schedules, and spend less time with their families in order to focus on their studies. For some students, obtaining a B.S.N. or B.B.A. degree is the most important objective in their lives; it is a way for them to achieve financial security and benefits for their families. However, when students fail courses in either of the programs, it is very traumatic for them because they feel that their families depend on them obtaining a degree in their specific fields.

Students get a second attempt in the nursing program if it is their first course failure and students in the B.B.A. program have three attempts, but when students fail on their last attempt, this result in program dismissal. Eighty-five percent of CSU's business students are already working and need the degree for advancement and when they fail, they often tell faculty that they realize they will not be able to advance in their careers. In a survey of students (CSU Survey data, fall, 2004), about 8% reported "no chance" that he or she would "receive emotional support from my family if I experience problems in college".

Research also indicated that CSU was at one time a predominantly White college campus. In an examination of African-American college students' needs on predominantly White college campuses, Rowser (1997) found that the key to improving the academic performance of African-American students was early identification of the causes of poor academic performance and intervention. Successful institutions identify at-risk students within the first three weeks of a semester. She further indicated that the image of an entire university could be affected if the attrition rate of African-American students was higher than that of White students, as it is at many universities.

Kalsner (1996) found that approximately six of every ten African-American students who do not receive financial aid withdraw from school. Dr. Antoine Garibaldi, Provost of Howard University, stated that many African-American students leave because of financial reasons. One of the major reasons cited by students for poor academic performance is increased financial pressure. More than 50 % of currently enrolled nursing students at CSU are forced to work 30-40 hours per week in order to pay their bills while attending school, and 65% of the School of Business students work full-time. Scholarships and financial aid funds have reduced outside work for some students and have contributed to improved success. However, some financial aid funds are restricted to students enrolled in the nursing program and do not extend to pre-entry preparation or earlier collegiate work.

The article by Rowser (1997) also noted some disturbing data about the success of African-American students. Most of the students (99%) felt that after their freshmen year, their GPA would be above a 2.0; they had high perceptions of academic performance and for graduation and strongly valued education. However, even when they had adequate financial resources, because of some societal and background disadvantages, disadvantages in skills or academic preparation, and background disadvantages, they often performed poorly. They had less academic success than whites during their freshmen year and throughout their college careers, and they were much more likely to withdraw from school during their first two years (Rowser).

Some studies identified the reasons for high attrition rates of students. In the Cleave study (1996), social interests were the highest ranking variable when students considered continuing their education and convenience factors was ranked second. Academic assistance programs, including developing studies, workshops, classroom presentations, review sessions, tutorial services, personal and group counseling, and outreach appear to have an effect on student retention (Higbee and Dwinell, 1997). By offering learning support services to a diverse population, development education programs can play an integral role in increasing retention rates. One of the beneficial advantages of academic assistance programs was smaller class sizes and individual instruction (Higbee and Dwinell). The authors concluded that academic assistance programs play a significant role in student retention, but that the programs must receive proper funding to increase the programs themselves and to improve graduation rate percentages.

A weak knowledge base is one of the factors negatively impacting student performance. In some cases, students are simply unprepared for college level work. Some students report having been "A" students until they were admitted to the nursing program. Students, particularly those for whom English is a second language (ESL), are more accustomed to using rote memorization techniques rather than utilizing learning strategies involving

higher level thought processes such as synthesis and evaluation. Upon entrance to the nursing program, students are expected to engage in critical thinking activities that involve decision making and problem solving; this adjustment is often difficult for the minority students. Although students admitted to the program met the criteria for admission, they often experience academic difficulty at some point in their programs. In summary, the literature highlights many of the challenges facing minority students.

University-wide, the trend in minority enrollment increased from 17.2% in the fall of 1990 to 72.06 % in the spring of 2008. A majority white enrollment decreased from 82.8% to 27.94% of the student population during that time, while total enrollment increased from 3,414 in 1990 to 5,934. The Clayton State University (CSU) School of Business enrollment parallels the university as a whole. Enrollment (Spring, 2008) in the School of Business had a student population that was 28.73% White, 52.23% African American, and 6.37% Asian or Pacific Islander American. Enrollment (Spring, 2008) of the School of Nursing had a student population that was 23.32% White, 60.4% African American, and 4.28% Asian or Pacific Islander American.

In addition, the gender makeup of the School of Business was 52.47% female and 37.00% male, and the gender makeup of the School of Nursing was 90.16% female and 9.84% male. A comparison of race/ethnicity of (a) the School of Business versus the entire CSU student body and (b) the School of Nursing versus the entire CSU student body for the spring of 2008 is shown in Table 1.

Table 1: Race/Ethnicity of Bachelor of Business Administration and Bachelor of Science in Nursing Programs, and CSU, Spring, 2008

RACE/ETHNICITY	BBA	BSN	CSU
American or Pacific Islander American	5 (0.47%)	0 (0.00%)	22 (.37%
Asian or Pacific Islander American	48 (4.53%)	4 (3.22%)	274 (4.59)
African American/Non-Hispanic American	514 (48.54%)	54 (43.54%)	2899 (48.60%)
Hispanic American	22 (2.08%)	1 (0.8%)	145 (2.43%)
Multiracial	63 (5.95%)	0 (0.0%)	344 (5.77%)
White/Non-Hispanic American	407 (38.43%)	66 (53.22%)	2281 (38.24%)
Source: CSU Office of Institutional Research Records			

Diversity within the nursing program is even greater than in the School of Business. In 1992, minority students accounted for almost 35% of the enrollment in the nursing program. At that time, the campus had an enrollment of 4866 students, with less than 20 % of the students from racial and ethnic minority groups. For the fall 2004 semester, the nursing program had a student population that was 53% White, 44% African American, and 3% Asian or Pacific Islander American. The gender makeup of the nursing program was 111 (89.5%) female and 13 (10%) male (the highest number of males ever enrolled in the nursing program). These numbers show an increase in the number of diverse students enrolled in the nursing program. For instance, in 2001-2002, there were a total of 202 students enrolled in the nursing program. Of those, 111 were African American and 38 were White-non-Hispanic. The total number of graduates for both groups was 25 and 18, respectively.

Although these data demonstrate an ongoing commitment to the recruitment of minority students, the percentage of these students achieving program completion and licensure, shown in the Tables 2 and 3, is unacceptably low.

Table 2: CSU Nursing Program Graduation Rates from 2001-2007							
	2001	2002	2003	2004	2005	2006	2007
Black/African American	10	18	25	18	27	39	41
Asian	0	2	0	1	2	7	7
Hispanic	0	1	0	0	2	0	0
White Disadvantaged	6	8	6	4	11	4	11
White Non-Disadvantaged	15	12	11	12	26	23	17
Total Number of Graduates	31	41	42	35	68	74	76
% Minority/Disadvantaged	52%	63%	745	63%	62%	69%	77%
Source: CSU Graduation Lists and Department of Nursing Records							

Table 3: CSU School of Business Graduation Rates by Ethnicity from 2001 – 2007							
	2001	2002	2003	2004	2005	2006	2007
American Indian/Alaskan Native	0 (0%)	1 (1%)	0 (0%)	0 (0$)	1 (1%)	1 (1%)	1 (1%)
Asian or Pacific Islander	4 (4%)	3 (3%)	3 (2%)	0 (0%)	4 (4%)	4 (3%)	11 (11%)
Black (Non-Hispanic Origin)	27 (27%)	32 (27%)	49 (37%)	28 (28%)	47 (42%)	54 (39%)	40 (38%)
Hispanic	0 (0%)	2 (2%)	0 (0%)	2 (2%)	4 (4%)	2 (1%)	3 (3%)
Multiracial	2(2%)	1 (1%)	0 (0%)	3(3%)	7 (6%)	5 (4%)	6 (6%)
White (Non-Hispanic Origin)	67 (67%)	79 (67%)	79 (60%)	67 (67%)	48 (42%)	72 (52%)	43 (41%)
Total Graduates	100	118	131	100	111	138	104
Source: CSU Graduation Lists and office of Institutional Research Records							

Enrollment data for both schools are shown in Tables 4 and 5. Attrition continues to be a problem. As shown in Table 4, the minority/disadvantaged attrition rate for the nursing program decreased between the fall, 2000 and the fall, 2001. The School of Nursing established a goal of obtaining an attrition rate of 25% or less for all students enrolled in its program, including minority and disadvantaged students. However, in the fall 2002, the grade necessary to pass a course was raised from 70 to 75, which probably caused the slight increase in the fall, 2002 data.

It is also noted that the nursing program minority attrition rate has become more aligned with the overall attrition rate of the university. This is partially due to the fact that a higher percentage of the enrollees are minorities. The overall attrition rate will continue to get closer to the minority attrition rate as the percentage of

minority students increases. Although the minority students represent a majority of the attrition rate, the proportion of these students in the attrition rate appears to be decreasing.

Table 4: Nursing Program Enrollment Data for 2000 through 2007

	2000	2001	2002	2003	2004	2005	2006	2007
BSN Enrollees	48	47	54	56	48	41	47	45
Minority/Disadvantaged BSN Enrollees	21	23	32	43	35	22	30	33
Percent of Enrollees Who Are Minority/Disadvantaged	44%	49%	59%	77%	73%	55%	64%	73%
BSN Withdrawals	9	6	16	na	na	5	5	7
Minority/Disadvantaged BSN Withdrawals	9	5	10	na	na	4	3	5
Percent of Withdrawals Who Are Minority/Disadvantaged	100%	83%	63%	na	na	80%	60%	71%
BSN Attrition Rate	19%	13%	30%	na	na	13%	11%	16%
Minority/Disadvantaged BSN Attrition Rate	43%	22%	31%	na	na	18%	10%	15%

Source: CSU Enrollment Lists, School of Nursing Records, CSU Graduation Lists

Table 5: CSU School of Business Enrollment Data for 2000 through 2007

	2000	2001	2002	2003	2004	2005	2006	2007
American Indian/Alaskan Native	8 (.9%)	7 (.8%)	8 (.8%)	4 (.4%)	4 (.4%)	3 (.3%)	3 (.3%)	4 (.4%)
Asian or Pacific Islander American	27 (3.0%)	38 (4.1%)	39 (4.0%)	38 (3.9%)	48 (4.5%)	53 (5.1%)	70 (6.7%)	62 (5.8%)
Black/Non-Hispanic American	312 (34.7%)	324 (34.5%)	382 (38.9%)	402 (41.32%)	518 (48.7%)	515 (49.5%)	531 (50.5%)	566 (52.9%)
Hispanic American	17 (1.9%)	28 (3.0%)	22 (2.2%)	29 (2.98%)	23 (2.2%)	29 (2.8%)	30 (2.8%)	28 (2.6%)
MultiRacial	14 (1.6%)	23 (2.6%)	33 (3.46%)	54 (5.55%)	64 (6.0%)	72 (6.9%)	69 (6.6%)	47 (4.4%)
White/Non-Hispanic American	520 (57.9%)	519 (55.4%)	499 (50.7%)	446 (45.84%)	407 (38.3%)	369 (35.4%)	336 (32%)	314 (29.4%)
Ethnicity Unknown							12 (1.1%)	48 (4.5%)

Source: CSU Enrollment Lists, Office of Institutional Research

COLLABORATIVE STRATEGIES BETWEEN THE SCHOOLS

Collaborative strategies between the School of Business and the School of Nursing were designed around the QEP because of its well-defined strategic context to address critical needs identified through an exhaustive process of data collection and analysis. The plan was also designed to enhance student success while building on the university's greatest asset—the strong commitment of its faculty and staff to student learning. The goals and objectives for each of three planning themes are described in Table 6. Table 7 highlights the specific collaborative activities between the School of Business and School of Nursing as they related to the QEP planning themes and the institution's mission to promote student success.

Table 6: Goals and Objectives of the QEP Planning Themes

Theme 1: Student Success and Faculty Development	Theme 2: Student Intervention and Faculty/Staff Involvement	Theme 3: Advisement and Mentoring
Goal 1: To establish ongoing faculty development programs related to student success	Goal 1: To establish institutional policies, procedures and priorities that maximize student success.	Goal 1: To improve the knowledge level of Advisors.
Goal 2: To implement Instructional strategies that Promote student success.	Goal 2: To implement methods for early detection and remediation of at-risk students.	Goal 2: To improve freshman advisement/orientation.
	Goal 3: To involve faculty staff, and Students in providing academic Assistance for at-risk students.	Goal 3: To improve the uses of technology in theadvisement of students.Goal: To enhance student Success through increased faculty-student interaction outside the classroom.

Table 7: Collaborative Activities between the School of Business and School of Nursing

Theme 1: Student Success and Faculty Development	Theme 2: Student Intervention andFaculty/Staff Involvement	Theme 3: Advising and Mentoring
Goal 2: To implement Instructional strategies that promotes student success	Goal 2: To implement methods for early detection and remediation of at-risk students	Goal 2: To improve freshman advisement /orientation
	Goal 3: To involve faculty, staff, and students in providing academic assistance for at-risk students.	Goal 4: To enhance student success through increased faculty/student interaction outside the classroom
Collaborative efforts between the schools:	Collaborative efforts between the schools:	Collaborative efforts between the schools:
Development of Instructional strategies that can be utilized by both Schools.	Development of the School of Nursing Student Navigator	Faculty/Student Mentoring Program
Development of an Active Learning Strategies Database	Implementation of the Skills Tutor Computer Program	Information sessions for pre-business and pre-nursing students

Theme 1: Student Success and Faculty Development

Sometimes one academic discipline, (e.g., School of Business) has no idea what another academic discipline (e.g., School of Nursing) might be doing to improve the academic performance of a culturally diverse student body. This is not the case at CSU, where faculties from the two schools understand the positive impact of interdisciplinary collaboration on student performance. Faculty from the Schools of Business and Nursing are continually working together, through meetings and joint collaboration, to gain a better understanding of the academic performance of all students currently enrolled in the two programs.

Between 2003 and 2007, faculty from the two schools collaborated to discuss and develop active pedagogies to promote student success. During this time, the faculty met monthly to discuss active learning strategies used in their respective classrooms. Members of the faculty presented each active learning strategy in a roundtable format specifically sharing the name of the strategy, function and goals of the strategy, suggestions for use, audience, ease of use, class size, background knowledge needed by the students to successfully engage in the strategy, and the procedure for implementing the strategy. The Director of the Center for Instructional Development facilitated the faculty discussions about their experiences implementing the strategies in their classrooms. The meetings and discussions resulted in the development of a campus-wide active learning strategies data base that faculty across the disciplines may access, select and print to implement in their classrooms.

Example of an Active Learning Strategy Developed by a School of Business Faculty Member

Group Grid

Description

In this activity, students sort pieces of information by placing them in the blank cells of a grid. The grid's columns and rows consist of superoridinate concepts. Student groups receive scrambled lists of subordinate terms, names, equations, images, or other items that belong in the categories. Teams then sort the subordinate items in the correct grid categories.

Function: Assimilating & Organizing Content, Collaborative Work

Goals

The goal is to help students learn the basic schema and categorization rules of the discipline.

Suggestions for Use

Group Grid is most useful in introductory courses.

Audience:

Arts & Sciences, Business, Health Sciences, Information & Mathematical Sciences, Technology

Ease of Use

Instructor: Easy Student: Easy

Class Size

Small, Medium, Large

Background Knowledge

Students should have read the related text chapters and received a lecture on the concepts.
Procedure: 1. Design a grid or matrix. The best grids have multiple columns and rows. The top horizontal row should identify one level of organization and the far left vertical column indentify another level of organization. The items placed at the points of intersections (cells) must meet both column and row classification criteria. For example, in a communication course, the basic types of written messages (information, bad news, persuasive) could be listed in the horizontal headings and the basic parts of the message (introduction, body, closing) could be listed in the left verticle column. Students could then be asked to sort a list of guidelines into the appropriate cells. 2. Form groups and distribute the blank gride as a handout, or have students copy the grid from a PowerPoint slide. 3. Give students the list of scrambled items of information. 4. Have students fill in the blank cells. Teams can come to consensus about how the items should be sorted, and fill out the grid as a group project. Or individual students can take turns in a round robin order, filling in one cell per turn. 5. Students can submit a completed grid for assessment or you can post a correctly completed grid for them to check for accuracy (Barkley, et al., 2005).

Example of an Active Learning Strategy Developed by a Nursing Faculty Member

Conference Style Learning

Description

Conference-style learning at its best meaningfully engages and challenges students and instructors. Students learn key critical thinking skills from instructors and one another, with particular emphasis on hearing differing viewpoints respectfully. It was developed at Reed College to promote critical thinking about primary sources (such as journal articles and historical documents), The conference method of teaching is a form of group tutorial. Students read primary source materials that are chosen carefully to challenge them to think in depth. They then meet in small groups with the instructor to discuss the readings. Instructors model critical thinking by asking strategic, Socratic-style questions that encourage analysis and evaluation of evidence, arguments, and methodology, as well as integration and synthesis of original arguments. Through such discussions, students learn to ask one another questions in this manner; of equal importance, according to Underwood and Wald, is that they learn to respect their own intuitions and those of classmates. The authors argue that conference learning provides the ideal type of social context necessary for optimal critical thinking skill development.

Function

Discussion

Goals

1. To encourage students to identify main ideas or key elements of a primary source.
2. To encourage active discussion of the reading material
3. To encourage the formulation and expression of opinions about sources read.
4. To encourage students to respect the opinions of others.

Suggestions for Use

1. This strategy may be used to promote discussion of ethical or controversial issues
2. This strategy may be used to improve students' critical reading skills
3. The strategy may be used to evaluate student learning.

Audience

Arts & Sciences, Business, Health Sciences, Information & Mathematical Sciences, Technology

Ease of Use

Instructor: Moderate Student: Moderate

Class Size

Small, Medium

Background Knowledge

Students must possess effective reading and critical thinking skills as well as knowledge of the concepts taught in the class in which this strategy is implemented.

Procedure

1. Determine the topic to be discussed.
2. Select the reading material
3. Explain the guidelines for engaging in the reading process.
4. Give students guiding questions to refer to as they read the material.
5. During the discussion period, the faculty asks high-level probing questions that students must answer. The faculty may encourage the expression of many viewpoints or opinions about the

same topic. As different opinions are expressed, students learn that it is acceptable to not always agree with one another. Each student leaves the class feeling respected.

6. At the end of the discussion, the faculty provides an overview of the important information that students should have gained from the reading and discussion (Underwood & Wald, 1995).

Theme 2: Student Intervention and Faculty/Staff Involvement

One of the keys to promoting student success is the early identification and remediation of at-risk students. Collaborative efforts between the schools involved the School of Nursing sharing its experiences with the development of the role of Student Navigator. This position is filled by a School of Nursing faculty member who is responsible for identifying pre-nursing students at-risk for not being admitted to the nursing program because of academic deficiencies. The Student Navigator "navigates" students into the nursing program by either pairing them with a faculty mentor and/or locating appropriate community and university resources that students may need to alleviate personal stressors affecting their academic performance. Members of the School of Business engaged School of Nursing faculty in dialogue on how they addressed the needs of their academically challenging students. Through dialogue, both schools agreed that the Student Navigator role could be easily duplicated in the School of Business.

The School of Nursing also purchased an online academic enhancement program, Skills Tutor, in conjunction with the CSU Center for Academic Success. Pre-nursing and nursing students' level of proficiency in the areas of math, reading, and writing can be easily assessed and remediation plans developed. Following the completion of the remediation plans, students take post tests that indicate how successful the remediation plan was in helping students to improve their academic skills. The Skills Tutor program is accessible to both the School of Business faculty and students.

Theme 3: Advisement and Mentoring

The advising and mentoring process in both schools have been greatly improved as a result of collaboration. For instance, the School of Business did not have a full-time academic advisor until 2002. Until then faculty had provided all student advising. After observing how well the School of Nursing academic advisor assisted the faculty, the School of Business obtained approval for such a position and now has two on staff. The School of Business' Academic Office now meets with all business and pre-business students at least once a year to determine if they understand where they are headed in their university studies, and how they should proceed toward graduation. The School of Business Advisors are responsible for advising students in selecting and planning an appropriate career path, working with the career planning module in the Managerial Communication course, and maintaining the student advisement career development website. In addition, the advisors are expected to develop appropriate internship opportunities for business students.

Data show that when students are interested and committed to their own learning, academic advisors can be more effective in terms of helping them plan for the future (Hurt, 2007; Smith, 2003). The Office of Academic Advisement meets with students and attempts to guide them toward a timely graduation by taking a personal interest and helping students to choose the right academic courses in the proper sequences. In addition, the Office of Academic Advisement works with traditional and non-traditional students, returning students, and transferees to ensure that prerequisites, admission procedures, and curriculum changes are understood.

In the nursing program, a key ingredient to improving student success early on has involved the establishment of program advisors. Their role is to advise the pre-nursing students to ensure they are completing their core, provide information about the School of Nursing admissions process, and ensure that students' applications are complete prior to being submitted to the Admissions and Progressions Committee. Having just one or two individuals in which to interact in one particular location has alleviated much student anxiety about the nursing program. Students feel valued and believe that they are able to get information when they need it. The program advisors also play a key role in the application review process. Once a student has met all the nursing program admission criteria, their files are submitted to the Admissions and Progressions Committee. This committee ranks eligible applicants using students' overall grade point average (GPA, the average score of their critical thinking skills on the Nurse Entrance Exam (NET), and their science and math GPA. The most qualified students are interviewed, and the committee makes their final selections. At the point students are admitted to the nursing program, they are assigned a faculty advisor. The relationship between faculty and student advisee continues through to graduation.

Other collaborative activities to promote student engagement include pre-major information sessions. After observing the School of Business' success with their pre-major information sessions, the faculty conducted information sessions for pre-nursing majors. These optional information sessions provided a forum for pre-nursing majors to meet the nursing faculty and associate dean. Information packets and information sheets outlining the core requirements and the nursing curriculum, similar to those used by the School of Business, were also distributed at the information sessions. Through ideas gained from the two schools' collaborative meetings, the School of Nursing implemented the strategy of having student representatives from the Student Nurses Association (SNA) attend the information sessions to encourage pre-nursing students to become involved in the organization even before admission to the nursing program. SNA representatives shared their experiences of being a student in the nursing program.

The advisement and mentoring processes described by both schools were developed using an engagement model of academic advisement (Yarbrough, 2002). This method involves faculty in the advisement process before students are admitted to the business and nursing programs. Relationship building between faculty and student is an essential strategy used to empower students as they attempt to gain admission and meet degree requirements once admitted. Focus groups with pre-major and major students and faculty advisors/mentor revealed their perceptions of what constitutes a good faculty advisor/mentor and good student advisee (Table 8).

Table 8: Major Themes

Faculty Advisor/Mentor Perceptions of a Good Mentor	Student Advisee Perceptions of a Good Mentor
Coach	Coach
Tutor	Encourager
Cheerleader	Listener
Listener	Supporter
Faculty Mentor Perceptions of a Good Advisee	Student Advisee Perceptions of a Good Mentor
Eager to learn	Good listener
Shares own ideas	Does assignment
Displays a positive attitude	Able to see improvement

SUMMARY, REFLECTION, AND RECOMMENDATIONS

The key ingredients that have made interdisciplinary collaboration a success between the two schools include improving the advisement process, continued development of an understanding of the demographics of the students enrolled in the programs, developing strategies leading to student success, being committed to success, and giving students a chance.

Measurable Evidence of Improving the Advisement Process

Faculty from both the School of Nursing and the School of Business are continually reviewing surveys to determine what type of assistance should be offered from the advising offices from both schools. In a recent survey of students (CSU Survey data, Fall, 2004), 62% of the students reported "very good chance" and 34% reported "some chance" that they would seek assistance from the appropriate advising office for personal, career, or academic problems.

Continued development of an understanding of the demographics of the students enrolled in the programs

Faculty from both schools work closely with the Director of Institutional Research to better understand the diversity of the student population. In addition, efforts to track students enrolled in the two programs are improving due to an advisor tracking program, Advisor Trac.

Developing strategies leading to student success

In the School of Business, as part of showing a commitment to retention and student success, an assessment program has been developed and students' prior knowledge is assessed at the beginning of each course. In the nursing program, efforts to prepare students ahead for the rigor of the nursing program included assessing minority students' academic skills in the SOS program. Through assessment, students are able to identify their academic weaknesses and concentrate on improving those areas of concern. These proactive efforts appear to have curtailed the number of students dismissed from both programs. Measures were also instituted for students having academic difficulty after being admitted to the program. Through standardized testing following each nursing course, students' areas of strengths and weaknesses in a particular content area are identified. One of the roles of the faculty mentor and the faculty advisor is to assist students with developing a remediation plan addressing the identified weak areas.

Being committed to student success

CSU participates in the Fund for the Improvement of Post Secondary Education program. Under this program, assessment of student learning is integrated into all aspects of the general education curriculum at the university. The three purposes of the assessment process are: 1) to enhance individual student learning 2) refine and revise curricula as a whole and 3) use it as a marker of educational effectiveness. In addition, the university recently started a Quality Enhancement Program that focuses on identifying student needs and enhancing the

quality of the educational experience at CSU. This type of university-wide commitment to helping students succeed reduces the attrition rate.

Giving the students a chance

The nursing program's two-attempt policy gives students an opportunity to remain in the program after failing one nursing course. By getting a second chance, many students who would have otherwise been dismissed for academic reasons are able to complete the program.

There is more to retaining a student than just getting better students. The purpose of the interdisciplinary collaboration has been to improve the chances of diverse groups being able to be successful in their desired programs at CSU. Key to the success of such an initiative must be a continuous examination of what has been undertaken in the past and what needs to be done in the future. Faculty, staff, administrators, and students can all provide valuable input towards needed collaboration.

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AN EXPLORATORY ANALYSIS OF SALES CAREER DESIRABILITY: AN MBA PERSPECTIVE

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ABSTRACT

Sources of new salespeople are continually being sought and developed by many companies in numerous industries. As new salespeople are being recruited, one common location for these individuals is increasingly found on university campuses. College campuses are a logical source of recruits for sales because these institutions house individuals who are intelligent, motivated, have a capacity for learning, and because such individuals are seeking employment upon graduation. However one obstacle to effective recruiting for sales positions exists, many college students have negative attitudes toward sales careers. The purpose of the research in this study is to extend the knowledge base pertaining to attitudes toward sales careers to include graduate students. Recruiters and others contend that individuals with Master's degrees in Business Administration (MBAs) are sought by sales recruiters. These individuals are desirable to recruiters due to their advanced knowledge of business problems/challenges and their ability to provide effective solutions. Reviews of the literature indicate no previous studies have examined MBA students' attitudes and perceptions regarding sales careers. This study evaluates student perceptions of various dimensions of sales careers and suggests strategies for academicians and practitioners for improving MBA student perceptions of sales careers.

INTRODUCTION

To survive and prosper, firms require well-qualified human resources. The field of sales is no exception, as good sales forces require good salespeople. But, how do firms identify sources of good salespeople? Many sources of salespeople exist, including internal sources (the company's own employees) and external sources (competitors, suppliers, customers, want ads, employment agencies, etc.). While these sources are relevant, increasingly colleges and universities have been identified as excellent sources of prospective salespeople (Bristol, Gulati and Amyx, 2006; Dubinsky, 1980; Nachnani, 2007). Companies are making efforts to recruit the best and brightest college graduates for sales jobs. This strategic focus on selecting the 'best and brightest' for the sales force is largely based upon the importance of selling in the marketing programs of many firms, as firms are discovering that their salespeople are no longer 'product pushers' but are instead solution developers (Nachnani, 2007). According to the National Association of Colleges and Employers sales is one of the top 10 jobs for college graduates (National Association of Colleges and Employers, 2006). However, as demand for salespeople has grown (Galea, 2005), firms are discovering that the time required to fill vacant sales positions has increased.

Salesperson compensation is also increasing, salesperson compensation has been described as growing a rate of almost two times that of other corporate positions (Nachnani, 2007).

While businesses recognize a prime source of talented individuals exists that can fill many of their sales needs, college graduates, these firms also realize these graduates require the correct background to succeed in sales. Companies are seeking individuals who have an understanding of sales and an appreciation of the importance of sales because these attributes reduce both training and associated selection costs (Sales and Marketing Management, 2002). In fact, the sales role is getting so complicated and challenging that to cope with the difficulty of operating as a salesperson, firms are increasingly seeking individuals with Master's degrees in Business Administration (MBAs) to fill these positions (Pullins & Buehrer, 2008) or are funding graduate studies in the belief that an MBA will give their sales representatives advantages in the competitive and complex sales industry (Butler, 1996). A quote attributed to John Lanning, Sales & Marketing recruiter and Training Manager for 3M states, "What is going to be needed in the near future for those individuals wishing to be promoted into sales leadership positions is an MBA. . . The belief is that an MBA allows the individual to blend textbook knowledge of sales strategy, sales management, sales ethics, etc. with what 3M calls the 'voice of the customer' (Pullins & Buehrer, 2008, p. 15)." These arguments indicate firms are not only looking to universities as a prime source of new salespeople, companies are even reaching into graduate programs as sources for their new sales representatives.

While it appears that positions in sales are readily available to college graduates (and MBAs), a problem exists; attitudes toward sales are not always positive. For example, Butler (1996) states college graduates often accept sales positions only begrudgingly. It is further contended that on college campuses attitudes toward sales are not entirely positive and negative attitudes toward sales limit organizations in their ability to attract, recruit and retain college graduates (Lysonski & Durvasula, 1998). The purpose of this study is to evaluate MBA student attitudes toward personal selling careers. As noted, student attitudes toward sales positions have been described as being negative, yet firms are increasingly interested in recruiting not only college graduates, but MBA students for their sales positions. While student attitudes have been assessed from an undergraduate perspective, this research represents an effort to evaluate the attitudes of MBA students. Based on this, the question which may be evaluated is "how do MBA students perceive careers in selling?" Answers to this question may then be used to develop plans to improve the recruitment of MBA students into sales positions.

RELATED LITERATURE

It might be assumed that negative perceptions regarding specific careers inhibit individuals from seeking those careers. Such an assumption is supported by Dubinsky and O'Connor (1983) who argue students with negative impressions of selling are not likely to interview for sales positions. Such a position has been supported by others who contend that due to negative perceptions of selling, students seek careers other than sales (Amin, Hayajneh & Nwakanma, 1995; Cook & Hartman, 1986; Dubinsky, 1980; Swenson et al, 1993). These negative attitudes create an environment in which students do not look for jobs in sales and do not accept interviews, and when they do engage in sales interviewing their negative attitudes toward sales are reflected in their conversations (Lagace & Longfellow, 1989).

Negative attitudes toward sales careers are reflected in students' perceptions of salespeople and their jobs. For example, Dubinsky and O'Connor (1983) concluded that students considered salespeople to be dishonest and money driven. Furthermore, it was stated that sales jobs were ones with low status, requiring considerable travel,

and offering minimal job security. These attitudes are reflected in other research which contends students perceive sales jobs as being low in prestige and involving manipulation of others (Bristow, Amyx & Slack, 2006; Lysonski & Durvasula, 1998). According to Swenson, et al (1993) student attitudes toward sales declined from 1980-1993. Further exacerbating the problem, these researchers discovered attitudes toward sales careers were inversely related to the students' grade point averages (as GPA increased, interest in sales declined) and their class status (as students moved closer to graduation, interest decreased). Based on these perceptions, it may be concluded that sales force recruiters may encounter significant challenges as they attempt to solicit applications, interviews and job acceptances from college graduates.

It should be recognized that many of the negative attitudes toward sales are based on misperceptions and are often contradictory with realities in the employment environment. For example, many estimates contend between 60-90% of business and marketing graduates will enter sales upon graduation (Bristow, Amyx & Slack, 2006; Gurvis, 2000; Weilbacher, 2001). This indicates that while students might hold negative perceptions of sales, many are still accepting sales jobs upon graduation. Such a fact could engender two separate sentiments, the first implies students are accepting sales positions as a 'last resort' and the second suggests students are being heavily recruited by companies seeking talented individuals who have many opportunities available. It has been stated that companies are interested in students and their attitudes because these students are an attractive and sizable source of candidates (Stevens & MacIntosh, 2002-3). It has also been suggested that students are often unaware of the professionalism required in business-to-business sales situations and the required level of formal education for sales jobs is underestimated (DelVecchio & Honeycutt, 2002). Thus, the environment in which these attitudes exist is one where sales jobs are becoming increasingly demanding. Salespeople increasingly require more in-depth knowledge about topics such as customers' businesses; company services; buyer behavior; information gathering; market analysis; sales forecasting; new technologies; and more (Ellis, 2000).

Previous research which has examined attitudes of students as they relate to sales careers can be placed into one of three separate groupings. In the first category student attitudes toward sales careers are measured by evaluating how sales jobs are perceived based on a variety of attributes. An early study by Dubinsky (1980) asked 219 introductory and advanced marketing students to rate the degree to which sales jobs possessed 24 characteristics. The findings indicated 80 percent of the students felt that sales jobs were challenging, provided feelings of accomplishment, allowed interactions with different people, provided travel opportunities, and provided opportunities to use one's creativity. Less than 50 percent of the respondents felt sales jobs had status, provided leisure time, benefited society, or provided job security. A separate study of 296 students enrolled in business classes in Ohio examined 26 attributes and their associations with sales careers (Cook & Hartman, 1986). The findings indicated negative perceptions of sales included the perception one's success is largely determined by personality, sales provided minimal job security, and sales jobs do not require a college degree. A survey of 300 students by Muehling and Weeks (1988) found students believed sales positions offered minimal security and salespeople lead a poor home life.

A study of 152 students enrolled in sales management/selling classes showed sales attitudes were moderately positive (Lagace & Longfellow, 1989). Most negative sales perceptions were based on the students' beliefs regarding the travel required in sales and the perception that personality was a critical success determinant. One hundred fifty-six business students rated 21 aspects of a sales position and provided positive ratings with regard to pay; professionalism; friendliness, responsibility and excitement; and benefits to society. Less positive responses showed that the students did not believe salespeople were necessarily well-educated, were "like me"

and masculine, and that sales was a high status position. In fact, the study concluded with the finding that none of the 156 students responding preferred careers in sales (Amin, Hayajneh & Nwakanma, 1995).

More recent findings are from a study which surveyed 271 students in junior/senior level courses. The findings indicate salespeople were perceived as being 'non' customer-oriented by the responding students. Additionally, the students felt salespeople misrepresent guarantees/warranties, take advantage of uneducated buyers, exaggerate product benefits, sell products that aren't needed, create information, and exaggerate (Bristow, Amyx & Slack, 2006).

A separate research track has evaluated student perceptions of sales careers by conducting comparative career studies. For example, one study evaluated attitudes toward several different kinds of sales jobs, including: route, retail, trade, sales engineer, product, and service selling. The findings were based on surveys of 203 introductory marketing students who rated sales engineer and service jobs the highest. The lowest rated positions were retail, trade, and route sales positions (Dubinsky & O'Connor, 1983). Another study used students taking introductory and senior level marketing courses at 13 universities as their sample. This study compared a number of careers, including consumer product sales, industrial sales, and retail sales. The findings indicated sales positions were not positively perceived by any of the respondents (Swenson, et al, 1993).

The third research track is based on studies comparing groups' perceptions of personal selling jobs. Comparisons have been based on factors such as race, gender, and employment experience. In one study, student attitudes and the attitudes of industrial salespeople were compared. It was found that students' perceptions of sales differed from those held by industrial sales representatives. Compared with industrial salespeople, students were more likely to perceive that the sales job has few positive features. Students also had negative perceptions regarding numerous characteristics of a sales career. For example, students felt the sales position's task variety, social contributions, professionalism and status, job security, complexity and variety, relocation aspects, and employers' reputations were considerably more negative than did industrial salespeople (Dubinsky, 1981).

In a study of female and male college student attitudes, it was found that females place greater emphasis on factors such as image, professionalism, and corporate reputation than did males, but other differences were few. In general, males held more positive perceptions of sales than did females (Dubinsky, 1980). These findings are consistent with those of Cook and Hartman (1986), but inconsistent with later findings that contended females attitudes toward sales are more positive than males (Muehling & Weeks, 1988). Research has also examined attitudes based on race. In two separate studies, no differences were found based on race and attitudes toward sales when comparing Anglo- and African-American attitudes (DelVecchio & Honeycutt, 2000; 2002).

The literature reviewed seems to suggest three major points. First, it suggests student attitudes toward sales careers are not entirely positive. Second, the research indicates job opportunities are widely available to students willing to accept sales positions and, in fact, sales positions are generally the first positions held by marketing graduates. Third, sales positions require individuals who are educated and capable of making complex business decisions. This point suggests students who have advanced degrees might be quite desirable for sales positions, because it has been argued that an MBA is now a degree sought by firms (Butler, 1996; Pullins & Buehrer, 2008).

These three facts lead to the focal point of this research, how are sales careers perceived by MBA students? While previous studies have evaluated perceptions held by a variety of undergraduate students, no study was identified which had assessed MBA student attitudes toward sales careers. It is important that sales attitudes be examined because if companies select and hire individuals who are accepting sales positions as a short-term employment solution, these individuals may be more prone to turnover, which is quite expensive for those firms

(Hrehocik, 2007). The literature also indicated the level of professionalism required in sales is increasing, as those engaged in sales are increasingly solution oriented rather than sales oriented (DelVecchio & Honeycutt, 2002; Ellis, 2000). Based on the literature, this research is designed to assess the attitudes held by MBA students toward sales careers.

METHODOLOGY

Since the study is designed to evaluate the attitudes of MBA students regarding aspects of sales careers in personal selling, the first step in the research process entailed the selection of an appropriate sample. Based on the research objectives, MBA students enrolled in a program's core marketing course at an AACSB accredited Midwest university with an enrollment of over 20,000 students was selected as the source of the sample. A total of 178 students enrolled in the core marketing course (4 separate classes) constituted the sample for this study.

Survey instruments were given to the professor teaching these classes and students were given the opportunity to complete the surveys during class time. The questionnaires consisted of twenty questions developed to assess student attitudes toward careers in personal selling (questions are shown in abbreviated form in Table 1) and each survey item was based on a question used in prior research. Attitudes were measured using a 7-point Likert-type scale (1 = strongly disagree and 7 = strongly agree). To facilitate consistency in interpretation, negatively stated items were reverse scored. So, for all questions, high scores were indicative of positive attitudes toward sales positions. Three additional questions were added to evaluate more general attitudes toward sales education and the perceived opportunities available in sales positions. Finally, to enhance anonymity and protect privacy only two demographic questions were included in the survey, age and gender.

FINDINGS

A total of 159 students completed useable surveys, for a response rate of 89 percent. Of those responding the majority, 68 percent, were of traditional college age (18-24) and 29 percent were between the ages of 25 and 34. Also, the majority of students were male (55%) and all responding had completed undergraduate degrees.

Table 1 provides the mean scores for each of the survey questions analyzed. As noted in the methodology, students responded to each question using a 7 point Likert-type scale, with higher scores on each question indicative of more positive attitudes toward sales. Practically speaking, this means that scores of less than 4.0 may be perceived as reflecting 'less than positive' attitudes toward sales careers. Scores greater than 4.0, could be perceived as reflecting more positive attitudes regarding sales careers. Based on this criterion nine of the twenty responses may be perceived as being negative regarding sales careers.

First, students indicate they are not likely to have many friends who are employed full-time in sales positions. The second question to which students responded negatively concerned the fact that most students felt sales was not an opportunity they would like to pursue upon graduation. Two questions which may be highly related were also answered in a fashion which was less than positive, on one the students felt that selling was not a 'very respectable position' and the second indicated they believed sales was not highly prestigious. The fifth question with negative responses dealt with the concept that one does not need a university education to work in sales. Job security was the sixth question to which students responded negatively, as they felt the security offered by a sales position was not attractive. Students also felt that sales salaries were not extremely attractive, as this

question received only a 3.7 rating. The eighth question to which the students responded negatively was one that pertained to the perception that sales positions were very stressful. The final question generating negative/neutral responses was the one that indicated marketing professors have not encouraged students to pursue a career in sales.

Table 1: Responses on Entire Scale

Item	Mean (s.d.)
I have many FRIENDS who are employed full-time.	3.2 (1.8)
Sales is a career OPPORTUNITY I would like to pursue upon graduation.	3.1 (1.9)
Personal selling is widely regarded as a very RESPECTABLE position.	3.6 (1.5)
I would not go in to sales because it is an UNETHICAL career.	5.0 (1.7)
Personal selling careers are very PRESTIGIOUS.	3.5 (1.3)
My PEERS would 'look down on me' if I pursue a sales career.	5.0 (1.6)
One does not need a university EDUCATION to work in sales.	3.1 (1.5)
Selling is not a CHALLENGING career.	4.7 (1.5)
My PARENTS would not approve of a sales career.	4.6 (1.7)
Sales offers many JOB SATISFACTION opportunities.	4.1 (1.5)
I would appreciate the SECURITY offered by a sales position.	3.6 (1.6)
Sales SALARIES are extremely attractive to me.	3.7 (1.5)
The TASK VARIETY available in sales is too limited.	4.3 (1.4)
I would like to have the opportunity to work with DIFFERENT PEOPLE.	4.7 (1.6)
Sales offers little opportunity to exercise CREATIVITY.	4.4 (1.7)
Sales jobs are very STRESSFUL.	3.3 (1.6)
I would enjoy the TRAVEL opportunities in sales.	4.6 (1.7)
I would NOT ACCEPT a career in personal sales.	4.2 (1.6)
My marketing professors have ENCOURAGED me to pursue a career in sales.	3.5 (1.6)
There is NO WAY I would accept a sales position.	4.5 (1.8)

The majority of items included in the survey were rated more positively (11 of 20 items), with ratings in excess of 4.0. For example, students generally disagreed with the item pertaining to the absence of ethics in sales, thereby indicating they find the ethics of sales acceptable for their career choices. The second item rated positively by students related to peer's ratings, as students contended their peers would not 'look down' on them if they choose to pursue a sales career. Students also indicated they felt the challenges available in sales would be adequate ones for their careers. Additionally, negative bias to a career in sales is not necessarily attributable to students' parents' perceptions of sales careers. Job satisfaction did not seem to be a negative impediment to the students' selection of a sales career. Students seemed to like four aspects of jobs presented in sales careers,

they were positive regarding the task variety present, the opportunity to work with different people, the possibility to exercise creativity in the job, and the travel opportunities available in sales. Finally, the students indicated that they would be amenable to accepting positions in sales by their responses to questions regarding their willingness to accept a career and/or a position in sales.

To assess whether individual question items could be combined to create a 'single measure' of sales attitudes, factor analysis was conducted. The results of the factor analysis presented in Table 2 indicate a two factor solution exists with regard to the use of scales for analysis. Due to either high cross loadings or factors loadings less than the recommended level of .40 (Hair, et al, 1995), two items were eliminated from the scales. These two items were the ones concerned with the need for a college education to engage in sales and the one relating to the stress level found in sales, these two scales were then used to supplement the complete scale of sales attitudes. The scales were labeled 'positive aspects' of sales, 'negative aspects' of sales, and the 'complete or combined' scale. The two scales developed provided a summary indicator of student attitudes toward sales. As indicated in the results, each of the scales has an alpha coefficient exceeding the .70 minimum levels recommended (Nunnally, 1978). The mean value of the positive sales attitude scale is 41.2, indicating a mean response per question of 4.12. This mean response is greater than 4.0, which indicates attitudes are positive toward sales careers on this scale. The negative sales attitudes scale has a mean of 36.9, indicating a mean response per question of 4.6, which indicates that students are positive regarding the negative aspects of sales (or, restated, less negative regarding the negative aspects of sales). Based on the two scales, it seems the positive aspects of sales are perceived only moderately positively by the students sampled. The negative aspects of sales, on the other hand, are not perceived negatively by the students sampled. Therefore, it appears that the positive aspects exert a minimal attraction to the students while the negative aspects are perceived as not being particularly repelling.

The third table provides additional information. As mentioned previously, three 'global' questions regarding the treatment of sales in the college curriculum were imbedded in the questionnaire. These questions were, "firms that recruit on campus often recruit for sales-oriented positions;" "I would like it if my university had provided me with greater amounts of sales knowledge;" and "If I could begin my education again, I would attempt to gain more education pertaining to personal selling." Responses to each of these items are provided in Table 3. Students generally agreed that firms often recruit on campus for sales-oriented positions (4.2); and that they would have preferred that their university provided greater amounts of sales knowledge (4.1). However, the students did not believe they would attempt to gain more education pertaining to selling if they could begin their collegiate educational programs again (3.3).

To determine the degree to which demographic factors might influence the results, t-tests were conducted. As indicated in Table 3, few differences in the students' perceptions existed which could be traced to demographic characteristics of the respondents. As indicated in the table, no significant differences in perceptions of sales careers were found based on the respondent's gender. Some differences might be noted as they relate to the respondent's age and number of marketing classes taken ($p < .10$). As shown, as age increases, attitudes toward sales seem to improve, as measured by the complete scale and the positive aspects of sales scale. Further, individuals taking more than one marketing class seemed to feel that firms were more likely to recruit on campus. However, students who had completed more than one marketing class were less likely to feel that they would prefer additional sales information in their marketing education, perhaps indicative of the fact that they had been exposed to sales in one or more of these classes.

Table 2: Factor Analysis Results		
Factor	Positive Aspects	Negative Aspects
I have many FRIENDS who are employed full-time.	.43	-.12
Sales is a career OPPORTUNITY I would like to pursue upon graduation.	**.70**	.03
Personal selling is widely regarded as a very RESPECTABLE position.	**.73**	.01
*I would not go in to sales because it is an UNETHICAL career.	.01	**.74**
Personal selling careers are very PRESTIGIOUS.	**.70**	.05
*My PEERS would 'look down on me' if I pursue a sales career.	.03	**.70**
*Selling is not a CHALLENGING career.	-.05	**.62**
*My PARENTS would not approve of a sales career.	.03	**.72**
Sales offers many JOB SATISFACTION opportunities.	**.49**	.05
I would appreciate the SECURITY offered by a sales position.	**.64**	-.00
Sales SALARIES are extremely attractive to me.	**.65**	.02
*The TASK VARIETY available in sales is too limited.	-.15	**.42**
I would like to have the opportunity to work with DIFFERENT PEOPLE.	**.45**	.06
*Sales offers little opportunity to exercise CREATIVITY.	-.24	**.51**
I would enjoy the TRAVEL opportunities in sales.	**.43**	-.04
*I would NOT ACCEPT a career in personal sales.	.16	**.41**
My marketing professors have ENCOURAGED me to pursue a career in sales.	**.56**	-.15
*There is NO WAY I would accept a sales position.	.10	**.61**
* = Questions which were reverse scored.		
Positive attitudes = FRIENDS + OPPORTUNITY + RESPECTABLE + PRESTIGOUS + JOB SATISFACTION + SECURITY + SALARIES + DIFFERENT PEOPLE + TRAVEL + ENCOURAGED Alpha coefficient: .78		
Negative attitudes = UNETHICAL + PEERS + CHALLENGING + PARENTS + TASK VARIETY + CREATIVITY + NOT ACCEPT + NO WAY Alpha coefficient: .74		
Complete attitude scale = FRIENDS + OPPORTUNITY + RESPECTABLE + PRESTIGOUS + JOB SATISFACTION + SECURITY + SALARIES + DIFFERENT PEOPLE + TRAVEL + ENCOURAGED + UNETHICAL + PEERS + CHALLENGING + PARENTS + TASK VARIETY + CREATVIITY + NOT ACCEPT + NO WAY Alpha coefficient: .74		

Table 3: *t*-Test Results						
Dimension (number)	Complete Scale Mean (sd)	Positive Aspects Mean (sd)	Negative Aspects Mean (sd)	Recruit Mean (sd)	University Mean (sd)	Educate Mean (sd)
Gender:						
Male (87)	74.9 (12.3)	38.8 (9.2)	37.2 (6.8)	4.1 (1.5)	3.9 (1.7)	3.1 (1.6)
Female (71)	73.6 (13.2)	37.2 (9.0)	36.9 (8.3)	4.4 (1.4)	4.1 (1.5)	3.5 (1.8)
t-value (p)	.4 (.71)	.7 (.48)	.2 (8.3)	1.3 (.20)	-.5 (.62)	1.1 (.26)
Age:						
18-24 (119)	73.2 (11.8)	37.2 (9.3)	36.3 (7.8)	4.2 (1.5)	3.9 (1.6)	3.4 (1.7)
>24 (52)	77.9 (14.3)	40.0 (9.8)	38.3 (7.9)	4.3 (1.5)	3.3 (1.7)	
t-value (p)	2.0 (.05)	1.6 (.10)	1.4 (.16)	.5 (.60)	.9 (.62)	.4 (.71)
Number Marketing Classes						
(71)	75.7 (12.9)	39.2 (10.4)	36.4 (7.8)	4.0 (1.4)	4.0 (1.6)	3.6 (1.7)
>1 (70)	73.4 (12.6)	36.8 (8.4)	37.4 (7.9)	4.4 (1.6)	4.0 (1.7)	3.1 (1.6)
t-value (p)	1.1 (.28)	1.5 (.13)	.8 (.41)	1.9 (.06)	.1 (.89)	1.8 (.07)
All Respondents	74.6 (12.7)	38.0 (9.5)	36.9 (7.8)	4.2 (1.5)	4.0 (1.6)	3.3 (1.7)

IMPLICATIONS AND CONCLUSIONS

A review of the specific question items provides the basis for the first segment of implications of the research. First, with regard to the students' ratings of sales career characteristics, it appears that MBA students who participated in this study are generally not dissuaded from sales based on factors that one might assume to be negative. For example, the sales profession has been cited for its relative lack of ethical behaviors (c.f. Burns, 1999; Dawson, 1997; Dubinsky & Levy, 1985), yet the students surveyed did not find this a negative factor influencing their perceptions of sales careers. The implication of this finding is that recruiters and academicians interested in enhancing the desirability of sales, as a career option for MBA students, might focus elsewhere as they attempt to influence students' career choices. Similarly peer and parental influence may not be perceived as adversely influencing one's choice of a sales career. Many job characteristics seem to be regarded as being relatively positive by the MBA students participating in the study as they examine their career alternatives. These characteristics include the availability of job challenges, level of job satisfaction present, task variety, the opportunity to work with different people, opportunity to exercise creativity, and travel opportunities. These items are each perceived positively by the respondents, implying these items are not necessarily ones requiring corrective action to enhance the perceptions of careers in sales. Instead, these items might be useful as they could be promoted to MBA students as advantages of sales careers.

It also appears that the MBA students sampled would be willing to accept a sales position and a career in sales. Thus, one may argue MBA students are somewhat open to options with regard to sales positions. Based on these positive perceptions, it seems sales recruiters who are seeking to select MBA graduates as salespeople

of the future might have the ability to select these individuals and the capability of selecting these individuals is not limited by negative attitudes on these dimensions.

However, certain negative impressions did exist, and these negative impressions may require corrective actions to enhance the attractiveness of sales as a career option. The first negative is MBA students are unlikely to have peers in sales. This issue could be addressed by bringing firms to campus which could tout alumni or recent graduates from other institutions as role models for MBA students. They might also be used as recruiters on specific university campuses to illustrate the fact that "people like the students" accept sales positions and succeed in those positions. Second, the MBA students participating in the research seemed willing to consider careers in sales as viable employment option they would pursue upon graduation. This provides an implication indicating recruiters are going to need to pursue MBA students more vigorously and these recruiters are going to have to be more assertive in their discussions of opportunities available to MBA graduates.

Several aspects of sales careers seem to be misunderstood by the MBA students who participated. For example, the participants felt a university education is not needed for a sales position, sales positions lack job security, and salaries are not attractive. In each case the misperception might be corrected through more educational activities on the part of the recruiter. Educational activities by recruiters could include hosting specific seminars and events targeted toward MBA students. Perhaps sponsoring competitions involving MBA students would be a viable solution to enhancing levels of knowledge regarding sales positions. Two negative attributes of sales relate to the low level of prestige accorded sales positions and the perception that sales positions are not respectable. Each of these indicates a significant challenge to those interested in attracting MBA students to career opportunities in sales. In fact, one might argue that of the nine negatively rated career characteristics, these two might provide the strongest impediment to recruiting MBA students. Thus, significant efforts may be required of companies seeking MBA students as salespeople in terms of enhancing the image of sales careers. Such activities might include making certain recruiters and others associated with the firm are professional in their demeanor and image. Further efforts might require additional emphasis on those individuals in sales with whom students might positively relate thereby using these individuals as examples of salespeople who are not only respectable, but prestigious.

Educators might have a significant role in making sales positions attractive to MBA students as career options. Students surveyed stated their marketing professors have not encouraged them to pursue sales as a career. Perhaps firms need to increase their efforts toward professors as change agents who might be in positions to influence student attitudes and perceptions regarding sales careers. Organizations might consider targeting professors of MBA students and offering to assist those professors in their classroom endeavors (as guest speakers, case presenters, etc.), in their research endeavors (as subjects for a variety of research studies), or perhaps simply as viable recruiters for MBA graduates. In any of these roles, professors might be able to assist in resolving some of the negative perceptions associated with sales.

It could be suggested that one solution to a circumstance which may exist when graduates are placed in careers for which they are ill-prepared is to first understand why their attitudes toward the career are negative and then develop viable solutions to that particular problem(s). The results of this study indicate that the MBA students participating in the research possess negative attitudes toward sales jobs based on the following perceptions of sales jobs: 1) do not require a university education; 2) are stressful; 3) are not respectable; 4) not prestigious; 5) offer little security; and 6) salaries are not attractive. Each of these negative perceptions could potentially be altered through additional sales education. Numerous institutions are offering a variety of sales courses and specific sales programs designed to correct the situation. For example, it has been reported that 26

different universities offer specific sales programs (Top University Sales Programs, 2008). Of these programs, 24 are accredited by the AACSB. A review of sales offerings by universities with AACSB accreditation by the authors indicated that the vast majority of the 178 university curricula reviewed indicated a sales and/or sales management class offering at the undergraduate level. Additionally, 42 of these universities offered a sales management class at the graduate level and 16 universities offered a personal selling class at the graduate level. Consequently, it appears that numerous universities are working toward providing their students (undergraduate and graduate) with information that pertains to sales and sales careers.

While the study does provide an initial insight into MBA student attitudes toward sales careers, it does have its limitations. First, the study pertains to one group of students attending a single university, thus limiting the degree to which the results might be generalized. Second, the survey instrument requested students to indicate their perceptions with regard to aspects of sales careers, without a benchmark to indicate the degree these perceptions are either positive or negative. Finally, time constraints and privacy issues limited the number and type of question which could be asked of students, certain questions which might have enhanced the findings were not included in the survey instrument. Future research should be designed to address these limitations by expanding the sample and by expanding the survey instrument. Additionally, future research might explore the relative importance of specific negative perceptions of sales held by both graduate and undergraduate students. For example, if students feel that sales positions are stressful, does that perception weigh significantly on their decisions to pursue or not pursue a sales career? If so, does exposure to sales delivered through sales-specific courses reduce the negative perceptions that exist? These questions and many others could be addressed by future research.

However, given these limitations, certain conclusions may still be developed. The research reported is not entirely positive as it relates to the effective recruiting of MBA students to sales careers. Many individuals associated with sales careers recognize today's sales role largely entails a heavy emphasis on consulting and high customer-orientation levels. Further, such individuals recognize sales as one of the best paying endeavors offering significant job security and mobility. Yet, these realities are apparently not perceived as being true by the population of interest, MBA students. Thus, increasing focus needs to be directed at correcting these misperceptions and miscommunications. As these efforts are undertaken, it may be suggested that a synergy will exist which will enhance not only MBA students' attitudes toward potential careers in sales, but also the attitudes of undergraduate students who recognize that many of the positions available in sales are not only prestigious and respected, but challenging and high-paying.

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EDUCATORS' ROLE IN PROMOTING ACADEMIC INTEGRITY

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INTRODUCTION

Integrity without knowledge is weak and useless, and knowledge without integrity is dangerous and dreadful.

Samuel Johnson (1709 - 1784)

Research on academic cheating dates to the turn of the twentieth century with the earliest studies having been conducted in the fields of education and educational psychology (Campbell, 1931; Hartshorne and May, 1928). A 1941 study concluded that a fierce competition for grades feeds the engines of cheating (Drake). Since then it seems the problem has continued to grow, with students placing more emphasis on competition than on academic integrity (Nuss, 1984; Center For Academic Integrity, 2006). Adding to this is the much-written about decline in ethical standards among leaders in both the public and private sector. Enron, Tyco, and WorldComm are but a few contributors to the national conversation on this perceived decline in ethics. Robbins, et al. (1996) wrote:

> In the United States, many believe we are currently suffering from an ethics crisis. Behaviors that were once thought unacceptable – lying, cheating, misrepresenting, and covering up mistakes – have become in many people's eyes acceptable or necessary practices. Managers profit from illegal use of insider stock information and members of Congress write hundreds of bad checks. Even college students seem to have become caught up in the wave where studies show significant increases in cheating on tests.

STUDENT CHEATING

When students cheat, they gain a short-term advantage over other students, and that's not fair. It's not fair to have a cheat-sheet when others are relying on memory; it's not fair to submit the writing of a published author when other students are submitting their own writing; and it's not fair to collaborate with someone else on a homework assignment when other students are following the professor's instructions and working on their own.

University of California, Davis, Student Judicial Affairs

Ethics in the classroom has gained significant interest over the past several years with numerous studies demonstrating the pervasive nature of cheating among college students (Baird 1980; Haines, Diekhoff, LaBeff, and Clark 1986; Scanlon and Neumann 2002; McCabe, 2001). Since the early 1990s, the results of research in the area of collegiate cheating have raised concern among educators. In her *New York Times* article, Zernike (2002) quoted the Center for Academic Integrity's (CAI) statistics:

> [A total of] 27 percent of students questioned during the 2001-2 academic year said that falsifying laboratory data happened "often or very often on campus. Forty-one percent said the same for plagiarism on written assignments, 30 percent for cheating during tests or exams, and 60 percent for collaborating on work when a professor has instructed students to work alone. Moreover 55 percent of the students said it was not serious cheating to get questions and answers from a student who had previously taken a test, and 45 percent said falsifying lab or research data did not fall into that category either (p. A10).

Defining Academic Dishonesty

> Student cheating takes on many different forms. According to Pincus and Schmelkin (2003) "one of the main issues that emerges from the literature relates to inconsistencies in the definition of academically dishonest behaviors and the lack of consensus and general understanding of academic dishonesty among all members of the campus community," (Evans, McCarthy, & Hulsart, 2008).

Faculty members may classify plagiarism as an intentional or accidental act based on a variety of circumstances. The degree of seriousness as well as the criteria for determining academic dishonesty may vary significantly among university faculty (Evans, McCarthy, & Hulsart, 2008). In their 1994 report, Gehring and Pavela defined academic dishonesty as:

> . . . an intentional act of fraud, in which a student seeks to claim credit for the work or efforts of another without authorization, or uses unauthorized materials or fabricated information in any academic exercise. We also consider academic dishonesty to include forgery of academic documents, intentionally impeding or damaging the academic work of others, or assisting other students in acts of dishonesty (p. 5).

LaBeff, Clark, Haines, and Dickhoff (1990) suggest students employ the concept of situational ethics to rationalize cheating. These authors conclude "that students hold qualified guidelines for behavior which are situationally determined. As such, the concept of situational ethics might well describe . . . college cheating [as] rules for behavior may not be considered rigid but depend on the circumstances involved" (p.191).

When questioned, students and faculty provide varying definitions of student cheating, but the most important definition of cheating is the one that students themselves hold. Students are likely to empathize with their colleagues who cheat thereby rendering the traditional definition of cheating anachronistic. Students respect the industriousness of their colleagues who cheat and may envy them as well. Modern cheating is far more tedious to define than cheating traditionally has been.

Stokes and Newstead (1995) state that while plagiarism and similar actions are universally accepted as cheating, such actions as neglecting to properly attribute sources in written work can be viewed from more than one perspective. Taking into account that students come from various cultural and educational backgrounds further blurs the definition of cheating. Students, both those who cheat and those who do not, perceive the lack of a tangible definition and the ethical and social implications of cheating as reasons why the practice has become a social norm, even if it is a social norm that is perceived by a faculty to be deceitful.

A cautionary word to faculty -- to define student cheating is to put a transitory label on a process that is as ever changing and evolutionary as education itself. Rigid definitions of student cheating may, in fact, exacerbate the detection and the ongoing effort to detect and eliminate the possibility of cheating in the academic setting.

Who is Cheating?

According to Sclafani (2004), many parents believe that growing up in today's environment presents more complicated challenges for adolescents than in the past. Peterson and Seligman (2004) state teenagers need to develop certain attributes so that they are able to cope with the predictable difficulties they will face as they grow older. Farkas et al. (2002) surveyed from a national sample 1,600 parents with students in middle school and high school about the relative importance of teaching values are they relate to character development. The value ranked highest, by 91 percent of the parents as absolutely essential to teach their children was "to be honest and truthful." During the spring of 2006, the Josephson Institute of Ethics surveyed 36,000 secondary students and found that 60 percent admitted to cheating on tests and assignments.

The easy answer is to assume that teens who cheat are those characterized by marginal abilities therein causing them to resort to academic dishonesty. Eighty-percent of respondents from a survey of 3,000 students chosen for inclusion in the prestigious *Who's Who Among American High School Students*, acknowledged cheating on teacher-made and state tests. According to Strom and Strom (2007), "The high proportion of these academic achievers who engaged in deception reflects a 10 percent increase since the questions was initially presented to honor students 20 years ago. Among the adolescent leaders who acknowledged that they had cheated on tests and assignments, 95 percent said that they were never caught and consider themselves to be morally responsible individuals (p. 105)". This last fact is in stark contrast to the 2002 Josephson finding in which 80 percent of respondents admitting to cheating believe that lying or cheating is not worth the risk because it hurts one character (Smyth and Davis, 2004).

Research by McCabe and Trevino (1993) found that college business majors cheat more often than students from other academic disciplines, and Crown and Spiller (1998) report that business students are more tolerant of unethical behavior than are non-business students. Smythe and Davis (2004) conclude their research with:

> In a number of respects, business majors report a significantly lower degree of ethical behavior than non-business majors. Business majors are found to have a higher incidence of collegiate cheating and are more prone to consider cheating socially acceptable. In addition, although both types of majors consider falsification of a job application to be unethical, it is disturbing that business majors view it to be less unethical than do non-business majors (p. 106).

Why Students Cheat

It is intellectually convenient to associate student cheating with an overall decline in the ethical standards and morality of students today; and although this may answer the question as to why students cheat, it fails to acknowledge that cheating has always been a part of academic life. Honor codes were not written in anticipation of a time when they would be needed; they were created in response to an existing problem. While intuitive explanations such as this are comfortable, research shows that a student's likelihood to cheat corresponds to their own self evaluation and perceived ability to succeed academically. Simply put, students with higher levels of self confidence are less likely to cheat or attempt to cheat than those with lower levels of self-confidence. Individuals cheat for different reasons. Some feel academic pressures are too much and course work too difficult to master by any other means. Others may feel that while earning a degree in a particular subject area will be of great benefit, the actual memorization and rigors of the curriculum are largely irrelevant in the real world.

According to Hutton (2007 p. 171), students cheat for the following reasons:

(1) The benefit/cost tradeoff favors cheating. There is an extremely low probability of being caught and faculty are reluctant to report student cheaters;
(2) the problem of unobservable behavior can be substantially mitigated by promoting academic integrity as the social norm, combined with better detection and reporting; and
(3) the many factors that have contributed to the development of more and stronger relationships between college students have helped to promote cheating by making students more aware of its prevalence and influencing student perceptions of the acceptability of cheating among their peers.

Hutton's conclusions are supported by results of the CAI survey in which 32 percent of students responding reported their primary reason for cheating was laziness, 29 percent said they cheat to achieve higher grades, and 12 percent cited pressures to succeed (p. 171).

What may be construed as the greatest concern of the CAI survey is 50 percent of students surveyed do not believe that cheating is wrong. Hutton writes that according to Ralph Wexler, vice president of the nonprofit Joseph and Edna Josephson Institute of Ethics, "Being able to get away with cheating helps students justify it. Unfortunately, cheaters are rarely caught – less than 2 percent" (p.171).

How Students Cheat

Since students are aware that academic misconduct seldom results in punishment and therefore is a low-risk venture, faculty must be on guard when administering tests. Recurring forms of student dishonesty involves writing on body parts, clothing, or belongings and copying answers from others. Technology has created many new, much more sophisticated methods with which to engage in cheating. Students with cell phones or personal data assistants (PDA's) can "beam" or call data to students wishing to cheat via text messaging, instant messaging, e-mail, and a camera or video recorder. These electronic devices are easily concealed by students under desk tops or in baggy clothing. The advent of Bluetooth technology is making this practice even easier than half a decade ago. Faculty utilizing PDA's and graphing calculators because they offer tools helpful in solving problems must be especially vigilant and understand the functionality of the device to curb such practices as pre-programming

and multiple screens containing cheat data being minimized. Faculty using these devices need to remember that "technology contributes to learning and assessment, but devices must be applied in responsible and ethical ways" (Storm and Storm, 2007, p. 44).

Adults Model Cheating Behavior

Strom and Strom (2007) report that students who were asked to identify situations that constitute cheating, conditions that might legitimize dishonest behavior, characteristics of cheaters, frequency of involvement in cheating, or motives for misconduct responded: "I need good grades to get into college." "There is not enough time to do the work." "Everyone else is cheating." "This course is not important to me." "Other." What is disconcerting in this response is the "other". For this category, students often mentioned "adults teach this kind of behavior by example" (p. 43).

While faculty fixates on the academic misdeeds of students, we would do well to look within to our own transgressions. In October 2003, the U.S. Naval Academy demoted Brian Van DeMark, a member of the history faculty for plagiarism (Steinberg, 2003). In the fall of 2002, the president of Hamilton College, Eugene M. Tobin, resigned after plagiarizing a speech from an Amazaon.com book review (Lewin, 2002). Richard L. Judd, president of Central Connecticut State University, retired after he was found to have plagiarized material from the *New York Times* and other sources in 2004. Bartlett and Smallwood (2004) report the practice of plagiarism among faculty is widespread.

CREATING AN ETHICAL CLASSROOM CLIMATE

Academic integrity, as with so much in life, involves a system of interconnected rights and responsibilities that reflect our mutual dependence upon one another.

Professor William Taylor, Oakton Community College, 2002

Figure 1. Factors Influencing Classroom Climate

Climate is described as measurable dimensions of an environment. Figure one below list factors that influence classroom climate. Factors that determine climate include leadership, structure, historical background, accountability, behavioral expectations, communication and trust (Verbeke *et. al.*, 1998). Within an academic course, whether a traditional classroom setting or online, these factors are easily translated. Direct leadership is the faculty member teaching the course. Structure refers to the course setup to include lecture delivery, assessments, assignments and learning objectives. Historical background involves the personal values and ethical systems of individuals within the classroom. Accountability refers to adhering to standards of academic integrity and the courage to confront academic dishonesty. Behavioral expectations for academic integrity must be explicitly stated by the faculty. Communication is important for reinforcing acceptable behaviors with direct, constructive and timely feedback. Finally, trust reflects feelings of mutual respect and support in an ethical classroom climate.

Leadership and Ethical Classroom Climate

We believe that the most important determinate of an ethical classroom climate is the day-to-day style of direct leadership. Faculty members play an important role in the process of creating and maintaining academic integrity. Faculty members influence expectations and behaviors of students within their classes. For this reason, it is important for a faculty member to assess one's own level of integrity. Kouzes and Posner (1993) pose four questions to measure one's own trustworthiness as a leader:

1) Is my behavior predictable or erratic?
2) Do I communicate clearly or carelessly?
3) Do I treat promises seriously or lightly?
4) Am I forthright or dishonest?

Trust has been described as a reciprocal process (Reina & Reina, 2006). Therefore faculty must take the lead for creating an ethical climate in the classroom. When trust is given and it is clearly visible that the person being trusted is acting in a trustworthy way, this ensures confidence in that trust to be increased (Galford & Drapeau, 2002). Leadership's role is to facilitate this process. Two important leadership roles include team building and modeling trust. Team building contributes to building trust because interdependence creates the dynamic for reciprocity. Reciprocity is set up by the complex task environment and the limitations of time, skill and control that the individuals possess (Reina & Reina, 2008).

Leadership within an organization includes direct leadership (faculty) and top leadership (the University). Distinguishing between these specific levels of leadership has been found to affect the outcomes of empirical studies of leadership and trust (Dirks & Ferrin, 2002). In addition, McCarthy (2006) found that direct leaders play an important role in facilitating top leadership. Faculty members act as a medium between the University leadership and students for promoting academic integrity.

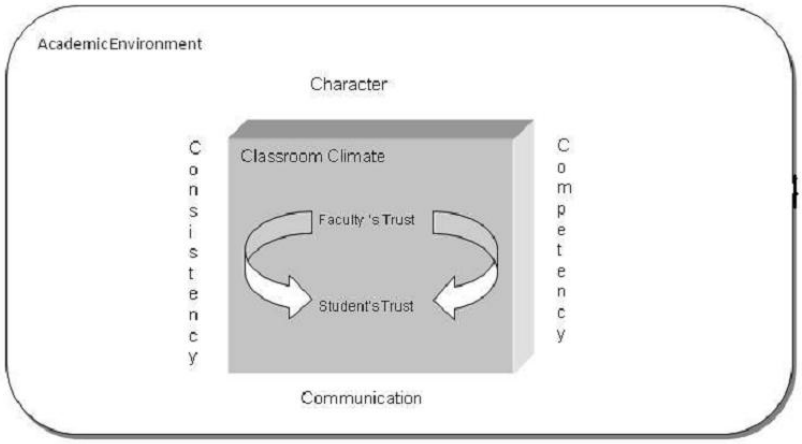
Trust is a multidimensional concept that includes individuals within an organization as well as the nature of outcomes and the consequences of those outcomes. Trust in leadership is not only an attribute of the individual leader or collective leadership it is also a product of the outcomes of leadership actions (Galford & Drapeau, 2002). Below (figure 2) is a model of organizational trust that displays this concept as an essential element of the organizational system. A system is a collection of interdependent components acting together toward a common

goal (Ronen & Pass, 2008). A system has boundaries that partition it from the environment in which it operates. In Figure 2, the Ethical Classroom Model**,** the t*rust climate* operates within the larger university environment. Within this trust climate is the reciprocal trust relationship between faculty and students.

Reina and Reina (2006) describe the "capacity for trust" as a result of three types of trust: competence trust, contractual trust and communication trust. Competence trust relates to individuals' abilities to complete work tasks. Contractual trust, as called "trust of character", refers to individuals' attributes such as honesty, consistency, and fairness. Communication trust refers to the dissemination and accuracy of information. Reina & Reina (2006) developed a model of trust capacity based on these three elements.

Classroom climates are embedded within the larger university environment. Within the classroom climate there is a cyclical trust process being created by faculty and students. This cyclical process is bounded by the individuals' (faculty and students) character, consistency of behavior, competency and communication. It is important to note that consistency is separated in this model from character because individuals of unethical character may also be consistent in their behavior. Consistent unethical behavior can have a detrimental impact on classroom climate.

Figure 2: A Model of Ethical Classroom Climate



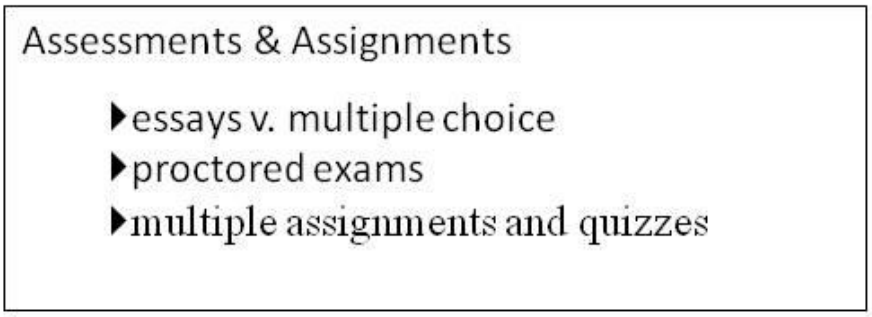
Course Structure and Ethical Classroom Climate

> *The goal of an academic honesty policy is not punishment; it is the creation of a community where intellectual honesty prevails. Punishment may be a means to that end, but it is neither the only nor the best means.*
>
> Randy Cohen, *The Ethicist* 2008

Course structure (figure 3) refers to the arrangement of the coursework and is an equally powerful determinant of ethical classroom climate. A paradigm shift in instructional and assessment pedagogy is needed.

Creating a classroom environment where there are few cheating opportunities is one possible solution for addressing academic dishonesty. Educators can use reasons that students cheat to raise integrity in the classroom. Students are often frustrated with assignments and assessments that require memorization and regurgitation (Strom & Strom, 2007). This is one reason students give to justify cheating (Genereux &McLeod, 1995) and could be circumvented by involving the student in assignment and assessment creation. Gardner (1998) argues that "the relationship between [students'] active involvement and effective learning is so strong that 'the effectiveness of any educational policy or practice is directly related to the capacity of that policy to increase involvement in learning,'" (p. 74).

Figure 3: Course Structure



Another contributing factor to academic dishonesty is related to social networks of students (Hutton, 2006). Relationships established among students in teams and cohorts provide opportunities for unethical behavior (Hutton, 2006, p. 173). These same social networks can be used to deter academic dishonesty, since student teams frequently are used in business education for completing projects (Bacon et al, 1999). Allowing student teams to collaborate on instructional methods and assessments, gives them ownership of the process (Scurrah, 2001); which may in turn lessen their desire to engage in academic dishonesty.

CONCLUSIONS

> *A personal philosophy of integrity is something that is unique to each individual and takes some time and thought to develop. A university setting provides a rich environment in which to work on developing a personal philosophy of integrity.*
>
> Pennsylvania State University, Academic Integrity,
> http://istudy.psu.edu/FirstYearModules/
> CopyrightPlagiarism/AcademicIntegrity.html

Previous suggestions for dealing with student cheating have either focused on institutional policies such as codes of conduct, preventing cheating through more controlled teaching environments, and educating students on the policies and consequences of academic dishonesty. While individual faculty members do not have direct

control over institutional policy, they can control the learning environment. Faculty can enhance the classroom or online course climate by explicitly stating expectations for academic integrity. The ethical climate of the classroom can be reinforced by using preventative measures regarding student cheating such as vigilance in monitoring exams and checking for plagiarism (McCabe & Pavela, 2004). Being consistent and following through with consequences has been found to decrease instances of academic dishonesty. Faculty must also redesign assignments and assessments in an effort to deter academic dishonesty.

A current trend in higher education is to strengthen social networks to improve student retention. These social networks have, in turn, been cited as a factor in the increase in student cheating. This does not infer it is necessary to discourage collaboration and student networking in the classroom but suggests a paradigm shift in instructional and assessment pedagogy is needed. Creating a learning environment where there are few cheating opportunities is the best solution for addressing this problem. Methods advocated for creating such an environment include collaborative assessments, open book tests, and in-class writing and research assignments uniquely related to individual students. Moving away from assessments that encourage rote memorization and regurgitation will not only decrease opportunities for cheating but will also encourage student creativity and higher-order thinking (Deakin et al. 2007).

Faculty must create an ethical classroom climate which can be accomplished with a twofold approach: first, individual faculty members must model integrity as well as communicate what constitutes cheating and the consequences of academic dishonesty, and second, opportunities for student cheating can be deterred through the redesign of the learning environment to include instruction and assessment pedagogy. The prescriptions for reducing academic dishonesty must be feasible for individual faculty members. Changing what instructors immediately control is the first step in lowering instances of academic dishonesty.

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STUDENT REACTIONS TO ASSIGNMENT STRUCTURE: EXAMINING THE INFLUENCE OF COGNITIVE STYLE

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David F. Robinson, Indiana State University

ABSTRACT

In this study, we investigated how student cognitive styles affect reactions toward course assignments. A total of 283 business undergraduates enrolled in either a statistics course or a business strategy course were involved in the study. In each course, students were given surveys to measure attitudes toward two very different versions of the same assignment – one in which the instructions were very detailed and structured and the other in which they were very short and ambiguous. Student cognitive styles were classified as either adaptive or innovative using Kirtin Adaption-Innovation (KAI) scores. An adaptive cognitive style prefers structure and details, while an innovative style is more comfortable with less structure. Differences between reactions of the two student types, as well as differences between the two assignments for each type of student, were studied. Results indicate that students prefer and express higher levels of self-efficacy and less anxiety on the assignment that corresponds with their cognitive style. Additional discussion focuses on how this information might be used by instructors to improve the learning experiences of students of both types.

INTRODUCTION

One of the challenges we face as business educators is to identify relevant theoretical issues, the practical problems associated with them and to design assignments that will ultimately lead to learning. In our experience, the appropriate level of assignment structure continues to be a difficulty. Assignments can be relatively unstructured with few guidelines that leave most decisions to the student, or they can have varying degrees of structure until the student simply follows a set of rules. Highly structured assignments usually contain very detailed guidelines as to how to approach the assignment, what should be included in the answer and specific guidelines as to length of response, formatting, line spacing and font size. We have observed that when assignments are not highly structured, there is a large minority of students demanding additional detail. Conversely, when we use a high degree of assignment structure, we find a different large minority groaning about needing to follow all the instructions and invariably, missing a large portion of those instructions that are included.

That individuals differ in their reactions to tasks is a subject of interest to teachers, professors and business managers. For example, the relationship between task characteristics and employee performance has been the subject of a great deal of research (Griffin, Welsh & Moorhead, 1981). Pierce and Dunham (1976) found that satisfaction with work was related more to task design than affective and behavioral variable. More recently, in

the school engagement literature, Fredericks, Blumenfeld and Paris (2004) called for richer characterizations of student feelings and behaviors in order to make it possible to better understand when and how students engage in their learning and when they do not.

Understanding student reactions to differing assignment styles and requirements is important for educators in that these reactions may lead to a number of serious problems in the classroom and underperformance by the student. For example, fear of failing may lead to students dropping a class prematurely. The student may change majors to avoid the assignment or have to repeat the class possibly delaying graduation and adding to the students' and the universities' costs. Poor attitudes toward a project can hurt a team's ability to perform group tasks required to complete an assignment or cause animosity that can distract students from their tasks or limit their enjoyment of the team process. A lack of confidence in their ability to succeed at the assignment can push students into using coping behaviors which if not clearly understood can cause increased levels of stress, again impacting student perceptions of the class.

One potential explanation for the varying reactions to assignments is given by adaption-innovation (AI) theory. AI theory posits that humans have different preferences for structure due to their preferred cognitive style. Thus, our research begins to explore this phenomenon through an empirical investigation using adaption-innovation theory as a potential explanation for the varying reactions to assignment design.

Our empirical study was used a group of 283 undergraduate business majors at a medium-sized public university in the Midwest. The university has an AACSB accredited College of Business and all of the students in the study were enrolled in either the senior level business strategy course or one of two sophomore level statistics courses.

Building upon AI theory, we offer hypotheses predicting how students' cognitive styles will affect their anxiety levels, self-efficacy, enjoyment, and preference with regard to assignments that have varying degrees of structure and rigidity. We measure students' cognitive style using the Kirton Adaption-Innovation (KAI) scale (Kirton, 2000, 2003). Following the presentations of results, we offer discussion and directions for future research.

THEORETICAL BACKGROUND: ADAPTION-INNOVATION (KAI) THEORY

Adaption-innovation theory is based on the work of Michael Kirton (1976, 2003). Kirton states "people differ in the cognitive style in which they are creative, solve problems and make decisions. These style differences, which lie on a normally distributed continuum, range from high adaption to high innovation" (Kirton, 2003, p. 47). Those who are more adaptive prefer to work within the current paradigm and to make incremental improvements to ideas when solving problems. When generating ideas, they tend to create a few well-developed alternatives, and are cognizant of details. On the other hand, those who are more innovative on the scale like to do things "differently" and will possibly work outside the current paradigm when solving problems. They prefer to generate large numbers of potential solutions to a problem, some of which are not particularly good or practical, and prefer to focus on the "big picture" rather than details.

Kirton (1994) describes those who are relatively more adaptive as reliable, precise, methodical, efficient, and disciplined individuals. They conform to group norms and rarely challenge rules. Innovators are more likely to challenge rules and norms and may be seen as risky, undisciplined, and insensitive. Table 1 below gives a more detailed description of these two cognitive styles (Kirtin, 2000, p.10).

Table 1: Characteristics of Adaptors and Innovators	
Description of adaptors	*Description of innovators*
Preference for structure and working within current paradigm to solve problems	Tends to challenge, work outside current paradigm and structures to solve problems
Challenges rules only rarely and cautiously	Tends to challenge, bend rules often
Attention to details, precise, methodical	Attention to "big picture"
Reliable, prudent, disciplined	Seen as undisciplined; approaches problems from unusual and risky angles
Seen as safe, dependable, conforming	Seen as impractical; actions may shock others
Able to maintain high accuracy for long periods of detailed work	Capable of detailed tasks for only short time periods
Sensitive to group norms; seeks to maintain group cohesion	Appears insensitive to people, may threaten group cohesion
Tends to be self-doubting; vulnerable to social pressure	Appears to have low self-doubt; does not need support of others to validate ideas

The construct of adaption-innovation is made up of three measurable sub-dimensions, Sufficiency of Originality (SO), Efficiency (E) and Rule/group conformity (R). Sufficiency of Originality describes the different preferences between adaptors and innovators for generating new ideas. People who are more innovative prefer to present a larger number of ideas even though many of their ideas will be discarded later on. More adaptive individuals prefer to generate a small number of very solid alternatives (Kirton, 2003).

Efficiency deals with implementation of a solution. Those with more adaptive efficiency scores tend to fit their solutions well to existing systems, implement a solution in a more structured way and are able to deal effectively with details, whereas the more innovative tend toward efficiency through working around the system and details using less structure. Rule/Group Conformity deals with sensitivity to group norms and rules. Those who are more innovative are less likely to be cognizant of rules and less sensitive to group moods and norms. More adaptive individuals tend to use the rules and norms of the group to help enact their solutions and adaptors tend to value working within the group (Kirton, 2003).

HYPOTHESES

Preference and Enjoyment

The concept of enjoyment has been examined in many contexts but is often left undefined. Enjoyment is linked with motivation, and Scanlan and Simons (1992) as cited by Ryska (2003), defined enjoyment as a "positive affective response" to an experience that can be described as "pleasure, liking and fun." We think that this definition captures how students experience enjoyment in their scholarly activity. The implication of this definition for instructors is that if students enjoy an activity they are usually more willing to engage in the activity.

We define preference consistently with Merriam Webster (2005), as the act of preferring (liking better or best). Because KAI theory indicates that people have a preference for a certain style, the hypotheses for

preference and enjoyment are straightforward: students will prefer and indicate more enjoyment from the assignment that corresponds with their preferred style. Adaptors who are faced with a detailed, precise assignment will likely feel comfortable and will have to use less coping behavior to complete the assignment. In KAI theory, coping behavior means working outside an individual's preferred style (Kirton, 2003). This should lead to a preference for this type of assignment, as well as a higher level of enjoyment.

On the other hand, a very ambiguous assignment will require little coping behavior on the part of innovators. Since innovators are more likely to feel that they can be creative on an unstructured assignment, it is likely that they will prefer and derive more enjoyment from those assignments. We therefore advance the following hypotheses:

H1: Students will indicate preference for completing assignments that are consistent with their preferred cognitive style.

H2: Students will indicate higher levels of enjoyment on assignments that are consistent with their preferred cognitive style.

Self-Efficacy

Consistent with Bandura (1986), self-efficacy is defined as student judgements of their capabilities to organize and execute courses of action needed to attain a specified level of performance. KAI theory indicates that adaptors should feel more confident that they can follow appropriate direction and perform well when given detailed instructions since they prefer and feel enabled by a well-defined structure. Thus, we expect that when adaptors receive an assignment, they should be more comfortable that they can meet the requirements of and do well on a structured assignment than an unstructured one in which there is little definition and much ambiguity. Thus, adaptors should indicate higher levels of self-efficacy on structured assignments.

On the other hand, innovators should be very comfortable with an unstructured assignment that does not restrict their creativity, and should express higher confidence and expected performance. AI theory suggests that they would not express as high levels of self-efficacy on assignments that require them to pay attention to a large number of detailed directions, since they would feel that they would surely miss something that the instructor is expecting. Thus, we hypothesize the following:

H3: Students will indicate higher levels of self-efficacy on assignments that are consistent with their preferred cognitive style.

Anxiety

KAI theory suggests that adaptors are likely to be conscientious, follow rules and pay attention to details. For this reason, adaptors should be more comfortable with a structured assignment, since they feel that the detailed instructions will allow them to complete the task more effectively.

We define anxiety as "an emotional state of worry or fear that is an unpleasant emotional response in the face of threat or danger." This definition is consistent with those advanced by Lewis (1970) and Endler (1997). Within the classroom, anxiety would result from the "threat or danger" of not performing well on an assignment.

An unstructured assignment that gives no direction would, according to AI theory, cause anxiety in adaptors, since they would feel unsure what the rules and expectations were and would be worried about their ability to perform satisfactorily.

On the other hand, innovative students will tend to feel that excessive directions to the structured assignment will restrict their creativity. They may worry that their inattention to detail will cause them to miss something that the instructor has required or may feel overwhelmed with the quantity of details. Innovators should, therefore, express more anxiety when confronted with structured assignments than they do on unstructured ones. This leads us to propose the following:

H4: Students will indicate lower levels of anxiety on assignments that are consistent with their preferred cognitive style.

METHODS

Sample

We collected data from 306 undergraduate students over multiple semesters using paper and pencil self-administered questionnaires. To reduce possible problems from common method variance that may be present in self-reported data, we administered the instruments for the independent and dependent variables at different times, thereby reducing the threat of consistency motif (Podsakoff & Organ, 1986). Respondents completed the KAI inventory near the beginning of the semester, with the surveys pertaining to the structured and unstructured assignments at least a week later.

Multiple administrations of the survey containing the independent variables were performed in senior level business strategy courses and a sophomore level statistics courses (n=306). Students were given a potential assignment, and asked to answer questions on paper regarding their perceptions of that task. Using a Likert-type scale of 1 (Cannot Do At All) to 10 (Certain Can Do), students were asked to indicate their confidence that they could accomplish several objectives, including achieving appropriate outcomes, learning what will be needed, meeting the requirements of the paper, etc. Other questions focused on statements regarding students' feelings and opinions about the assignment. Again, using a 10-point Likert-type scale (1 = Not At All True and 10 = Very True), students were asked whether they found the activity interesting, if they would enjoy the assignment, or if they would feel anxious or pressured, etc. The instrument asked questions on each of the versions (structured and unstructured) of the writing assignment. In addition, students were asked with one of the questionnaires to answer multiple choice questions regarding their preference for one of the two assignments and demographic data including gender, class, age, grades, etc. Students entered responses on a scannable answer sheet. The final version of the instrument, containing 22 scale questions and the multiple choice preference question, is shown in the Appendix.

The sample consisted of 283 students who had both taken the KAI inventory and responded to at least one of the surveys. A small number of students did not complete a survey for one of the two assignments (structured or unstructured), resulting in 256 usable responses for structured assignments and 259 usable responses for unstructured assignments. A final total of 242 students completed both surveys and completed the KAI inventory, and for these students, differences between responses for the two assignments could be compared.

The demographics for the responses used in testing the hypotheses are as follows: 61% were male, which is only slightly higher than the College-wide percentage. The average age was between 21 and 22 years, and all majors were represented in proportions roughly equal to the entire College of Business. In the sample, 61% were seniors, 14% were juniors, and 25% were sophomores.

Measures

The measures employed in this research are briefly discussed in this section. Individual items comprising the multi-item dependent variables are presented in the Appendix, and Table 2 presents the zero-order correlations and summary statistics for both the independent and dependent variables. For each of the dependent factor scores, the alpha coefficients all exceed Nunnally and Bernstein's (1994) recommended value of .70, thus indicating the multi-item scales exhibit strong inter-item reliability.

Adaption-Innovation

This construct was measured using the Kirtin Adaption-Innovation (KAI) inventory (Kirtin, 1976 2003). Students were each given standard directions by the course instructors and then completed the Kirtin Adaption-Innovation (KAI) inventory profile during class time. This 32-question instrument is a paper-based survey. Each student was given a total KAI score on a scale from 32 to 160, where 32 is the theoretical low (adaptive) score and 160 is the theoretical high (innovative). Respondents' scores on the sub-dimensions, Sufficiency of Originality (SO), Efficiency (E), and Rule and Group Conformity (R), were also measured. Recall that those with lower, more adaptive SO scores have a preference for generating fewer, well-developed ideas when solving problems; those with lower, more adaptive E scores have a tendency to prefer organized and detailed implementation of solutions that are generally within the current paradigm; and a more adaptive, lower R score indicates a tendency to value rules and the role of groups in solving problems. SO scores have a theoretical range of 14 to 69; E scores have a theoretical range of 6 to 32; and R scores range from 12 to 59.

KAI theory states that small differences between individuals in their in KAI scores are not meaningful in behavior and perceptions, and that only larger differences will be noticeable over time. Therefore, in order to make meaningful comparisons we separated students into two groups, one more adaptive and one more innovative, so that there was a substantial gap between the two. Using the sample mean of 91.8, and the sample standard deviation of 15.5, we defined a "moderate" group of students as those whose total KAI scores were within one-half of a standard deviation of the mean. Those students without strong adaptive or innovative preferences were not used in this study, as it is likely that their responses would be too mild to provide insight into our research questions.

In order to focus our analysis on students with more pronounced preferences, any student whose score was above one-half standard deviation was classified as innovative, and anyone whose score was below one half-standard deviation was classified as adaptive. As a result, the KAI scores of those in these two groups were separated by at least one standard deviation. We used similar processes to designate students as either innovative or adaptive under each of the sub-dimensions (SO, E and R) using the respective means and standard deviations of those subscales. Thus, on each scale, students considered to be innovators and those considered to be adaptors were separated by at least one standard deviation. Because KAI total score involves all three sub-dimensions, it is possible that a student could be relatively adaptive on one dimension and relatively innovative on another.

Therefore, we felt that these classifications by sub-dimension might yield additional and more detailed information about how student characteristics affect their reactions to various assignments.

In the end, each student had four designations: adaptive or innovative overall (KAI Total Score), and as adaptive or innovative with respect to Sufficiency of Originality, Efficiency, and Rule/Group Conformity. These classifications became the four explanatory variables in the study.

Self Efficacy for Learning Performance

A 16 item scale was constructed using a Likert-type scale for academic performance as investigated by Maurer and Pierce (1998). We chose to construct this scale to meet the particular self-efficacy context of this study rather than use a more general academic self-efficacy scale (e.g. Wood & Locke, 1987).

Anxiety and Enjoyment

We used appropriate items from the Intrinsic Motivation Inventory (IMI) to measure anxiety and enjoyment. The IMI is a multi-dimensional and multi-item measurement tool that can be used in whole or in part to measure constructs of interest (Deci, Egharari, Patrick & Leone, 1994; McAuley, Duncan & Tammen, 1987; Plant & Ryan, 1985; Ryan, 1982; Ryan, Connell & Plant, 1990; Ryan, Koestner & Deci, 1991; Ryan, Mims & Koestner, 1983). For anxiety, three items from the Pressure/Tension scale of the IMI were used asking the respondents the degree to which they would feel tense, pressured and anxious while completing each of the respective assignments. For enjoyment, we used two items from the IMI's interest/enjoyment scale (if they would enjoy the assignment or describe it as interesting) and added a third, asking if they would complete the assignment because they wanted to.

Preference

One multiple choice question in which students indicated whether they preferred to complete the structured or unstructured assignment or if they had no preference was used to measure preference.

Statistical Analysis

A principal components analysis (PCA) was done on an original set of 27 items representing the dependent variables. All responses, including both structured and unstructured assignments, were used in the PCA. Additional factor analyses were conducted by separating the structured and unstructured assignments, but factors and factor loadings were essentially unchanged. The PCA on the full sample consisted of 283 students with a total of 558 records.

Using a varimax rotation, four factors with eigenvalues over one were extracted. However, three items loaded fairly evenly on two of the factors. The items were included in one factor and then the other, and in all cases the values of Cronbach's alpha were lower than 0.7. Therefore, these items were removed from the analysis.

A second PCA was done on a smaller set of 24 items. This time, three factors with eigenvalues over one were extracted. The items all loaded cleanly on one factor. However, two items clearly compromised the

reliability of the factors, since their inclusion resulted in values of Cronbach's alpha of around 0.5; without them, the alpha values climbed to over 0.8. Therefore, these items were also dropped from the scale.

The final analysis on the remaining 22 items used a principal components extraction and a varimax rotation, resulting in three factors with eigenvalues over one and explaining almost 74% of the variance. The items loading on each of the factors, which we call self-efficacy, enjoyment, and anxiety, are shown in the Appendix. Each item loaded cleanly on one factor with loadings above 0.78 for all but two items. Values of Chronbach's alpha were 0.97 for the self-efficacy factor and approximately 0.87 for the enjoyment and anxiety factors. Factor scores created for each student based on this factor analysis served as the dependent variables in the analyses.

Three types of analyses were done to test the hypotheses. First, students were classified as adaptive or innovative on the four measures: total KAI score and the subscores for Sufficiency of Originality, Efficiency, and Rule/Group Conformity. Because the moderate groups were removed from the analyses, sample sizes for the adaptor groups ranged from 74 to 108, while the sizes of the innovative groups ranged from 48 to 75. Independent samples t-tests were then used to compare the factor scores of the adaptive group versus the innovative group for both the structured and unstructured assignments.

Second, paired t-tests were used to gauge how student reactions differ with respect to adaptive and innovative assignments. Although there were 242 students who had completed both assignments, the removal of the moderate group left adaptor groups of size 72 to 105 and innovator groups with sample sizes of between 46 and 71. Lastly, chi-square tests for independence were used to test whether preference for the structured or unstructured assignment was dependent on cognitive style. Because not all students answered this question, the sample size for this analysis was 159. We now discuss the results of those analyses.

RESULTS

Descriptive Statistics

Table 2 indicates that the 283 respondents in the study had mean KAI Total score of 91.8 with a standard deviation of 15.5, compared with a population mean of 95 with a standard deviation of 17.9, suggesting that these students tend to be slightly more adaptive and have less variation in their KAI score and subscores when compared with the general population. Less variation for student subjects is not surprising when one considers the relative homogeneity of a group of undergraduate business students compared to the population at large.

Consistent with the general population, females in the sample tended to be slightly more adaptive than males, with a mean total KAI score of about 88 as compared to approximately 94 for males (not shown in the table). The sample means for the SO, E, and R subscores were very close to the population means at 40.9, 17.6, and 33.3, respectively; however, again the sample standard deviations were somewhat smaller than those of the population.

Descriptive statistics for the individual survey items were calculated (see Table 3) using responses from all types of students (innovative, adaptive and moderate). Several of the means for the structured and unstructured assignments were very close together; however, there were, some significant differences between the assignments. Paired t-tests (n = 242) indicated that with regard to the structured assignment, students indicated higher confidence that they could do several things well, including structure the paper, achieve appropriate outcomes, draw appropriate conclusions, and include relevant content, information, and specific things the instructor wants,

among others. Students also indicated significantly higher levels of anxiety on the structured versus the unstructured assignment (questions 18 and 19).

Table 2: Zero-Order Correlations and Descriptive Statistics

	Mean	S.D.	SO		E		R		KAI Tot	Self-Eff	Enjoy
KAI Measures, n = 283											
Sufficiency of Orig.	40.9	8.3	1								
Efficiency	17.6	4.2	0.15	*	1						
Rule/Group	33.3	7.4	0.54	**	0.34	**	1				
KAI Total	91.8	15.5	0.84	**	0.51	**	0.86	**	1		
Structured & Unstructured, n = 552											
Self-Efficacy	0.00	1.00	0.08		-0.08		0.03		0.04	1	
Enjoyment	0.00	1.00	0.15	**	-0.01		0.00		0.08	0.00	1
Anxiety	0.00	1.00	-0.02		-0.04		-0.11	*	-0.07	0.00	0.00
Structured Only, n = 256											
Self-Efficacy	0.13	0.94	0.02		-0.16	**	-0.04		-0.05	1	
Enjoyment	-0.07	1.01	0.16	**	0.01		0.01		0.1	0.04	1
Anxiety	0.06	0.98	0.05		-0.04		-0.07		-0.01	-0.02	0.00
Unstructured Only, n = 259											
Self-Efficacy	-0.13	1.04	0.15	*	0.00		0.09		0.12	1	
Enjoyment	0.07	0.98	0.14	*	-0.04		-0.02		0.06	-0.02	1
Anxiety	-0.06	1.02	-0.08		-0.05		-0.15	*	-0.13	0.00	0.01

* Correlation is significant at $p < 0.05$
** Correlation is significant at $p < 0.01$

Table 3: Descriptive Statistics for Individual Survey Items by Assignment Type							
	Unstructured		Structured		Mean Difference	t-stat	
	Mean	StDev	Mean	StDev		(df = 252)	
Confidence can … *(1 = Cannot Do At All, 10 = Certain Can Do)*							
Q1 Follow appropriate process	7.97	1.77	8.12	1.59	-0.15	-1.22	
Q2 Accomplish what I want	7.71	1.79	7.81	1.78	-0.10	-0.80	
Q3 Do what is needed	7.78	1.85	8.07	1.65	-0.29	-2.57	*
Q4 Structure the paper	7.89	1.88	8.54	1.48	-0.66	-5.33	**
Q5 Achieve appropriate outcomes	7.58	1.66	7.92	1.61	-0.33	-3.12	**
Q6 Draw appropriate conclusions	7.40	1.77	7.80	1.61	-0.40	-3.81	**
Q7 Learn what will be needed	7.68	1.71	7.86	1.52	-0.18	-1.85	
Q8 Gain appropriate knowledge	7.64	1.72	7.84	1.61	-0.20	-1.88	
Q9 Include all relevant content	7.55	1.80	7.99	1.67	-0.44	-3.77	**
Q10 Identify pertinent info	7.51	1.69	7.87	1.54	-0.36	-3.46	**
Q11 Include specific things instructor wants	7.45	1.84	8.06	1.58	-0.61	-5.06	**
Q12 Provide info instructor wants	7.43	1.90	8.02	1.59	-0.60	-4.87	**
Q13 Express my creativity	7.88	1.57	7.63	1.88	0.25	2.15	*
Q14 Meet requirements	8.05	1.86	8.31	1.66	-0.26	-2.20	*
Q15 Live up to own expectations	7.95	1.69	7.93	1.84	0.02	0.19	
Q16 Receive an A	7.36	2.13	7.53	2.06	-0.18	-1.34	
Agreement that …*(1 = Not At All True, 10 = Very True)*							
Q17 I will put a lot of effort	7.98	1.85	7.99	1.78	-0.01	-0.07	
Q18 I won't feel nervous	6.30	2.55	5.81	2.53	0.49	2.83	**
Q19 I will feel very tense	4.75	2.58	5.09	2.59	-0.35	-2.18	*
Q20 I will be anxious	5.05	2.41	5.11	2.25	-0.06	-0.42	
Q21 I will feel pressured	5.46	2.51	5.55	2.40	-0.09	-0.54	
Q22 I will do pretty well compared to others	6.69	1.86	6.93	1.89	-0.24	-2.11	*
Q23 I will be satisfied with my performance	7.11	1.92	7.14	1.90	-0.03	-0.22	
Q24 I will enjoy doing this activity	4.98	2.37	5.05	2.28	-0.08	-0.48	
Q25 I would describe this as very interesting	5.43	2.17	5.36	2.24	0.07	0.50	
Q26 I will do this because I want to	5.06	2.67	4.88	2.64	0.19	1.41	
Q27 I will do this because I have to	8.02	2.38	8.04	2.37	-0.02	-0.17	

* Significant difference with p <= 0.05
** Significant difference with p <= 0.01

Results and Analysis of Hypotheses

Preference

In Hypothesis 1 we predicted that students would prefer completing assignments that were consistent with their preferred cognitive style. The results of the chi-square test for independence indicate a significant difference in preference among more adaptive and more innovative students as classified by their Efficiency subscores (Chi-square statistic with 4 degrees of freedom = 9.4, p-value = 0.05). Approximately 46% of those with an adaptive Efficiency (E) subscore did, in fact, prefer the structured assignment, compared with only 21% of those with an innovative E subscore. On the other hand, 54% of innovators preferred unstructured assignments compared to only 38% of adaptors. As expected, those with moderate E scores showed roughly equal preferences among the structured, unstructured and no preference options, with between 29-40% of students selecting each. Therefore, the results of this analysis support Hypothesis 1.

Enjoyment

In Hypothesis 2 we predicted that students would express higher levels of enjoyment when completing assignments that were consistent with their preferred cognitive style. Results of the t-tests used to evaluate enjoyment means (see Table 4) indicate that those who are more innovative with regard to Sufficiency of Originality indicate significantly more enjoyment on unstructured assignments (adaptors -0.17, innovators 0.24, T = 2.70, p < 0.01). However, none of the other findings were statistically significant.

Table 4: Reactions of Adaptors vs. Innovators

		Adaptors		Innovators			
		Mean	S.D.	Mean	S.D.	T	
Enjoyment: Structured Assignments[a]							
	KAI Total Score	-0.23	0.99	0.03	1.13	-1.59	
	Sufficiency of Originality	-0.24	0.95	0.14	1.12	-2.23	
	Efficiency	-0.11	1.02	-0.05	1.05	-0.36	
	Rule/Group Conformity	-0.07	0.94	-0.01	1.23	-0.31	
Enjoyment: Unstructured Assignments[b]							
	KAI Total Score	-0.03	0.92	0.11	1.07	0.90	
	Sufficiency of Originality	-0.17	0.82	0.24	1.05	2.70	**
	Efficiency	0.03	0.95	-0.10	1.11	-0.78	
	Rule/Group Conformity	0.06	0.88	0.05	1.09	-0.01	

Table 4: Reactions of Adaptors vs. Innovators

		Adaptors		Innovators			
		Mean	S.D.	Mean	S.D.	T	
Self-Efficacy: Structured Assignments[a]							
	KAI Total Score	0.25	0.93	0.24	0.95	0.08	
	Sufficiency of Originality	0.04	1.02	0.29	1.00	-1.55	
	Efficiency	0.25	0.95	-0.08	1.07	1.91	*
	Rule/Group Conformity	0.18	0.85	0.12	0.97	0.44	
Self-Efficacy: Unstructured Assignments[b]							
	KAI Total Score	-0.27	1.16	0.09	0.96	2.10	*
	Sufficiency of Originality	-0.42	1.02	0.05	0.97	2.91	**
	Efficiency	-0.16	1.19	-0.14	1.00	0.12	
	Rule/Group Conformity	-0.20	1.02	0.10	0.87	1.80	*
Anxiety: Structured Assignments[a]							
	KAI Total Score	0.04	0.96	-0.01	1.08	0.31	
	Sufficiency of Originality	-0.09	0.92	0.14	1.12	-1.41	
	Efficiency	0.21	0.96	0.08	1.01	0.76	
	Rule/Group Conformity	0.13	0.93	-0.12	1.12	1.50	
Anxiety: Unstructured Assignments[b]							
	KAI Total Score	-0.02	1.01	-0.36	1.05	-2.12	*
	Sufficiency of Originality	-0.01	0.84	-0.13	1.10	-0.76	
	Efficiency	0.08	1.03	-0.06	0.95	-0.81	
	Rule/Group Conformity	0.09	1.00	-0.45	1.08	-3.11	**

Note: Adaptor Sample sizes: KAI Total - 102, SO - 74, E - 107, R – 108;
Innovator Sample sizes: KAI Total - 66, SO - 75, E - 48, R - 51

a Structured: computed adaptive minus innovative mean; positive T's support enjoyment and self-efficacy hypotheses; negative T's support anxiety hypothesis

b Unstructured: Computed innovative minus adaptive mean; positive T's support enjoyment and self-efficacy hypotheses; negative T's support anxiety hypotheses

* One-tailed significance: p <= 0.05

** One-tailed significance: p <= 0.01

When student reactions to structured vs. unstructured assignments are compared, we found no evidence to suggest that adaptors enjoy structured assignments more so than unstructured ones or that innovators enjoy unstructured over structured assignments (see Table 5; all T statistics < 0.73, all p-values > 0.05). These results show only weak support for Hypothesis 2.

Table 5: Reactions to Structured vs. Unstructured Assignments								
			Enjoyment:		*Enjoyment:*			
			Structured		Unstructured			
		N	Mean	S.D.	Mean	S.D.	T	
Adaptive Students[a]								
	KAI Total Score	99	-0.25	0.99	-0.02	0.93	-2.60	
	Sufficiency of Orig.	72	-0.25	0.95	-0.16	0.83	-0.95	
	Efficiency	103	-0.14	1.02	0.04	0.97	-1.87	
	Rule/Group	105	-0.08	0.94	0.04	0.88	-1.49	
Innovative students[b]								
	KAI Total Score	63	-0.03	1.11	0.09	1.10	0.73	
	Sufficiency of Orig.	71	0.10	1.12	0.21	1.07	0.72	
	Efficiency	46	-0.11	1.02	-0.07	1.11	0.23	
	Rule/Group	47	-0.09	1.23	0.05	1.12	0.69	
			Self-Efficacy:		*Self-Efficacy:*			
			Structured		Unstructured			
		N	Mean	S.D.	Mean	S.D.	T	
Adaptive Students[a]								
	KAI Total Score	99	0.28	0.91	-0.30	1.15	5.81	**
	Sufficiency of Orig.	72	0.04	1.04	-0.42	1.02	4.13	**
	Efficiency	103	0.27	0.93	-0.21	1.20	4.98	**
	Rule/Group	105	0.21	0.83	-0.24	1.03	4.86	**
Innovative students[b]								
	KAI Total Score	63	0.23	0.96	0.06	0.96	-1.44	
	Sufficiency of Orig.	71	0.29	1.02	0.02	0.99	-2.40	
	Efficiency	46	-0.08	1.09	-0.10	0.99	-0.17	
	Rule/Group	47	0.09	0.99	0.07	0.89	-0.17	
			Anxiety:		*Anxiety:*			
			Structured		Unstructured			
		N	Mean	S.D.	Mean	S.D.	T	
Adaptive Students[a]								
	KAI Total Score	99	0.06	0.96	-0.02	1.02	0.84	
	Sufficiency of Orig.	72	-0.07	0.91	-0.01	0.84	-0.77	
	Efficiency	103	0.23	0.96	0.06	1.05	1.60	
	Rule/Group	105	0.15	0.93	0.11	1.00	0.50	

Table 5: Reactions to Structured vs. Unstructured Assignments								
Innovative students[b]								
	KAI Total Score	63	-0.01	1.10	-0.38	1.06	-2.73	**
	Sufficiency of Orig.	71	0.15	1.14	-0.15	1.10	-2.62	**
	Efficiency	46	0.06	1.03	-0.04	0.95	-0.99	
	Rule/Group	47	-0.12	1.15	-0.46	1.09	-2.35	*

a Adaptive: Structured minus unstructured means; positive T's indicate support for enjoyment and self-efficacy hypotheses; negative T's indicate support for anxiety hypotheses.

b Innovative: Unstructured minus structured means; positive T's indicate support for enjoyment and self-efficacy hypotheses; negative T's indicate support for anxiety hypotheses.

Self-Efficacy

In Hypothesis 3 we predicted that students will indicate higher levels of self-efficacy on assignments that are consistent with their preferred cognitive style. Results of the t-tests used to evaluate hypothesis 3 are shown above in Tables 3 and 4.

The results in Table 4 show that students who are more adaptive with regard to Efficiency (E) subscore indicate higher mean levels of self-efficacy on structured assignments than do students with more innovative E subscores (adaptors 0.24, innovators -0.08, $T = 1.91$, $p < 0.05$). According to Table 5, adaptors indicate significantly higher mean levels of self-efficacy on structured than unstructured assignments whether they are classified based on Total KAI score or any of the subscores (T-values range from 4.13 to 5.83, all p-values < 0.01).

From Table 4 we see that students who are more innovative with expressed higher mean self-efficacy than adaptive students on unstructured assignments (KAI total score: $T = 2.10$, $p < 0.05$; SO subscore: $T = 2.91$, $p < 0.01$; R subscore: $T = 1.80$, $p < 0.05$). However, innovative students do not show higher self-efficacy on unstructured assignments than on structured assignments, and in fact, all of the T-statistics were negative, indicating higher sample means for structured than for unstructured (see Table 5, T's range from -0.17 to -2.40, all p-values > 0.5).These findings partially support Hypothesis 3.

Anxiety

In hypothesis 4 we predicted that students will indicate lower levels of anxiety on assignments that are consistent with their preferred cognitive style. As Table 4 indicates, adaptors are not significantly less anxious on structured assignments than are innovators (T's range from -1.41 to 1.50, all p-values > 0.05). Additionally, as Table 5 shows, adaptors showed no evidence of lower anxiety on structured than on unstructured assignments (T's range from -0.77 to 1.60, all p-values > 0.05).

Table 4 indicates, however, that innovators do show significantly less anxiety on unstructured assignments than do adaptors when classified by total KAI score ($T = -2.12$, $p < 0.05$) and Rule/Group Conformity (R) subscore ($T = -3.11$, $p < 0.01$). According to Table 5, innovators also report significantly less anxiety on unstructured than structured assignments (KAI total score: $T = -2.73$, $p < 0.01$; SO subscore: $T = -2.62$, $p < 0.01$; R subscore: $T = -2.35$, $p < 0.05$). These results provide partial support for Hypothesis 4.

DISCUSSION AND CONCLUSIONS

Conclusions

Results of our analyses confirm that students will prefer to complete assignments that correspond with their cognitive style. However, the hypothesis regarding enjoyment was only weakly supported by our data. We found that students with more innovative SO scores were, as predicted, more likely to enjoy unstructured assignments than were those with more adaptive SO scores. Interestingly, however, these same innovative SO students were also significantly more likely to enjoy structured assignments (see Table 4, adaptors -0.24, innovators 0.14, $T = -2.23$, $p > 0.95$), a statistically significant result in direct opposition to what was predicted. This finding is further supported by the zero-order correlations (see Table 2), which indicate that SO is positively correlated with enjoyment for both structured and unstructured assignments and for all assignments combined. This result seems counterintuitive but may be explained by the fact that a high SO score implies that an individual has a preference for generating lots of ideas and may enjoy considering many alternative solutions. Perhaps, for innovative students, enjoyment is related to expressing creativity and exploring ideas, regardless of the type of assignment.

Another unexpected result regarding enjoyment is that adaptors' reactions appear to be opposite of what KAI theory suggests. We discussed in the previous paragraph how Table 4 indicates those with adaptive SO scores prefer structured assignments significantly less than innovators. Similarly, results from Table 5 show less enjoyment on structured than unstructured assignments for those with adaptive KAI total scores (structured -0.25, unstructured -0.02, $T = -2.60$, $p > 0.99$) and Efficiency subscores (structured -0.14, unstructured 0.04, $T = -1.87$, $p > 0.95$), indicating that these findings are statistically significant in the opposite direction from what was expected.

We did find partial support for the hypothesis (H3) that self-efficacy is higher on an assignment that corresponds with one's preferred cognitive style. More innovative students (using the Total KAI score and the Sufficiency of Originality and Rule/group conformity subscores) indicated higher levels of self-efficacy on unstructured assignments than did more adaptive students. Results showed that individuals with more adaptive Efficiency scores did report higher self-efficacy on structured assignments. Evidence is strong that adaptive students have higher self-efficacy on structured compared to unstructured assignments.

However, innovative students do not express higher confidence on unstructured than structured assignments, as theory would suggest, and in fact, one result (see Table 5) suggests that those with innovative SO scores have significantly lower self-efficacy on unstructured assignments (structured 0.29, unstructured 0.02, $T = -2.40$, $p > 0.95$). One possible explanation for this result is that students with more innovative SO would generate lots of ideas and may have trouble narrowing them down and presenting them in an effective way if the assignment is too unstructured, whereas a structured assignment may provide an outline that allows them to be successful.

Our experience with more innovative students may shed additional light on these partial results. We believe it is a timing issue. More adaptive students will receive an assignment and immediately begin planning and preparing for it. This is when their thinking about the assignment and its requirements begin. Thus, they will feel the differential effects of the two assignments at the beginning when each is assigned. Conversely, more innovative students will tend to do much less advance planning or worrying. They tend to be confident, at times overconfident, that they can do all kinds of tasks before beginning them. They may only glance at a structured

assignment, and perhaps skim the instruction details, and therefore be unlikely absorb the total effects of the requirements at that time. It is only when these innovators actually try to complete the assignment that they experience the effects of the details which with they feel less able to address effectively.

The zero-order correlations and descriptive statistics for all students also provide some insight into self-efficacy. Correlations show that higher, more innovative Efficiency scores (which relate to process and implementing solutions) is negatively correlated with self-efficacy on structured assignments. Thus, students who are less comfortable with implementing detailed processes believe they will do worse on structured assignments. Similarly, overall KAI scores and Sufficiency of Originality subscores are positively correlated with self-efficacy on unstructured assignments. This implies that idea generation is important to doing well on an assignment with few guidelines.

The anxiety results are also mixed. We found that innovators (as classified by total KAI score and Rule/group Conformity) do show significantly less anxiety on unstructured assignments than do adaptors. Innovators also show less anxiety on unstructured assignments compared to structured ones. These results give partial support to the hypothesis that students will exhibit less anxiety on assignments congruent with their preferred style. However, results for adaptors do not support the hypothesis. They were not significantly less anxious on structured assignments, nor were there any differences in anxiety levels among adaptors on structured vs. unstructured assignments. Again, we believe this is a timing issue. Adaptive students tend to worry more in general, and be more pressured at the beginning when their planning and thinking about the activity begins. Therefore, their anxiety tends to be greater when an assignment is given, whether it be structured or unstructured. In fact, zero-order correlations (see Table 2) indicate that lower (more adaptive) Rule/Group Conformity scores, which relate to being aware of and following rules, lead to more anxiety on both assignments, and especially on unstructured assignments.

Practical Implications

If students have a preference for, and express higher levels of confidence and less anxiety on assignments that are consistent with their cognitive style, then how do we, as instructors, use this information to improve learning or the learning experience for students?

It is likely that having two versions (one more structured and the other less structured) of the same assignment is not desirable for many instructors; however, there may be cases where this is appropriate and could be considered. If only one assignment is plausible, and instructors wish to stay with an established structure, then they should be prepared to deal with anxiety from one or other of the groups of students, depending on how detailed the assignment is. It is possible that simply preparing for up-front questions from adaptors or last minute panicking by innovators will relieve some stress for instructors.

One may wish to prepare additional details, a list of Frequently Asked Questions perhaps, for adaptors who are sure to ask many of the same questions about a more free-form assignment. This list might help students add their own structure to the assignment, addressing issues of sections, format, content, etc. A similar list with different considerations might be appropriate for innovators who are struggling at the last minute with a detailed assignment. This list might include things to remember before submission.

Instructors might also encourage early recognition of detailed specifications by having students' submit a plan for the project soon after it is assigned. This requires the students, especially more innovative ones, to confront what is expected of them near the beginning of the process. Another possibility is to hold a brainstorming

session in which students explore how they might approach the requirements of an unstructured project. This technique should benefit more adaptive students who feel less comfortable with idea generation and ambiguous instructions. Both methods will give students a chance to confront the assignment parameters early in the process and avoid the procrastination and anxiety that car arise when facing requirements outside their preferred cognitive style.

Another possible compromise is for an instructor to take an assignment that is extreme on one end of the continuum or the other and try to make it more moderate. That is, instructors who typically give very loose and free-form instructions might want to consider adding some details or some framework to help the adaptive students feel less stress. Alternatively, instructors with more detailed styles might want to consider giving students a little more leeway to express their creativity and to ease up on some of the details that seem less important to the assignment.

An instructor may also wish to carefully consider how he or she structures an assignment based on the desired outcomes, the instructor and the student goals, and what facilitates and what inhibits learning in each particular case. For example, if the instructor is trying to validate that each student does know the material, then use of the adaptive style will work but may leave the innovative as underachieving or bored. Is this trade-off acceptable to the instructor?

Yet, if the goal is to have students apply their knowledge in unstructured situations then the more innovative style will be appropriate, but may lead to some dysfunction by the adaptors. In this case, the instructor should consider how to help alleviate their stress, if they want to in fact, alleviate it. Alternatively, the instructor may want to use this stress to motivate these students to develop added student capabilities in dealing with unstructured situations. This, of course, would lead to the desire to verify that these new capabilities have, in fact, been increased.

Limitations and Directions for Future Research

This study has some limitations. First, we measured only imagined student reactions to assignments, not actual reactions. This was a result of not wanting to give two versions of the same assignment for students to actually complete. This approach probably dampened the effects of student perceptions of the assignments, and results may have been more pronounced had students actually been completing the assignment for a grade.

Another limitation of this approach was that we could not measure if students actually did receive better grades or have better performance on the different assignments. Future research might focus on an experimental design that allows us to split the sample and actually assign the differing versions and measuring attitudes and performance of adaptors and innovators. In this way, additional insight into both expected and actual performance on differing assignment types might be found.

An interesting finding related to the mixed results for some of the adaptor and innovator reactions, specifically with regard to self-efficacy and anxiety. We suggest that these phenomena may be due to the timing related to when innovators and adaptors will fully engage with a set of instructions. Our method of measuring an immediate response may have uncovered that the relatively more adaptive will engage earlier than innovators. If this were the case, there are implications for how and when an instructor should ensure there is a full understanding of the assignments and sets of instructions.

Future research could investigate whether using two versions of the same assignment is feasible and effective in the classroom, or if our suggestions for providing lists of frequently asked questions, requiring project

plans, or offering brainstorming sessions or more moderately styled assignments actually alleviate anxiety or lead to changes in perceptions. Also, one might investigate to what extent the boredom experienced by innovative students on very detailed assignments affects their attitudes and ultimately their learning of the material, and if having adaptive students confront unstructured situations in the classroom actually has a positive effect on their behavior and coping mechanisms.

Ultimately, we hope that by understanding the perceptions of students with strong preferences we can help them understand their own reactions and help instructors anticipate those reactions. Armed with information about students' and instructors' cognitive style preferences and related behaviors, instructors and students can make coping with assignments a conscious choice rather than simply a reaction to their circumstances.

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APPENDIX
INSTRUMENT

Self-Efficacy Items

Rate how confident you are that you, working on your own, have the capabilities NOW to do these activities *so that you get an A on the paper*. How confident are you that you can…?

Scale: 1 = Cannot do at All; 5-6 = Moderately Can Do; 10 = Certain Can Do

Follow an appropriate process for carrying out this paper.
Accomplish what I want from this assignment.
Do what is needed to achieve the goals I have with this paper.
Structure the paper in an appropriate way.
Achieve appropriate outcomes for this paper.
Draw appropriate conclusions.
Learn what will be needed.
Gain appropriate knowledge for the assignment.
Include all relevant content in the appropriate section.
Identify pertinent information related to the assignment.
Include specific things that the instructor expects to see.
Provide the information the instructor wants.
Express my creativity.
Meet the requirements of the assignment.
Live up to my own expectations on this paper.
Receive an A on this paper.

Anxiety Items

Use a scale from 1 to 10 to describe how true you believe each statement is. How true is it that ...

Scale: 1 = Not True At All; 5-6 = Somewhat True; 10=Very True

I will feel very tense while doing this assignment.
I will be anxious when working on this task.
I will feel pressured while working on this.

Enjoyment Items

Use a scale from 1 to 10 to describe how true you believe each statement is. How true is it that ...

Scale: 1 = Not True At All; 5-6 = Somewhat True; 10=Very True

I will enjoy doing this activity very much.
I would describe this activity as very interesting.
I will do this activity because I want to.

Preference Question

Which of the two assignments would you most prefer to have to complete?

A. Option 1 (Free-Form)
B. Option 2 (Detailed)
C. No preference

PREPAREDNESS FOR MID-CAREER TRANSITIONS: EXAMINING CURRENT PRACTICES IN MANAGEMENT EDUCATION

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ABSTRACT

This paper examines how MBA programs prepare graduates for involuntary, mid-career job loss. Numerous studies have identified responses that minimize negative consequences to such job losses and even increase opportunities for personal and professional growth. This paper summarizes those research findings and reviews the top 30 MBA programs to examine the extent to which the topics of career development, career transition and related topics are integrated into the curriculum. Based on these findings, recommendations are provided for MBA programs striving to promote a healthy approach to coping with mid-career setbacks.

INTRODUCTION

The focus of this paper is to examine how MBA programs have prepared graduates for unexpected mid-career job loss. A review of the literature shows such job losses often have significant negative impact on physical and mental health. The literature suggests approaches to coping with job loss that improve individual outcomes. Despite the importance of career development and the need to instruct students on how to successfully manage career changes, it is unclear if such approaches as found in the literature are part of the management education of MBA students. In order to understand how MBA students are prepared for mid-career transitions, this study examines the career education within the top 30 MBA programs, as ranked by Business Week, and provides recommendations for curriculum change to better prepare graduates of such programs for mid-career transitions.

Background

The U.S. Bureau of Labor Statistics estimates approximately 7.2 million American workers were unemployed in November 2007, with the average length of unemployment approximately 4.5 months. The report notes that job losses affect people in every geographic region of the country and at every career level(U. S. Department of Labor, 2007). Research suggests prolonged job loss increases negative effects on both physical and mental health, family and social functioning, and adaptive behaviors (Vinokur & Schul, 2002; Wanberg, Griffiths, & Gavin, 1997). Such effects often become extreme over time (Brewington, Nassar-McMillan, Flowers,

& Furr, 2004; Ebberwein, Krieshok, Ulven, & Prosser, 2004; Hanisch, 1999; Isaksson, Johnansson, Bellaagh, & Sjoberg, 2004; Von Hooft, Born, Taris, Flier, & Blonk, 2004). While it is clear that involuntary job loss negatively affects millions of American workers at all levels of employment, research provides suggestions for coping with the problem in more positive terms.

LITERATURE REVIEW

The research literature on career transition suggests a multidimensional approach is needed to understand the reaction to job loss, coping strategies, and subsequent results. Research shows that individual factors such as coping style, social and economic assets, emotional factors, personal factors, as well as self-efficacy and outcome expectations influence success in career transition (Brewington et al., 2004; Hanisch, 1999; Middlebrook & Clarke, 1991; Patton & Donohue, 1998; Prussia, Fugate, & Kinicki, 2001). While some of these factors are beyond the potential influence of the MBA curriculum; research suggests that education can significantly influence an individual's expectations and beliefs which in turn impact career transition success (Brewington et al., 2004; Ebberwein et al., 2004; Lent, 2005; Wanberg, 1997).

Job Loss Coping Behavior

The literature describes job loss coping behavior as either emotion-focused or problem-focused. Emotion-focused behavior following job loss includes problem avoidance, minimizing, distancing, escapism, and emotional release. Emotion-focused individuals are more likely to take trips to "get away," engage in substance abuse, spend excessive time with busywork, avoid discussion of the situation with friends and family, blame others, and seek emotional release in non-productive ways (Hanisch, 1999; Prussia et al., 2001; Wanberg, 1997) Problem-focused behavior following job loss includes defining the problem, generating alternative solutions, and acting to solve it. Problem-focused individuals dealing with job loss are likely to spend more time on the job search activity, work more diligently on ways to save money, objectively review their job skills and enroll in education programs, relocate, and network. The problem-focused approach is physically and psychologically healthier, and more likely to produce successful re-employment (Brewington et al., 2004; Cullen & Hodgetts, 2001; Ebberwein et al., 2004). Coping behaviors and career transitions are also influenced by social and economic factors.

Social and Economic Influences

Personal characteristics, social, emotional and financial resources impact the success of job loss coping skills. For example, an individual within an older demographic group, with heavy financial responsibilities, a high level of debt, little emotional support from friends and family, a number of dependents, and a non-working spouse is less likely to have success in coping with job loss (Armstrong-Stassen, 2004; Latack, 1986; Prussia et al., 2001; Vinokur & Schul, 2002; Wanberg, Kanfer, & Rotundo, 1999). These can also be influenced by the level of self-efficacy and expectations for a successful outcome of the job search.

Self-Efficacy & Outcome Expectations

The Social Cognitive Career Theory (SCCT) of Lent, Brown, & Hackett (1994) emphasizes the importance of self-efficacy and outcome expectations affecting the development and execution of goals, choices, and career-related behaviors that ultimately determine how successfully an individual responds to a particular event such as a job loss. Individuals with high self-efficacy believe they are in control of their own lives and their own actions and their own decisions shape their lives (Gist & Mitchell, 1992). Research on coping with job loss or forced career transitions shows high self-efficacy contributes to personal motivation and employing more effective coping strategies (Armstrong-Stassen, 2004; Hanisch, 1999). Research further specifies that the development and maintenance of self-efficacy beliefs and outcome expectations are largely influenced by learning experiences (Lent, 2005). These findings provide a strong rationale for MBA programs to address this issue in their curricula (Brewington et al., 2004; Cullen & Hodgetts, 2001; Ebberwein et al., 2004; Kulik, 2001; Patton & Donohue, 1998; Wanberg et al., 1997).

Proposed Topics in the MBA Career Curriculu

While almost all major universities in the U.S. make career management services available to students, the focus is primarily on the initial employment following graduation. This may be influenced by how schools measure and use MBA initial employment data. Starting salaries and the percentage of graduates finding initial employment are more easily collected, and such measures support marketing goals as well as rating statistics. However, this focus on initial employment does little to prepare individuals for the later challenges in their career where they must adjust to job loss following a corporate merger, acquisition, downsizing, or disagreement with higher management.

Some factors such as age, savings, number of dependents, and having a working spouse are beyond the scope of an MBA program. However, factors such as the preparation for the mid-career job search, decision-making skills, knowledge and use of information resources, general career information, general world of work information, and detailed information about occupations of preference are within the scope of the MBA curriculum.

Self-efficacy is an especially important factor influencing career transition that can be addressed within the MBA career curriculum. Authors such as Armstrong-Stassen (2004), Hanisch (1999), and Lent (2005) suggest the development and maintenance of self-efficacy beliefs and outcome expectations are largely influenced by learning experiences. Students with low self-efficacy regarding their careers are likely to believe actions such as getting a good job, getting fired, and finding another job are beyond their control and are more likely to avoid taking problem focused actions to effectively manage their own career initially and across their life span.

Current economic conditions, Social Cognitive Career Theory (Lent et al., 1994), and empirical evidence from vocational and psychological literature combine to provide a strong rationale for business schools to use learning experiences that increase students' self-efficacy and outcome expectations by identifying and promoting the use of effective and comprehensive job loss coping strategies (Armstrong-Stassen, 2004; Brewington et al., 2004; Cullen & Hodgetts, 2001; Ebberwein et al., 2004; Hanisch, 1999; Kulik, 2001; Lent, 2005; Lent et al., 1994; Patton & Donohue, 1998; Thomson, 1997; Wanberg, 1997).

Super and Thompson (1979) identified potential beneficial educational topics by outlining specific components related to aspects of career management. These components of career management such as awareness

of the need to plan ahead, decision-making skills, knowledge and use of information resources have also been identified as important variables predicting more successful outcomes coping with job loss (Hanisch, 1999; Patton & Donohue, 1998; Prussia et al., 2001; Thomson, 1997; Turner, Kessler, & House, 1991; Vinokur & Schul, 2002)

Current MBA Curricula

Do MBA programs address these issues? The MBA curriculum typically includes courses in Finance, Marketing, Management, Organizational Behavior, Information Technology, Ethics and the Social and Legal Environment of Business, Economics, Quantitative Decision Making, and Strategic Planning plus courses in the student's area of concentration. The Association for the Advancement of Collegiate Schools of Business (AACSB) has long delineated such coverage in their accreditation standards. However, with regard to career advising, AACSB simply expects "Students have personalized interactive resources available for guidance in choosing and pursuing career paths"(AACSB International, 2007, p. 34).

This study asks whether business schools are properly addressing the issue of preparing their students for effectively handling involuntary mid-career job loss by closely studying the course content of the 30 top-ranked MBA programs as determined by Business Week.

METHOD

Participants

Since 1988, Business Week has compiled and published a biannual ranking of the best full-time MBA programs. An on-line review was conducted of the course content of the top 30 MBA programs as ranked by Business Week in 2006, the most recent rankings available as of this writing (see Table 1).

Table 1: Business Week Ranking of MBA Programs

School	Ranking
U of Chicago	1
U of Pennsylvania (Wharton)	2
Northwestern (Kellogg)	3
Harvard	4
Michigan – Ross School of Business	5
Stanford	6
MIT (Sloan)	7
UC Berkeley (Haas)	8
Duke (Fuqua)	9
Columbia	10
Dartmouth (Tuck)	11
UCLA (Anderson)	12
Cornell (Johnson)	13

Table 1: Business Week Ranking of MBA Programs	
School	Ranking
NYU (Stern)	14
U of Virginia (Darden)	15
Carnegie Mellon (Tepper)	16
UNC – Chapel Hill (Kenan-Flagler)	17
Indiana University (Kelley)	18
Yale	19
Texas – Austin	20
U of Southern California (Marshall)	21
Georgetown (McDonough)	22
Emory (Goizueta)	23
Purdue (Krannert)	24
U of Maryland (Smith)	25
Notre Dame (Mendoza)	26
Washington U (Olin)	27
Rochester (Simon)	28
Michigan State (Broad)	29
Vanderbilt – Owen	30

In addition to an on-line review, the authors followed up with phone interviews of MBA program directors or, if that person was not available, other knowledgeable individuals affiliated with each MBA program (e.g. other faculty members, career services employees). These programs were selected because all 30 of these top-ranked MBA programs currently provide extensive detail on-line regarding not only the list of courses required but also detail of their content. Furthermore, many other business schools follow their lead.

Procedure

After completing a free registration process, Business Week Online provides a profile for each MBA program and a link to their website. Each program's website was reviewed for a detailed description of its curriculum and available courses. Of particular interest was the coverage of topics related to career management, vocational maturity, or coping with career setbacks. Such topics include, but are not limited to: resume preparation, interviewing, reviewing career entrance requirements and expectations, and studying various job markets to identify employment trends.

For evaluation purposes, numerical values were assigned to the MBA programs on a scale of 1-5 (1=lowest to 5=highest) according to the extent of coverage and level of commitment (e.g. elective versus required) regarding career management topics. A program received the lowest score of 1 if the school offers only basic career services for initial job placement. A score of 2 represents expanded career services such as offering workshops or seminars on career self-assessment and long-term career development. A score of 3 represents an elective course containing career management topics specifically mentioned in the MBA curriculum. If such a

course is required of all MBA students, then the school was given a score of 4. A score of 5 was reserved for programs with a required course that went beyond issues of initial job placement and added topics such as self-efficacy, coping with job loss, and mid-career transitions. This approach provides descriptive data about the coverage of relevant job loss topics in the 30 top-ranked MBA programs, but also the extent students are likely to be exposed to these topics. For example, topics offered within required classes were given more weight because all MBA students would be assured of exposure.

Next, to confirm accuracy and completeness of the data collected from the website, officials from each of the 30 schools were called and interviewed using a structured questionnaire. The appropriate official was identified using information from the web site, school directory, or through other officials at the school. The official was given the information collected by the researchers from the web site and then given an opportunity to add or clarify information about the career curriculum and services offered by the program. In most cases, the phone interview confirmed information collected by the researcher and in some cases, additional information obtained in the interview clarified ambiguities or provided additional or updated information not found on the website. The website ratings were revised to include the information from the phone interviews. These are summarized in Table 2.

Table 2: Rating for Coverage of Coping with Job Loss

School	Rating
Yale	5
Indiana University (Kelley)	4
Texas – Austin	4
Purdue (Krannert)	4
U of Maryland (Smith)	4
Washington U (Olin)	4
Northwestern (Kellogg)	4
Stanford	3
U of Chicago	2
U of Pennsylvania (Wharton)	2
Harvard	2
Michigan (Ross)	2
MIT (Sloan)	2
UC Berkeley (Hass)	2
Duke (Fuqua)	2
Columbia	2
Dartmouth (Tuck)	2
UCLA (Anderson)	2
Cornell (Johnson)	2
NYU (Stern)	2

Table 2: Rating for Coverage of Coping with Job Loss	
School	Rating
U of Virginia (Darden)	2
UNC – Chapel Hill (Kenan-Flagler)	2
U of Southern California (Marshall)	2
Georgetown (McDonough)	2
Emory (Goizueta)	2
Rochester (Simon)	2
Michigan State (Broad)	2
Vanderbilt (Owen)	2
Cornell (Johnson)	1
Carnegie Mellon (Tepper)	1
(1 = lowest, 5 = highest)	

RESULTS

Of the 30 business schools surveyed, 6.7.% (n=2) received a rating of "1" since they offer basic career services for initial job placement and make no reference to career management, vocational maturity, career management, or coping topics in the description of their MBA curriculum posted on the Internet. 66.7% (n=20) of the schools are placed in the second category and received a rating of "2" because their career services office provides workshops or seminars on career self-assessment and long-term career development. 3.3% (n=1) of the schools received a rating of "3" because they provide an elective course containing career management topics within the MBA curriculum. However, 20% (n=6) of the schools were rated as "4" since they require all MBA students to take a course containing career management topics. Finally, only 3.3% (n=1) of the schools were rated at "5" because all MBA students are required to take a course that goes beyond issues of initial job placement and the course includes topics such as self-efficacy, coping with job loss, and mid-career transitions. Yale is the only school currently offering a course that includes such topics and receiving a rating of "5", while Indiana University received a rating of "4" for requiring a course containing extensive career management topics. Both Yale and Indiana offer programs sufficiently unique to merit further discussion.

Yale's Required Career Course

Yale has recently added a required course for MBA students named "Careers." The course includes topics such as "Early Careers," "Growth and Evolution," "Transitions", "Resilience," "Balance of Work and Life," and "Values and Guiding Principles." Curriculum and assignments are designed to lead students to go beyond their first career-oriented job, and to develop their individual career paths. The course has recently been taught by Feinstein and Wrzesniewski and draws on the work of a Yale professor, Jeff Sonnenfeld, co-author with Andrew Ward of the bestselling book, *Firing Back* (Sonnenfeld & Ward, 2007), as well as Feinstein's own work

on creative development (Feinstein, 2006). This course represents a new and creative approach to helping MBA students better prepare for not only their first job, but also career setbacks and changes that are likely to occur throughout their careers.

Indiana's Academies

The career management requirements at Indiana University's MBA were given a rating of "4" because of the industry-focused "Academies" in business marketing, consulting, consumer marketing, corporate finance, entrepreneurial management, investment banking, sports and entertainment, and finally supply chain and global management. These "Academies" require Indiana students to participate in three one-week activities. The first is presented in the first semester and is designed to introduce students to the basic requirements for careers in these specific areas. The second full-week session occurs during the second semester and goes into more depth preparing students for a summer internship. During the fall semester of the student's second year, the third academy week prepares students for interviewing for a full-time career-oriented position. Kelley's website provides a short video explaining each career academy and includes brief comments from both students and corporate recruiters. This website shows that Indiana University thinks preparing their graduates for successful initial employment is very important.

CONCLUSION

Despite strong empirical evidence regarding the importance of effectively coping with job loss and current economic indicators suggesting even MBA graduates from highly rated schools are likely to experience one or more such potentially disturbing job loss experiences in their managerial careers, the top-ranked business programs vary considerably in the extent they provide MBA students with the career preparation to ensure long-career success. In this study, when including the lowest two categories of 1 and 2, almost three-quarters (73.3%), have only career advising services available with little or no mention of life-long career development within the MBA curriculum. Among those offering the most career management support to students, the focus was on obtaining the first job after graduation rather than recovering from an involuntary termination in mid- to late-career. Only Yale has recently developed and required a course addressing the topics the career management literature suggests are important for developing resiliency and improved life-long career management abilities.

Some may argue that such topics are covered, but are simply not included on the course descriptions provided on the Internet. While that may be true, certainly it could also be argued that the topics that are included on the Internet descriptions are numerous and were likely chosen to be displayed on the Internet precisely because they were thought to be important at that school. Furthermore, the Internet reviews were followed up with phone interviews that gave the schools the opportunity to challenge our Internet findings.

All 30 of the highest ranked schools and practically all business schools, whether highly ranked or not, offer some form of voluntary career planning services. But, is this sufficient? Psychologists would argue that people with low self-efficacy in a particular area tend to avoid that area, suggesting the individuals who most need the help from Career Services are the ones most likely to avoid any voluntary participation in career management workshops and seminars.

Recommendations for Teaching Healthy Responses to Job Loss

Based on the theories discussed earlier and the preliminary research findings of this study, the following recommendations are made for faculty to consider as they review and revise existing MBA programs:

1. Provide students with current data about the frequency of mid-career job loss so students understand such things happen frequently and their long-term career success may well be dependent on how well they handle setbacks.
2. Provide students with the knowledge and skills to properly search for a new job not just immediately after graduation but throughout their career.
3. Require students to review the current research on positive ways to cope with such setbacks and the dangers to their mental and physical health of the negative approaches.
4. Stress the importance of keeping knowledge and skills current and provide alumni with ways to do so.
5. Stress the importance of networking not just during school but throughout one's career and provide alumni with a variety of networking opportunities.
6. Provide current students and alumni with the information they need to make informed decisions regarding locations and industries that are growing or shrinking with respect to managerial career opportunities.
7. Overall encourage high self-efficacy so students feel more in charge of their own career management and realize how their own actions and decisions shape their professional careers.
8. Consider requiring a course in Career Management of all MBA students that stresses life-long career management knowledge and skills.
9. By better addressing job loss coping skills, MBA programs will be sending graduates into the job market better able to face an involuntary mid-career job loss.

Limitations of this study include the small sample of MBA programs and the reliance on information from websites plus a follow-up phone survey to determine the extent of current coverage of career management topics in top-ranking MBA programs. Our results suggest there is a wide difference in the extent of such coverage among these leading schools, but leaves open the question of whether such differences also exist among a broader cross section of MBA programs.

Implications for Future Research

Additional research is needed to further clarify what separates those individuals who deal successfully with an involuntary mid-career job loss versus those who do not. Once those differences are clearly identified, further research should address how best to get that helpful information to those who need it most. For example, is it better to offer non-credit workshops to alumni who are in mid-career and closer to the issue versus incorporating these topics into the curriculum for MBA students? Longitudinal studies that trace subjects from the point of receiving such training through experiencing career setbacks would be especially helpful in determining exactly which career management topics are most effective.

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A COMPARATIVE ANALYSIS OF GRADING PRACTICES BY DISCIPLINE WITHIN A COLLEGE OF BUSINESS

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ABSTRACT

This research tests for differences in average grades awarded across six business disciplines in the business college at a southern regional university. Although complaints about college grade inflation have existed for over one hundred years, there has been increasing interest in recent years in grade inflation within the U.S. higher education system. Most published research on grade inflation has focused on systematic inflation at the institutional level, but relatively little has been published relative to cross-disciplinary grade inflation and deflation within a particular institution.

Differences in grading standards between disciplines may reflect better teaching, but they may also reflect lax standards. Lenient grading practices can have unintended negative consequences and are a cause for concern. On the other hand, relatively higher grades for a particular discipline that reflect better teaching should be encouraged and emulated. It is important to identify and evaluate differences in grading practices because unwarranted inconsistencies in grading practices have potential adverse effects upon faculty, students and the institution as a whole.

Using regression analysis and controlling for a number of potential causal factors such as student GPA, withdrawal rates and instructor experience, we compare average grades for nearly 400 classes in six business subdisciplines. We find that the average grades given out in three of the six subdisciplines within this college of business were systematically higher than in the other three, even after controlling for these other explanatory factors. While not offering any conclusions as to why these particular differences exist, there is a general discussion of factors that can explain higher (or lower) average grades from one discipline to the next. Although this research does not attempt to reach conclusions as to the reason for inconsistencies between disciplines at this university, it does provide a framework that other institutions can use to begin to at least identify systematic differences between grading practices within their own academic programs.

INTRODUCTION

The purpose of this study is to determine if systematic grade inflation or compression exists across academic disciplines at this university's college of business administration. Grade inflation is typically defined as a systematic increase in grades and grade point averages (GPA) without a concomitant increase in performance. Grade compression, of course, would be the opposite effect of reduced grades for the same level of academic

performance. Expressions of concern about collegiate grade inflation have been around for over 100 years (Gordon, 2006), but there has been a recent surge of interest in this subject. Much of this recent discussion has centered on long-term upward trends in average GPAs across university systems, but there has been relatively little discussion about cross-discipline inflation within the same university.

Cross-disciplinary grade inflation is an issue that affects all areas of a university and requires a collective response if it is to addressed effectively (e.g., Briggs, 2007; Dresner, 2004; Gordon, 2006; Smith & Coombe, 2006). Allocation of scholarship dollars is based to some degree on student performance, and unwarranted inflation in one discipline misallocates resources from one group of students to another. Deans' list and similar academic honors rolls may be distorted by disparate grading practices as well. Grading practices may affect student recruitment or retention, as students may forego a more rigorously graded discipline in favor of a less rigorously graded discipline without realizing the potential long-term costs. For example, if potential employers are not satisfied with the academic results of the less rigorous discipline or program, that can have long-term implications for students in that discipline or program. Students rely on faculty to not only know that those types of issues can arise, but to also act in the best interest of the students by maintaining quality standards that maximize the value of education. However, faculty members often perceive that there are disincentives towards rigorous academic programs. For example, there often is a perception that rigorous academic standards lower student evaluations of teaching (SET), which in turn has a direct impact on promotion, tenure and merit pay. Although the research linking grading leniency with SET scores is mixed (Gump, 2007), it nonetheless continues to be an article of faith with some faculty members that higher grades lead to higher SET scores. Whether or not this link exists, the perception of a link between grade inflation and SET scores provides an incentive towards grade inflation.

The process of examining grading practices by academic unit is a journey, not a destination. Our research uses regression analysis to test for differences in average grades across disciplines while controlling for a variety of faculty effects, student effects, and discipline-specific effects that might explain systematic increases or decreases in the average class GPA. While this research attempts to explain some of the observed differences in average GPAs, it cannot explain all observed differences. It can identify certain predictors of student achievement, but it cannot identify all predictors of student achievement, nor is it meant to identify or establish grading norms. It was intended to reduce some of the murkiness surrounding observed differences in grading practices as well as to spur intracollegial debate about standards and practices among faculty across the disciplines.

The scope of this research is limited to testing for discipline-specific inflation or compression, although eventually it may be possible to generalize the model into a more generic model that could provide benchmarks for normative grading practices. It is important to stress that this model cannot be used to measure teaching effectiveness. There is no measure of student learning, only student grading, included in the model that we present. We cannot measure the level of learning by comparing grades, only the level of instructor assessment of learning. However, the presence of systematic differences between disciplines leads logically to that next stage, determining why those differences exist. And while it may be easier to say that higher grades in one discipline relative to another are simply the effect of grade inflation, it is equally plausible that the differences represent more effective teaching.

Our results are unique to this institution. However, the contribution of this research is that the process that we present can be used by other institutions that are concerned about the potential for systematic grade inflation or compression in their academic units. Following a brief review of the extant literature, a methods section describes the process we undertook, followed by a results and a conclusions section.

REVIEW OF LITERATURE

Many researchers suggest that higher nominal grades are the result of factors other than simple grade inflation. Lanning and Perkins (1995) argue that the "Mastery of Learning" model in Colleges of Education results in each student receiving an A for any assignment. This model allows students to repeat course work until a concept or assignment is mastered, and the desired or required grade (an A) is achieved. Under this model, final grades are differentiated through non-academic measures, such as attendance and participation. Under that model, then, inflated grades can actually be a sign of higher standards, as students are not allowed to simply get by with lower quality work. Therefore, the presence of higher grades does not necessarily imply lower standards. All that it indicates is that there is, indeed, a difference.

Kohn (2002) and Boretz (2004) suggest institutional factors that may contribute to higher grades. Kohn (2002) notes that instructors may be less stingy with grades than in the past, leading to systematic inflation across the educational system. Also, in some institutional models, students may be allowed to take relatively more courses in their major areas and thus avoid courses in other areas that might be more difficult or which the student has less interest and motivation to study. Boretz (2004) concludes that the trend in allowing more retests and revisions of assignments leads to higher grades, and this is again a policy that differs from institution to institution. Further, Kohn (2002) and Boretz (2004) suggest that extended course withdrawal dates make it easier for students to drop classes in which they are struggling, which would generate a relatively higher number of W grades which would not appear in the average GPA for a class.

Changes in student demographics may produce higher performing students. Non-traditional students make up an ever increasing proportion of today's classroom. Kwon and Kendig (1997) indicate that an older, more mature student population may actually perform better in the classroom than younger, traditional students. Another important demographic is socio-economic. As more students rely on scholarships to fund their educations, they must work harder to maintain eligibility. Potter and Nyman (2001) recognize that state aid packages push students to earn higher grades. Under this type of incentive system, higher grades are more meaningful to students because they have a direct economic impact today.

Empirical evidence supporting a trend in higher grades is offered by Hanson, Quinn and Wells (2002) and Kezim, Pariseau and Quinn (2005). Additionally, both studies find higher average grades for courses taught by adjunct faculty than for courses taught by traditional tenure and tenure track faculty. This inflated grading by adjunct and temporary instructors is often interpreted as an attempt to obtain higher student evaluations, but there are other reasons that may contribute. Adjunct faculty may hold at most a masters degree in the discipline and may or may not have attended a doctoral-granting institution. These faculty members may not have been held to the higher standards that doctorally-qualified faculty have been held to at those institutions that grant doctoral degrees. Adjunct faculty may also have less of an identity with institutional standards than tenured or tenure track faculty who have created longer term ties between themselves and their institutions.

Interestingly, Marsh and Roach (2000) provide evidence that higher grades, in and of themselves, do not guarantee higher teacher evaluations. Germain and Scandura (2005) also explore the relationship between grades and faculty evaluation. A common conclusion is that evaluations are positively related to grades, but there may be quality factors involved. If better teachers teach better, then the students of better teachers should exhibit higher average grades (assuming equal standards) than the students of marginal teachers. Germain and Scandura (2005) extend the maturity factor discussed in Kwon and Kendig (1997) to include previous life experiences, personal development and previous relationships with instructors with success in the classroom. The same individual

characteristics that lead to better classroom performance may also create a more favorable view of the instructor. Therefore, their reasoning is that higher evaluations are not created by higher grades, but share a common source.

Felton and Koper (2004) and Nagle (1998) provide alternatives to traditional grades that adjust for the level of difficulty in individual courses. Their solutions compute ratios of individual course grades to the class GPA, thereby providing an index of relative grades rather than an absolute measure. Their index models provide a means by which course difficulty and instructor grading scales are factored into individual measures of success. Simply put, earning a B in a course where the average grade is a C means more than earning a grade of B where the average grade is a B.

These studies illustrate some of the pitfalls inherent in determining the causal roots of grade inflation and compression. There are often solid reasons behind differences in average grade levels between instructors, between disciplines within the same college, between colleges within the same university, and between different universities. While grades for one group may be relatively higher because of higher quality instructors or higher caliber students, they also may be higher because of looser standards or grade inflation.

The objective of our study is to look at differences within our own college to identify where there are systematic differences in grading practices between disciplines, operating under the assumption that the cultural factors, the socioeconomic factors, and the institutional-specific factors affect each of our six disciplines in roughly the same manner. We do acknowledge that there are significant differences in the experience level, training, and other demographic factors between the faculty members in the different disciplines, and we attempt to control for those as best we can.

The goal of our study is to ascertain whether we are all using the same basic standards, and if not, to identify the sources of differences. In the following section, we describe the steps we took to isolate those intracollege differences. If the difference is attributable to better teaching practices, that difference should be emulated and celebrated. If the difference is unexplainable, then that difference can at least be identified. Grading practices continue to be the prerogative of the individual instructor, but the success of students is first and foremost a team effort, and an effective team must be working together toward a common goal.

METHOD

We use ordinary least squares (OLS) regression to test for faculty effects, student effects, and discipline-specific effects that might explain systematic differences, either increases or decreases, in average class GPAs for a sample of nearly 400 upper division classes within the six major disciplines of the College of Business Administration at this institution.

Our hypothesis is that the average GPA for a given course can be explained by instructor demographics such as tenure/tenure track status and experience; class-specific information such as the caliber of the students, as measured by past student performance, by class size and capacity; and by trends over time that reflect changing student demographics. Although we use a basic OLS model, we also include several spline functions to address a number of non-linear relationships that we observe between the class average GPA and our explanatory variables.

Our dependent variable is the class average GPA (CLASSGPA), using the standard scale with A=4, B=3, etc. Class GPAs were calculated for 397 courses over the span of eight semesters. The minimum class size to be included in the study was 25 students. Table 1 provides some basic descriptive statistics on the dependent variable as well as the explanatory variables described in the following subsections.

Table 1: Summary Statistics By Discipline								
VARIABLE		COBA	ACCT	ECON	FINC	LOGT	MGNT	MKTG
	N	397	71	12	77	31	80	126
	Mean	2.72	2.52	2.39	2.36	2.61	2.86	3.02
CLASSGPA	Minimum	1.63	1.68	1.79	1.63	1.93	2.30	1.94
	Maximum	3.76	3.30	3.07	3.48	3.36	3.64	3.76
	Mean	2	2.3	2.2	1.8	2.6	2	1.9
EXPER	Minimum	1	1	2	1	2	1	1
	Maximum	5	4	3	3	5	4	4
	Mean	9.1	6.2	2.5	9.0	6.2	11.5	10.7
TIMES	Minimum	1	1	1	1	1	1	1
	Maximum	31	24	5	26	13	31	30
	Mean	22%	17%	0%	4%	6%	63%	17%
NONTENURE	Minimum	0	0	0	0	0	0	0
	Maximum	1	1	0	1	1	1	1
	Mean	2.69	2.84	2.70	2.68	2.58	2.60	2.68
CUMGPA	Minimum	2.30	2.37	2.42	2.30	2.38	2.31	2.36
	Maximum	3.25	3.25	2.81	2.89	2.77	2.82	2.91
	Mean	113	107	107	115	112	114	114
TOTALHRS	Minimum	81	81	95	88	100	100	100
	Maximum	130	130	121	128	127	127	130
	Mean	41	38	36	38	40	43	46
CLASSIZE	Minimum	25	25	35	35	30	28	27
	Maximum	80	52	42	50	60	60	80
	Mean	94%	93%	93%	98%	94%	94%	94%
FULL%	Minimum	47%	54%	77%	65%	65%	62%	47%
	Maximum	134%	108%	114%	134%	123%	113%	117%
	Mean	6%	9%	8%	8%	4%	3%	5%
W%	Minimum	0%	0%	0%	0%	0%	0%	0%
	Maximum	35%	35%	16%	29%	13%	15%	19%
	Mean	17%	18%	15%	17%	18%	18%	16%
LATEREG	Minimum	0%	0%	4%	2%	3%	3%	3%
	Maximum	100%	100%	24%	48%	68%	50%	44%

Explanatory Variables for Instructor Characteristics

We include three variables to pick up instructor-specific differences: EXPER to measure the instructor's time at this institution; TIMES to measure the amount of experience in teaching a particular course; and NONTENURE to identify employment status.

Instructor experience (EXPER) is the number of semesters that the class instructor has been at this institution, starting with the Fall 1998 semester when the institution converted from the quarter system to the semester system. While this does not exactly measure the instructor's true length of time at the institution, it does approximate the amount of experience under the semester system. Some research has identified a tendency for average grades to decline over time as an instructor gains experience (e.g., Kezim et. al., 2005). We include a second variable, TIMES, to identify the number of times that each instructor has taught a particular course in the past. While EXPER picks up the overall length of time that the instructor has been at the institution since semester conversion, TIMES is actually measuring the instructors experience with a specific course. Whether the instructor is a newly minted PhD or a grizzled veteran, there may be less certainty about the appropriate rigor or testing standards when engaged in a new preparation. Our final instructor-specific variable is NONTENURE is an indicator variable that picks up differences between tenured or tenure track faculty (our base) and temporary faculty and/or adjuncts, which are coded as 1. As cited earlier, a number of past studies have shown that grades are typically higher for non-permanent faculty.

Explanatory Variables for Class Characteristics

CUMGPA is the average cumulative grade point average for all of the students enrolled in the course as of the beginning of that semester. We hypothesize that past performance is the best predictor of future performance. Since the classes we include in our study are junior- and senior-level, the individual students have had time to amass a statistically valid cumulative GPA prior to the class in this study. If a particular class is relatively full of high-achieving students, then one would expect that the average grade given in that class would be relatively higher as well. That is, "A" students tend to be "A" students in both their preparatory classes as well as their major classes.

We also include a variable to try to capture those classes that are more likely to have graduating seniors in the student ranks. The variable TOTALHRS measures the average cumulative hours for all the students in a class. We hypothesize a possible link between the average hours and the average course grade. Graduating seniors should have a relatively higher level of motivation to pass the last set of courses and matriculate to post-academic life. There may also be a tendency for the instructor to "go easy" on graduating seniors. Finally, there is some element of survivor bias. Graduating seniors have been through the system and weak performers have been winnowed out along the way.

We expect to find a link between the size of a class (CLASSIZE) and the average grade, but the direction of the relationship between class size and CLASSGPA is uncertain. Smaller classes, with more individualized instruction, may generate higher average grades, creating a negative relationship. However, it is also possible that students tend to flock to the "easy" courses, which would suggest a positive relationship between class size and average grade. A somewhat related variable is meant to measure the demand for a class. The variable FULL% is the number of students enrolled in the class divided by the number of seats available for that class.

The percentage of students that voluntarily withdraw from the class (W%) is expected to affect CLASSGPA, but again the direction of the effect is uncertain. On the one hand, if there is a high withdrawal rate, that presumably would eliminate many of the D and F grades and inflate CLASSGPA. On the other hand, a high withdrawal rate may be indicative of a rigorous course or perhaps a poor instructor, which would suggest a negative correlation with CLASSGPA. Both effects may be present, in which case we might expect a nonlinear relationship between grades and withdrawal rates.

Student attitudes and efforts are hard to measure from the available data. One variable that may be an indicator of student attitude is the time at which they registered for the class. The variable LATEREGIST is the percent of students that late-registered for the course after the initial registration period. The university database includes a variable that shows the date that a student registered for a particular class, although it only shows the last date that a change occurred. If a student signed up early for a particular Fall semester class in February during open registration and then switched to a different section of the same course during open enrollment the following August, that would show up as a late registration. A student that failed a pre-requisite course or that decided at the last minute to take a particular class would show the same late enrollment date. While the majority of students sign up for classes during the normal registration period and do not change their registration to a different time slot, there does exist some amount of section swapping, and there is more swapping in some classes and courses than in others. We expect that a high number of late registrants is an indicator of relatively lower commitment by students, on average, and therefore a relatively lower CLASSGPA.

We include a simple time variable (TREND) to isolate long-term trends in average course grades. An important feature of the student body at this university is the systematic increase in standards of admission over the period of study. Admission standards have increased, and SAT scores have risen over the past five years. Although we recognize that studies have shown that the SAT score is a relatively inaccurate reflection of the ability of students, the change in the average SAT score does suggest that the demographics of the student body have changed, presumably for the better, but changed nonetheless. If that is so, then average class grades may be increasing (or decreasing) over the period of this study.

Explanatory Variables for Each Discipline

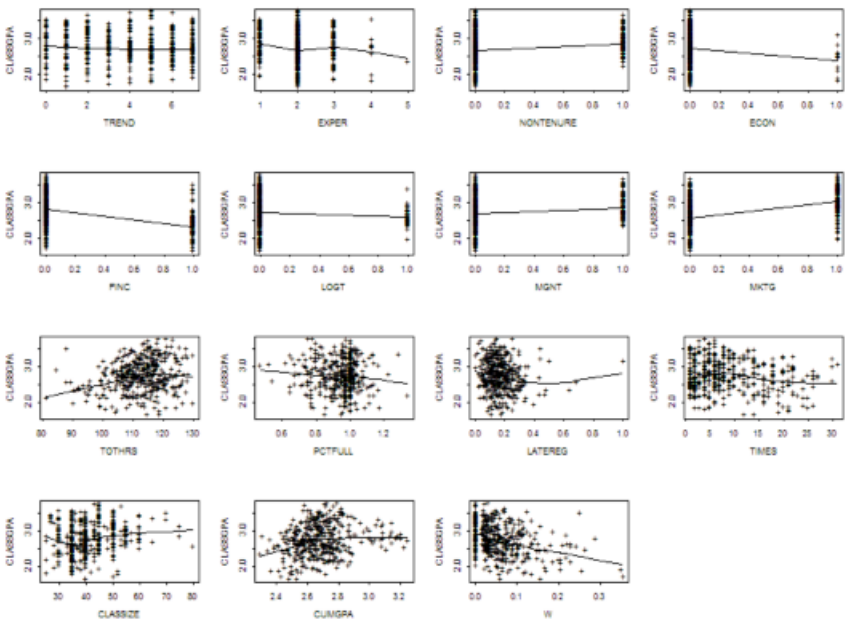
Our final set of explanatory variables to identify the specific academic disciplines. The six academic disciplines included in this study are Accounting (ACCT), Economics (ECON), Finance (FINC), Logistics (LOGT), Management (MGNT) and Marketing (MKTG), the last five of which are coded using dummy variables. As shown in Table 1, the number of classes differed significantly from one discipline to the next. The Accounting discipline was chosen as the base discipline partly because of its order in the alphabet, but primarily because of the nature of the coursework. Several of the other five disciplines have one or more sub-disciplines (e.g., Fashion Merchandising within the Marketing discipline), and two of the disciplines have relatively few observations. The Accounting program at this university has the advantage of being relatively large and relatively homogenous, which makes it a more desirable base.

Regression Model

Based on the means, minima and maxima for the explanatory variables included in Table 1, certain relationships immediately pop out. There are obviously a greater number of course offerings in Marketing. The

CLASSGPA values for the Logistics, Management and Marketing courses are noticeably higher than for the course offerings in the Accounting, Economics and Finance areas. In addition to differences in the average grade between the disciplines, there are differences in withdrawal rates, class sizes, use of non-tenure track faculty, and the average number of times that faculty members have taught a course. Table 1 also shows that the cumulative GPAs of the students enrolled in the Accounting program are on average higher than in the other programs.

Figure 1: Scatter Plot of Explanatory Variables



The relationships between the explanatory variables and CLASSGPA are plotted in a series of XY graphs in Figure 1, with trend lines superimposed. After reviewing the graphical relationships, we noted that some of the relationships appear to be nonlinear. Further complicating the analysis were multicollinearity issues, as many of the independent variables were linearly dependent to some degree. This analysis required us to go beyond simple OLS to measure those nonlinear relationships that appear in the data. Our final model uses linear regression spline functions to model the potentially nonlinear effects in CUMGPA, TOTALHRS, W%, TIMES and CLASSIZE suggested in Figure 1. Eubank (1988) provides a detailed explanation and discussion of regression spline functions, but the basic premise is to split the nonlinear variable into pieces and to then estimate the regression line for that particular variable in segments.

The final regression model is as follows:

$$\begin{aligned}CLASSGPA = {} & b_0 + b_1EXPER + b_2TIMES + b_{2.1}(TIMES - \kappa_2) + b_3NONTENURE + \\ & b_4CUMGPA + b_{4.1}(CUMGPA - \kappa_{4.1}) + b_{4.2}(CUMGPA - \kappa 4.2) + \\ & b_5TOTALHRS + b_{5.1}(TOTALHRS - \kappa_5) + b_6CLASSIZE + \\ & b_{6.1}(CLASSIZE - \kappa_6) + b_7FULL\% + B_8W\% + \\ & B_{8.1}(W\% - \kappa_8) + b_9LATEREGIST + b_{10}TREND + b_{11}ECON + \\ & b_{12}FINC + b_{13}LOGT + b_{14}MGNT + b_{15}MKTG + \epsilon\end{aligned}$$

where $(x)_+ = x$ if $x > 0$ and $(x)_+ = 0$ if $x \leq 0$. For example, the value for κ_2 is 26.89, so (TIMES – κ_2) would be zero if the value of the TIMES variable was 25 and would be 3.11 if the TIMES variable was 30 (30 – 26.89 = 3.11). The result is that a new slope is created for values above the κ values. These κ's are known as the *knots*. The linear spline function we used in this model is a special case of regression splines of degree p ($p \geq 1$), which is defined as a piecewise polynomial of degree p that is smoothly connected at its knots. In this study we used linear spline functions ($p = 1$) mainly because of the relatively simple functional forms suggested in Figure 1 and the interpretability of linear spline functions. In this study the knots are treated as parameters and estimated jointly with the regression coefficients. The estimated knots for these five variables are given in Table 2 and the estimated nonlinear effects are plotted in Figure 2.

Table 2: The Estimated Knots

Knot	Value
κ_{11} (TIMES)	26.89
κ_{12} (TOTHRS)	119.44
κ_{131} (GPA)	2.90
κ_{132} (GPA)	2.98
κ_{14} (SIZE)	45.56
κ_{15} (W)	0.052

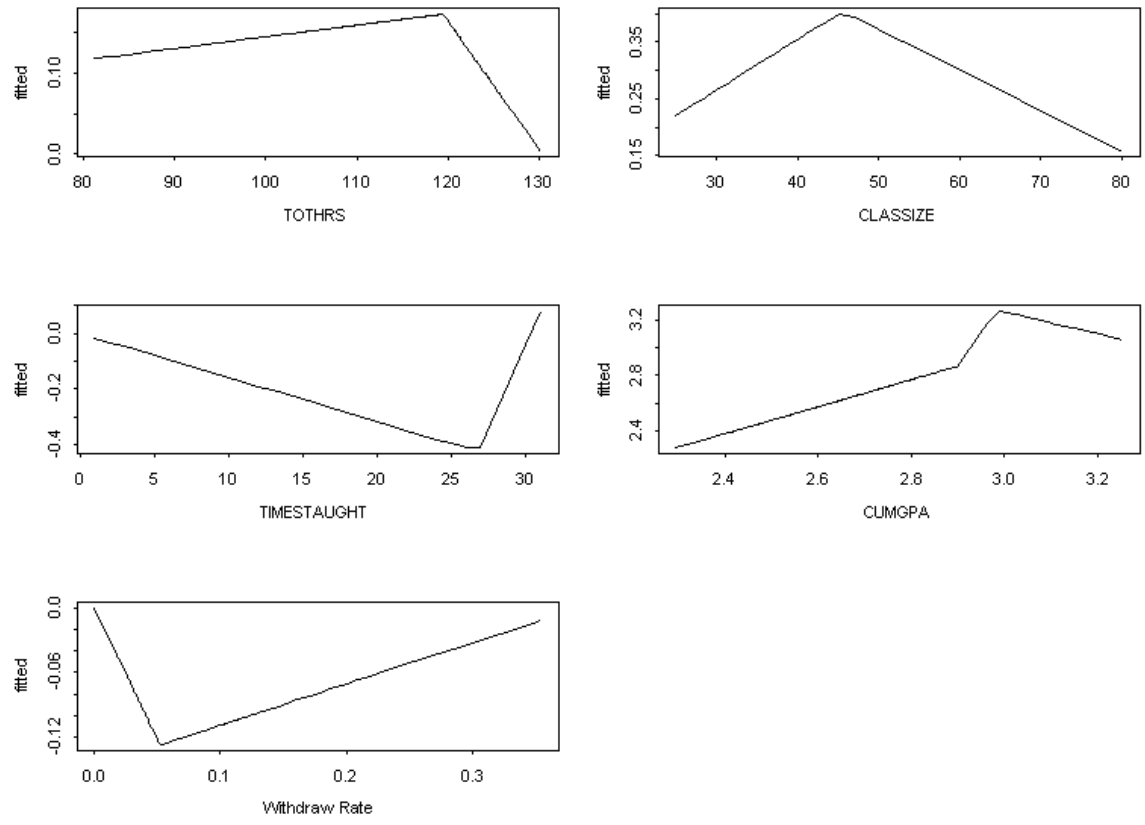
RESULTS

The regression results are provided in Table 3. The resulting residual standard error is 0.2926 and the multiple coefficient of determination is 0.5844. From Table 3 we can see that while many of the variables are statistically significant, others are not. It is well-observed that in practice, the explanatory variables in a multiple regression are usually correlated and the orthogonality assumption rarely holds exactly.

When violations of the basic regression assumptions are severe, the variability of the estimated coefficients will be inflated and the regression results may be misleading and inconsistent from one sample to the next. As a test of multicollinearity, we calculated the condition index and the variance-decomposition matrix. Our multicollinearity testing indicates that there are some potential multicollinearity problems with model. For more

details on the diagnostic procedure see Belsley, Kuh and Welsch (1980). The results of that analysis suggest that there are three possible linear dependencies, the first involves FULL%, CLASSIZE, and (CLASSIZE – κ_6), the second involves TOTALHRS, (TOTALHRS – κ_5) and CUMGPA, the third involves (CUMGPA – $\kappa_{4.2}$) and (CUMGPA – $\kappa_{4.2}$).

Figure 2: The Estimated Nonlinear Effects



We noted that some of the variables with interdependence such as FULL%, TOTALHRS and (TOTALHRS – κ_5), are statistically insignificant in the regression model. The practical effect of multicollinearity among these independent variables is that it may produce poor estimates of the individual model parameters. However, even if the individual parameter estimates are unstable, this does not mean that the full model is a poor predictor. The goal of this research is not so much to say that these variables are more or less predictive than those variables in explaining grade levels, but rather to identify which of the subdisciplines may have higher than average or lower than average predicted values, given all of the inputs. In that context, the multicollinearity issue here is relatively minor. The preferred cure for multicollinearity problems is to increase the number of observations, and over time we may be able to do so as more data becomes available.

The results show that the cumulative student GPA (CUMGPA) is a good baseline measure of student performance. Overall, the cumulative GPA is positively associated with class average GPA, but the effect is nonlinear. When CUMGPA is less than or equal to 2.90, the coefficient is very close to 1 (0.9890) as expected; when it is higher than 2.90, the effect increases from 0.99 to 4.86; however when CUMGPA is very high (higher than 2.98), the effect becomes slightly negative (-.79). This makes intuitive sense, because when the cumulative GPA is very high, generally it becomes difficult to maintain the class average GPA at the same high level.

There is a positive difference between non-tenure track faculty compared to tenured/tenure-track faculty, even after controlling for the other variables. The results show that the average class GPA is 0.155 points higher for the non-tenure track faculty than that of the courses taught by tenured/tenure-track faculty. The relatively heavier use of non-tenure track faculty in the Management area could explain some of the differences in average class grades observed in Table 1.

The effect of the withdrawal rate W% on CLASSGPA is nonlinear. When the withdrawal rate is 5.22% or lower, CLASSGPA decreases with the increase of the withdrawal rate (the coefficient of W% is -2.44). However, after the withdrawal rate reaches 5.22%, CLASSGPA starts to grow with withdrawal rate, as evidenced by the positive coefficient of (W%– κ_8) which is 2.83, meaning that the combined effect of W% and (W%– κ_8) is 0.39 at withdrawal rates over 5.22%. At first, it appeared counter-intuitive that the parameter estimate for W% was negative, but when combined with the nonlinear effect, it makes more sense. Our interpretation of this interesting observation is that the "normal" withdrawal rate, which is under five percent, generally reflects either the exit of the better students who decide to eliminate the course from their schedule or the retention of a higher percentage of lower-performing students. When the withdrawal rate becomes higher, though, the class GPA tends to increase, which is evidence of a weeding out process as more and more marginal students withdraw. However, we also note that Table 1 shows that the average withdrawal rates are materially different from discipline to discipline, and it might be that the true relationship is still partially obscured by multicollinearity problems.

The effect of the number of times the instructor taught the same course (TIMES) on CLASSGPA is nonlinear. When the instructor is relatively new to the course (taught 27 times or less), the models shows that CLASSGPA drops about 0.016 points for each additional time the instructor teaches the course. This observation supports prior research that shows a tightening of grading practices as an instructor gains experience. However, it is also interesting to note that the TIMES effect becomes positive when the instructor is very experienced at teaching the same course. Specifically, our data show that when the instructor has taught the course for more than 27 times, CLASSGPA increases about 0.12 points for each additional time the instructor teaches the class. One possible explanation for this is that, the more experience an instructor has, the more likely that s/he will do a good job in teaching the material and students are more likely to learn the subject better. However, another hypothesis that has been floated in the literature is that grade inflation may be associated with instructor burnout. We do not posit an explanation for the change, but simply note its presence in our data.

Table 3: Regression Results					
Source	DF	SS	MS	F-Value	P-value
Model	21	45.16	2.15	25.11	.000
Error	375	32.11	0.09		
Total	396	77.26			
Variable	Coefficient Estimate	Standard Error	t Value	P-value	
(Intercept)	-0.551	0.555	-0.99	0.3213	
TREND	0.002	0.007	0.22	0.8259	
EXPER	-0.027	0.025	-1.09	0.2785	
NONTENURE	0.155	0.044	3.55	0.0004	
ECON	0.038	0.098	0.39	0.6983	
FINC	0.095	0.066	1.45	0.1476	
LOGT	0.397	0.079	5.02	0.0000	
MGNT	0.562	0.072	7.81	0.0000	
MKTG	0.758	0.064	11.81	0.0000	
PCTFULL	-0.064	0.143	-0.45	0.6563	
LATEREG	0.039	0.166	0.23	0.8155	
TOTHRS	0.001	0.003	0.51	0.6070	
TOTHRSk	-0.017	0.010	-1.72	0.0868	
TIMES	-0.016	0.003	-6.36	0.0000	
TIMESk	0.140	0.047	2.96	0.0033	
SIZE	0.009	0.003	2.64	0.0087	
SIZEk	-0.016	0.006	-2.61	0.0095	
GPA	0.989	0.157	6.28	0.0000	
GPAk1	3.873	1.518	2.55	0.0111	
GPAk2	-5.654	2.086	-2.71	0.0070	
W1	-2.442	0.880	-2.78	0.0058	
Wk	2.827	1.075	2.63	0.0089	

The relationship between class size and class GPA is positive up to about 46 students, and then becomes negative at sizes greater than that. This effect is counter-intuitive, for we thought that as the class size increases, students receive less attention from the instructor so the class GPA is expected to be lower. The multicollinearity issues mentioned before and the interaction with the FULL% variable, which was statistically insignificant, may be to blame. Although we did note an increase in class GPA as TOTALHRS increased, the results were not

statistically significant. Therefore, while the theory may sound great, the statistical evidence does not support the idea that instructors go easier on graduating seniors.

The absence of a grade inflation trend is also interesting. The average SAT for students at this university has been increasing in the past a few years, but our analysis shows no discernible trend in grades. One plausible explanation is that instructors tend to subconsciously "curve" their grades to meet historical norms. Another explanation is that the marginal effects are too small to be reflected in the limited data that we have to work with. Yet another interpretation is that, even though the demographics appear to be changing, the standards do not.

Finally, we note that the average grades in Logistics, Management and Marketing are statistically significantly higher than the average grades in Accounting, even after making corrections for student abilities and for instructor experience. Economics and Finance are not statistically significantly different. Interestingly, while the simple mean difference between Accounting and Marketing average GPAs shown in Table 1 are 0.50 points different, the regression results show that after making these corrects, the difference is even greater (0.76 points). The differences observed in the regression model between Accounting and Logistics and Accounting and Management are also higher than the differences in means shown in Table 1. While it can be argued that Accounting is a tougher discipline, we also note that the average GPA of the students in Accounting is higher to begin with. Arguably, the weeding out process has already produced higher caliber students in Accounting, yet the average grades do not reflect that, on a relative basis to some of the other disciplines. We do not conclude that they are too high and we do not conclude that they are too low, but we do conclude that they are different, and the reason for the difference is an area for further exploration.

CONCLUSIONS

The results that we report here are of course specific to this institution. However, the research method that we used can be readily applied to any university or college. This type of research is important because it gives more insight into the grading practices among disciplines in business school. That insight is important because the students are competing for honors, rewards, scholarships, and financial success in their careers after college and simple grade inflation in one discipline can unfairly disadvantages students in the other disciplines. By the same token, if there is simple grade deflation, that can also unfairly disadvantage students in one discipline relative to another.

Our study found systematic differences in the average grades given in different disciplines, even after controlling for student variables and instructor variables. We found that the average class grades are higher in the Management, Marketing and Logistics disciplines than in the Accounting, Economics and Finance disciplines, even after controlling for a number of specific factors. Perhaps these disciplines are staffed with better teachers, perhaps they simply give higher grades, or perhaps there is some other explanation. The "why" is an important question, but not one that can be answered here. The purpose of this research is to present a method for identifying differences between disciplines, not to make value judgments on those differences.

If grade inflation in a particular discipline is warranted (i.e., the grades are higher because the teachers are better) then that should be recognized and rewarded. Nothing in this study really measures the degree to which learning takes place, only the relative level of instructor evaluation of that level of learning. The presence of systematic grading differences between disciplines is something that the faculty as a whole should be aware of, because it then leads to better evaluation of the reasons behind these differences. If the grade inflation is attributable to lax standards, then there should be some kind of correction made. If the grade inflation is

attributable to higher standards and higher quality instruction, though, the reason for that success and the methodology employed to achieve it should be shared with the other disciplines.

Self-examination of grades and grading practices is a vital aspect of faculty governance. Grading practices are one component of the annual evaluation of faculty and departments. Unexplained grade inflation in one discipline is unfair to the students in the other disciplines and may create perverse incentives for students to choose majors that have inflated grading. Excessive compression may also result in students losing out on opportunities for scholarships, grants, and graduate school appointments. Students are not in a position to fully understand quality differences between majors and must rely on the university community to guide and advise them in these matters. While we do not advocate either inflation or compression, we do advocate that faculty practice self-examination on a continuous basis, and look at not only themselves but also at their colleagues. College teaching is, after all, a team sport.

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DO ONLINE STUDENTS MAKE THE GRADE ON THE BUSINESS MAJOR FIELD ETS EXAM?

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ABSTRACT

This paper examines the determinants of performance on the business major field achievement ETS exam with a focus on the impact of students taking multiple business courses in the online environment. The sample consists of 136 students at a midsized regional institution located in the Southwestern region of the United States. The empirical model employed controls for grade point average, standardized test scores (SAT/ACT), junior college transfer students, gender, and student motivation. The results indicate that students completing multiple business courses in the online environment scored six percentile points lower on the ETS exam but the coefficient is not statistically significant.

INTRODUCTION

Assessment is an explicit obligation of modern academic programs. The Educational Testing Service's (ETS) exam in business is an external standardized measure of assessment widely used to assess undergraduate business programs. Standardized exams like the ETS business exam offer a convenient tool for benchmarking student general knowledge compared to students at other schools. Evidence supporting the correlation between ETS scores and a student's actual business knowledge is limited but is widely employed as a tool for analysis. The purpose of this paper is to evaluate the determinants of student performance on the ETS major field achievement exam with a focus on students taking multiple business courses in the online environment. There is little or no literature examining the impact of online courses on student performance on the ETS exam despite the fact that online and hybrid instruction have become ubiquitous throughout many college campuses during the last decade. The results of this study are derived at a public university located in the Southwestern part of the United States. The institution is mid-sized with a total enrollment of approximately 7,500 total students, 1,000 undergraduate business students, and 350 graduate business students.

The organization of the manuscript is as follows: First, a brief literature review is put forth. The second section of the manuscript describes the data and model. The next section offers empirical results for the determinants of performance on the ETS exam. The final section offers conclusions and implications.

LITERATURE REVIEW

A vast amount of research exists on the determinants of student performance on the ETS exam. Mirchandani, Lynch, and Hamilton (2001) find that two types of variables are related to student performance on the ETS exam: input variables (SAT scores, transfer GPA, and gender) and process variables (grades in quantitative courses). They conclude that the SAT score is a dominant variable explaining most of the variation in ETS exam scores, although other variables including GPA and gender are also statistically significant. Black and Duhon (2003) employ a large sample of 297 students to determine student performance on the ETS exam. Their regression model reveals that GPA, ACT score, gender, and major are significant determinants of performance on the ETS exam. Bagamery, Lasik, and Nixon (2005) find gender, whether students took the SAT, and grades to be significant determinants of the ETS exam, while location, age, transfer status, and major are not significant. Bycio and Allen (2007) contribute to the literature by showing that, in addition to GPA and SAT scores, student motivation is an important determinant of performance on the ETS exam. Terry, Mills, and Sollosy (2008) find that student motivation to perform at a high-level on the ETS exam is significantly influenced by including the exam score as ten or twenty percent of the final grade in a business capstone course.

Course formats in business schools today are driven by both student demand and the desire of schools to use resources in efficient ways. Attracting students from broader areas is one of the reasons for the expansion of online course delivery. The nature of course format could impact ETS scores if one instruction mode is inherently inferior to another. Three frequently used course formats include the traditional campus courses, online courses, and newer hybrid courses. Hybrid courses are taught using a mode of instruction that combines some of the inherent features of online (e.g., time independence) and campus (e.g., personal interaction) environments (Terry, 2007).

Online course offerings in postsecondary schools are growing rapidly. Postsecondary institutions offering online courses include both traditional institutions and institutions founded to offer only online courses. An example of a postsecondary institution founded to offer only online courses is Capella University. Founded in 1993, Capella currently has over 19,900 adult learners enrolled in online courses. According to the U.S. Department of Education, 90 percent of degree-granting postsecondary institutions offered asynchronous Internet courses in 2001 (National Center for Education Statistics, 2001). Both the numbers of postsecondary schools offering online courses and the numbers of students enrolling in online courses are increasing. Jeff Seaman (2007), chief information officer and survey director of the Sloan Consortium states, "There were nearly 3.2 million students taking at least one course online this past fall, up from 2.3 million just last year." According to *Online Nation: Five Years of Growth in Online Learning* (Allen & Seaman, 2007) the growth rate of 9.7 percent for online enrollments far exceeds the growth rate of 1.5 percent for the overall higher education student population. (Allen & Seaman, 2007) Brown and Corkill (2007) indicate that almost two-thirds of colleges and universities that offer face-to-face courses also are providing graduate courses via the online environment.

As the numbers of students enrolled in online instruction have increased, researchers have debated the effectiveness of online instruction (Bowman, 2003; Fann & Lewis, 2001; Fortune, Shifflett & Sibley, 2006; Gayton & McEwen, 2007; Jennings & Bayless, 2003; Lezberg, 1998; Marks, Sibley & Arbaugh, 2005; Okula, 1999; Robles & Braathen, 2002; Terry, 2000; Worley & Dyrud, 2003). Interest in the effectiveness of online instruction as a component of overall program effectiveness has been driven by the federal government through requirements of regional accrediting agencies, an international accreditation association for schools of business, universities where schools of business are housed and varied individual stakeholders. As individual college CEOs

examine the role of online learning in meeting a college's strategic needs, assurance of its effectiveness in the creation of genuine learning is a critical factor to be considered (Ebersole, 2008). While the need for assessment is not new, the focus of assessment as illustrated by the Association to Advance Collegiate Schools of Business (AACSB) International has clearly intensified (Pringle & Michel, 2007).

All collegiate business programs are tasked with the ongoing need for assessment (Bagamery, Lasik & Nixon, 2005; Martell & Calderon, 2005; Trapnell, 2005). It is important that assessment for online education be viewed as a system that involves more than just testing and evaluation of students (Robles & Braathen, 2002). Traditionally, accrediting bodies were focusing primarily on input measures (Peach, Mukherjee & Hornyak, 2007). Input measures could reflect characteristics of the students who attended the business program (Mirchandani, Lynch & Hamilton, 2001) or organizational factors such as the institution's reputation, faculty-student ratio, or number of faculty with terminal degrees (Peach, Mukherjee & Hornyak, 2007). For collegiate business programs aspiring to meet or maintain the standards of accreditation established by AACSB, this requires the schools of business have program learning goals and utilize direct measures that reflect student demonstration of achievement of these goals (Martell, 2007; Pringle & Michel, 2007). As schools of business have developed and rapidly expanded their online course enrollments, assuring that student learning in the online format is at least equivalent to the level of learning taking place in traditional classroom courses could be a useful component of meeting assessment requirements.

DATA AND MODEL

The purpose of this section is to develop an empirical model that can test student performance on the ETS exam. Davisson and Bonello (1976) propose an empirical research taxonomy in which they specify the categories of inputs for the production function of learning. These categories are human capital (admission exam score, GPA, discipline major), utilization rate (study time), and technology (lectures, classroom demonstrations). Using this taxonomy, Becker (1983) demonstrates that a simple production function can be generated which may be reduced to an estimable equation. While his model is somewhat simplistic, it has the advantage of being both parsimonious and testable. A number of problems may arise from this research approach (Chizmar & Spencer, 1980; Becker, 1983). Among these are errors in measurement and multicollinearity associated with demographic data. Despite these potential problems, there must be some starting point for empirical research into the process by which business knowledge is learned.

The choice as to what demographic variables to include in the model presents several difficulties. A parsimonious model is specified in order to avoid potential multicollinearity problems. While other authors have found a significant relationship between race or age and learning (Siegfried & Fels, 1979; Hirschfeld, Moore, & Brown, 1995), the terms are not significant in this study. A number of specifications are considered using race, age, work experience, and concurrent hours in various combinations. Inclusion of these variables into the model affected the standard errors of the coefficients but not the value of the remaining coefficients. For this reason they are not included in the model. University academic records are the source of admission and demographic information because of the potential biases identified in self-reported data (Maxwell & Lopus, 1994).

The model developed to analyze student learning relies on a production view of student learning. Assume that the production function of learning business concepts via the ETS exam can be represented by a production function of the form:

$$(1)\ Y_i = f(A_i, E_i, D_i, X_i),$$

where Y measures the degree to which a student learns, A is information about the student's native ability, E is information about the student's effort, D is a [0, 1] dummy variable indicating demonstration method or mode, and X is a vector of demographic information. As noted above, this can be reduced to an estimable equation. The specific model used in this study is presented as follows:

$$(2)\ SCORE_i = B_0 + B_1ABILITY_i + B_2GPA_i + B_3NET_i + B_4TRANSFER_i + B_5FOREIGN_i + B_6GENDER_i + B_7GR10_i + B_8GR20_i + u_i.$$

The dependent variable used in measuring effectiveness of student performance is percentile score (SCORE) on the ETS exam. Descriptive statistics of all variables employed in the model are presented in Table 1. The ETS exam is administered to senior business students in the research cohort enrolled in the undergraduate capstone strategic management course. The mean percentile score for the research cohort is the 48.49 percentile with a standard deviation of 28.07. The ETS score at a mean of approximately the 50th percentile combined with a large standard deviation of both very good and relatively poor student performances yields a research cohort that is very representative of a typical regional business program.

Table 1: Summary Statistics

Variable	Mean	Standard Dev.
SCORE	48.49	28.07
ABILITY	21.04	4.31
GPA	2.97	0.49
NET	0.43	0.49
TRANSFER	0.47	0.50
FOREIGN	0.08	0.27
GENDER	0.50	0.50
GR10	0.19	0.39
GR20	0.22	0.42

The student's academic ability (ABILITY) is based on the ACT entrance exam or SAT converted to ACT equivalency. The average ACT score for the research cohort is 21.04 (equivalent to 1020 on the math/reading SAT or 1550 on the 2400-point SAT). The ABILITY variable via the ACT exam is used as a proxy of student innate ability before entering the university. Student ability as measured by the ACT exam is expected to have a positive impact on ETS score.

Grade point average (GPA) is included in model based on previous research indicating that grade point average is one of the primary positive determinants of student performance on the ETS exam. Student grade point average in the study for the cohort is 2.96 with a standard deviation of approximately half a grade at 0.49.

Student enrollment in more than one online business course during the academic program before taking the ETS exam is noted by the categorical variables NET. The business program in the research study does not offer a complete undergraduate business degree online but does offer ad hoc courses via the online instruction mode. Forty-three percent of the students in the research cohort completed multiple business courses via online instruction. The NET variable is expected to have a negative impact on ETS scores given the online environment is still developing as an instructional mode relative to the traditional chalk and talk of the classroom.

The variable TRANSFER is included in the model as a demographic variable controlling for students that completed at least twenty-five percent of their undergraduate education at an another institution. Over forty-five percent of the students in the research cohort are classified as transfer students with the majority transferring from a junior college. The transfer variable is expected to have a negative impact on ETS score as business core classes in economics, accounting, and business law at a junior college are not expected to meet the rigor of the courses at a university.

The demographic variable FOREIGN is included in the study to separate international students from domestic students. International students are often recruited to diversify the campus environment and raise the level of academic standards via performance on standardized entrance examinations like the ACT or SAT. International students often face unique language, psychic, and cultural challenges that might negate some of their innate ability and work ethic. Eight percent of the research cohort is classified as a foreign student.

The variable GENDER is included in the model based on the finding of previous researchers (Bagamery, Lasik & Nixon, 2005; Black and Duhon, 2003; Mirchandani, Lynch & Hamilton, 2001) that male student performance on the ETS exam is higher than female. The research cohort for this study is evenly divided between males and females.

The model includes the two student motivation variables, GR10 and GR20, where GR10 represents the case where percentage score on the ETS exam counts ten percent of the course grade in the business capstone course and GR20 applies percentage score on the ETS exam to twenty percent of the capstone course grade. The effort to tie student performance on the ETS grade as a motivator is consistent with Allen and Bycio (1997), but adds the wrinkle of comparing multiple levels of grading application at both the ten and twenty percent levels. Bycio and Allen (2007) provide nominal evidence that student motivation is an important determinant of performance on the ETS exam but their measure is based on a 4-point scale employing self-reported data without including a test group versus control group for a course grade application.

RESULTS

Results from the ordinary least squares estimation of equation (2) are presented in this section and Table 2. The sample cohort is derived from students taking the ETS exam from 2003-2007. The total usable sample size is 136, with 84 students eliminated from the global sample of 220 because of incomplete information, usually relating to the lack of ACT/SAT scores (Douglas & Joseph, 1995). None of the independent variables in the model have a correlation higher than .62, providing evidence that the model specification does not suffer from excessive multicollinearity. The equation (2) model explains over 46 percent of the variance in performance on the ETS exam. Four of the eight independent variables in the model are statistically significant.

Two of the statistically significant variables are ABILITY and GPA. The empirical results imply that student score on the ETS exam are directly related to academic ability measured by the ACT college entrance exam and academic performance measured by college grade point average. The statistically significant impact

of standardized entrance exam scores and grade point average is consistent with previous research. The significance of the ABILITY variable could simply be based on the observation that students with innate academic ability for standardized exams perform at a relatively high level on the ETS exam. The results relating to the ACT exam are somewhat tempered by the observation that 38% of the students in the initial sample were eliminated primarily for not having an official ACT/SAT score posted with the university. The positive and significant impact of GPA on ETS exam score is anticipated as students with high grades are more likely to learn and retain core business information than students with a relatively low grade point average. Consistent with Mirchandani et al. (2001), overall GPA has a strong internal validity and provides a measure of student performance related to the curriculum of the school.

Table 2: Determinants of ETS Performance

Variable	Coefficient (t-statistic)
Intercept	-87.304 (4.98)*
ABILITY	3.178 (4.71)*
GPA	19.320 (3.28)*
NET	-6.009 (-1.32)
TRANSFER	4.273 (0.86)
FOREIGN	4.981 (0.55)
GENDER	-0.269 (-0.06)
GR10	12.9111 (2.02)*
GR20	18.105 (3.17)*
R Square	0.466
F-Value	13.85
Notes: *p<.05 and n = 136.	

The most interesting result from the study revolves around the variable NET. Holding constant ability, grades, student motivation, and demographic considerations, students completing multiple business courses via the Internet (NET) format scored six percent lower on the ETS exam but the result is not statistically significant (t-stat of-1.32). The insignificant statistical result implies the online instruction mode produces a learning environment that is fairly equivalent to the traditional campus environment. Recent advances in online instruction tools that make it relatively easy to utilize streaming video, narrated graphic illustrations, and related communication instruments have narrowed the quality gap between the campus and online learning environments. It should be noted that the lowest ETS scores for students in the online mode were observed in the first two years of the data set, providing anecdotal evidence for the hypothesis that recent technological advances have improved the quality of the online learning environment.

The three demographic variables in the model are not statistically significant. The TRANSFER variable yielded a surprisingly positive coefficient but the variable is not statistically significant (t-stat of 0.86). There appears to be little difference in performance on the ETS exam for transfer students versus native students. The demographic variable controlling for foreign student performance is positive, with international students scoring five percentile points higher on the ETS exam than domestic students, but not statistically significant. The statistical insignificance of the FOREIGN variable is consistent with the existing literature. The GENDER coefficient associated with males is negative but highly insignificant. Unlike previous research, the results of this study do not find any evidence of a gender differential with respect to performance on the ETS exam.

The two student motivation variables are both positive and statistically significant. The results provide evidence that students are motivated to study and put forth effort on the ETS exam when scores are applied to the capstone course grade. A ten percent application to capstone course grade results in a 12.91 increase in the ETS percentile score and a twenty percent application to course grade results in an 18.1 percentile score increase. The results clearly indicate a significant student response to the grade motivator but might be somewhat unique to this research cohort based on the middling mean ETS score and large standard deviation. It is a mathematical improbability that a research cohort comprised of students with average ETS scores well above the 50th percentile would have an equivalent result. The positive and significant result is primarily applicable to programs that struggle at or below the 50th percentile on the ETS exam and need to employ a tangible incentive in order to get students to explicitly put forth a significant and serious effort on the ETS exam instead of simply treating it as a required task with little or no direct benefits or penalties (Allen & Bycio, 1997). The results also imply that a ten percent grade incentive is strong enough to motivate students to put forth significant effort, although the twenty percent grade incentive does yield a coefficient that is five percentile points larger. The determination of a ten or twenty percent grade motivator should probably be at the discretion of the course instructor for the capstone course given that both are significant.

CONCLUSION

This study examines the determinants of student performance on the ETS business exam at a regional university. Consistent with previous research, the results find that academic ability measured by the college entrance exam and student grade point average are the primary determinants of student performance on the ETS exam. The empirical results indicate that counting performance on the ETS in a range of ten to twenty percent as part of the capstone course grade significantly increases performance on the ETS exam. Gender, transfer student status, completing courses online, and international student classification do not appear to have an impact on student ETS exam performance. The statistically insignificant result associated with the completion of multiple business courses in the online instruction mode is particularly interesting as a continuation of the literature examining the effectiveness of online instruction.

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READABILITY OF INTRODUCTORY FINANCIAL AND MANAGERIAL ACCOUNTING TEXTBOOKS

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ABSTRACT

Selecting a textbook for use in introductory accounting courses can be a challenging task for faculty. Many criteria may be considered in such decisions, including a textbook's readability level. Using a widely-used readability index, this study analyzes the readability of seven introductory financial and managerial accounting texts. T-tests are performed to determine whether significant differences exist between the textbooks. The study finds that one text is clearly more readable than all of the others. Another text is less readable than almost all of the other texts. These findings can be useful to adopters and editors of introductory financial and managerial accounting textbooks.

INTRODUCTION

Selecting a textbook for use in introductory accounting courses can be a weighty and challenging task for faculty. Since business and accounting majors and minors generally must take the introductory accounting course sequence, a large number of students are impacted by their decision. But the text selection process is complicated by the large number of text attributes for faculty to consider. Such attributes may include: a text's pedagogical approach; coverage of material; exhibits, charts, and vignettes; end-of-chapter material; student and instructor supplements; authors' reputations; and, instructors' past experiences with the text. Faculty may also wish to consider a text's *readability*.

Readability may be defined as the degree to which a class of people finds certain reading matter compelling and comprehensible (McLaughlin, 1969). "Readability" should not be confused with "legibility," which refers to the ease of being read. Readability, in this context, refers to the qualities of writing which are related to reader comprehension. A variety of techniques have been used to predict readability, including several readability indexes (or formulas) which have been used widely since the 1950s.

Information on readability can be helpful to faculty when making textbook adoption decisions. One of the criteria to which faculty attach the most significance in those decisions is textbook comprehensibility (Smith & DeRidder, 1997), which can be predicted, at least in part, using a readability index. The adoption decision also affects students. Research (using a readability index) indicates that the less readable a textbook used in a core business course (including introductory accounting), the lower the grade average in that course (Spinks & Wells, 1993).

LITERATURE REVIEW

Little study of the readability of accounting texts has been undertaken over the last 25 years; only six such studies were identified. Three of the studies, Razek et al. (1982), Adelberg and Razek (1984), and Flory et al. (1992), concerned intermediate and/or advanced accounting texts. The other three studies, Traugh et al. (1987), Sullivan and Benke (1997), and Davidson (2005), concerned (at least in part) introductory accounting texts.

The Traugh study analyzed accounting principles texts (the traditional introductory text of the period) and found no significant differences in the readability level of the textbooks considered. Sullivan compared introductory financial accounting textbooks in terms of attributes (e.g., teaching aids and supplements), readability, and philosophy/approach. Davidson considered the long-term trends of the readability of accounting textbooks, including that of 50 introductory books published over the past 100 years.

Since the Davidson study investigated trends over many years, it did not compare the readability of individual texts. The Sullivan study was limited to introductory *financial* accounting texts. Traugh investigated principles of accounting texts (which include financial *and managerial* accounting), but the most recent textbook included in that study was published over 20 years ago. Since the most recent readability study of individual introductory accounting textbooks is now 10 years old (and included only financial accounting texts), and since the most recent analysis of introductory financial and managerial ("principles of accounting") texts is now 20 years old, an update of the readability of introductory accounting texts appears to be in order.

METHODS

In the typical first-year introductory accounting course sequence, the apparent trend in the last 20 years has been away from the use of a traditional principles of accounting text (⅔ financial, ⅓ managerial) and toward the financial and managerial accounting text (½ financial, ½ managerial). Given that trend, this study focuses on the readability of introductory financial and managerial accounting textbooks.

One of the six accounting textbook readability studies completed in the last twenty-five years (Adelberg, 1984) used the Cloze Procedure. That procedure gauges readability by deleting every fifth word from passages, then measuring the reader's ability to restore the passages to their original form. The remaining five studies used readability indexes, specifically the Fog Index, Flesch-Kincaid Grade Level, or Flesch Reading Ease.

Choice of Readability Index

This study uses the Flesch-Kincaid Grade Level for several reasons. Four of the six past studies used one of the Flesch measures. In addition, the most recent comparison of introductory accounting texts (financial only), conducted by Sullivan in 1997, used the Flesch-Kincaid measure. Finally, since the Flesch-Kincaid index can be easily generated using word processing software, a large amount of text can be readily analyzed with results that are objective and easily replicated.

Flesch-Kincaid Index

The Flesch-Kincaid Grade Level has its roots in the Flesch Reading Ease formula developed in 1948 by Rudolf Flesch. In 1975, J. Peter Kincaid tested over 500 enlisted United States (U.S.) Navy personnel on a

reading-comprehension test and also on passages from Navy training manuals. This enabled him to derive a version of the Flesch Reading Ease formula which yielded reading grade-level scores. The resulting Flesch-Kincaid Grade Level has since been adopted by the U.S. military services as the basis for deciding whether technical manuals from suppliers meet their readability requirements (Pearson, 2002). The Flesch-Kincaid index is now one of the leading readability indexes. It is used extensively by the U.S. government and others, and it is included as a grammar-checking feature in the word processing software, Microsoft Word (MS-Word).

The Flesch-Kincaid Grade Level formula is based upon sentence length and word length. It rates text on a U.S. school grade level. For example, a score of 11.0 means that an eleventh grader can understand the document. The formula is:

$$(0.39 \times ASL) + (11.8 \times ASW) - 15.59$$

where:

ASL = average sentence length (the number of words divided by the number of sentences)
ASW = average number of syllables per word (the number of syllables divided by the number of words)
(Pearson, 2002)

This study uses MS-Word to calculate the Flesch-Kincaid Grade Level of select passages. The formula used by MS-Word is confirmed by agreeing the formula above to that specified in the MS-Word help file. The MS-Word calculation is then validated by manually applying the formula above to a 200-word passage and agreeing the result to that provided by the grammar-checking function in MS-Word.

Selection and Adaptation of Text Passages

An exhaustive search of introductory financial and managerial accounting textbooks currently being published in English by major publishers yields seven such books. They are listed in Table 1, along with each textbook's particulars. Three chapters each are selected for testing from the financial and managerial accounting sections of those texts (for a total of six chapters per text). The financial accounting chapters (topics) targeted are those covering: the introduction; business income (adjusting process); and, plant and intangible (long-term) assets. The managerial accounting chapters tested are those covering: the introduction; job order costing; and, master (operational) budgeting. This approach provides passages for analysis from throughout the texts, covering about 24 percent of each text (based upon an average of 25 chapters per text). The amount of text material thereby tested far exceeds that of any previous study of accounting textbook readability.

Digital (computer) files of each of the six target chapters of each textbook are obtained from their publishers. All files are then converted or imported into MS-Word for analysis. The selection of material for testing is driven by the topics rather than by the chapter. Each of the six topics generally appears in a chapter of its own; when it does not, only the target material is tested. For example, if a chapter includes job order *and* process costing, only the job order costing material is tested.

Table 1: Introductory Financial/Managerial Accounting Textbooks Tested

Authors	Edmonds/Edmonds/ Olds/McNair/ Tsay/ Schneider	Horngren/ Harrison	Kimmel/ Weygandt/ Kieso	Needles/ Powers/ Crosson	Warren/ Reeve	Wild/ Chiappetta	Williams/Haka/ Bettner/ Carcello
Title	Fundamental Financial and Managerial Accounting Concepts	Financial & Managerial Accounting	Accounting: Tools for Business Decision Making	Financial and Managerial Accounting	Financial & Managerial Accounting	Financial and Managerial Accounting	Financial & Managerial Accounting
Edition	1e	1e	2e	8e	9e	2e	14e
Year	2007	2008	2008	2008	2007	2007	2008
Publisher	McGraw-Hill	Prentice-Hall	Wiley	Houghton Mifflin	South-Western	McGraw-Hill	McGraw-Hill
ISBN	978-0-07-284600-3	978-0-13-156877-8	978-0-470-08744-2	978-0-618-77717-4	978-0-324-40188-2	978-0-07-352668-3	978-0-07-299650-0
Chapter Numbers Tested:							
Introduction to Financial Accounting	1	1	1	1	1	1	1
Business Income (Adjusting Process)	3	3	4	3	3	3	4
Plant & Intangible (Long-Term) Assets	8	9	9	9	9	8	9
Introduction to Managerial Accounting	14	16	14	15	16	14	16
Job Order Costing	18	17	15	17	17	15	17
Master (Operational) Budgeting	21	23	20	20	21	20	23

Only the sentences in the body of the chapters are subjected to testing. Appendices are excluded. Since the Flesch-Kincaid formula only tests sentences, all material in figures, exhibits, and headings is omitted from testing. Since material in graphics and vignettes cannot be readily converted to plain text by word-processing

software, it is also omitted. End-of-chapter material (e.g., vocabulary, review, problems) is omitted as well, since it is largely quantitative/tabular in appearance and does not match the textual nature of the Flesch-Kincaid index.

When a colon appears at the end of a sentence, it is replaced with a period when the sentence is originally followed by a calculation, journal entry, list, or figure. This is necessary because, in the Flesch-Kincaid calculation, MS-Word does not recognize a colon as the end of a sentence. Since calculations, journal entries, lists, and figures are removed from the text, a sentence with a colon preceding a list, for example, would have been combined with the one following the list, thereby inflating the length of the sentence. In that case, replacing the colon with a period "ends" the sentence before the list. Colons appearing in sentences that eventually ended in a period are unchanged.

After converting, importing and pruning all files, the spelling and grammar function in MS-Word is applied to all files to correct occasional errors that arise and then to obtain the Flesch-Kincaid Grade Level. The text matter in each target chapter is not just sampled; the entire text matter of each of the six target chapters of each textbook is subjected to the Flesch-Kincaid calculation.

RESULTS

Comparison of Textbooks by Chapter

Table 2 shows the Flesch-Kincaid Grade Levels for the six target chapters in each of the textbooks. Mean grade levels of the three financial accounting chapters and the three managerial accounting chapters, as well as the overall mean, are also shown. Since the grade level indicates the U.S. school grade level required to understand a text passage, the lower the grade level the more readable the chapter.

Table 2: Computed Flesch-Kincaid Grade Levels of Textbook Chapters

	Textbook (Author, et al.):						
Chapter Content:	Edmonds	Horngren	Kimmel	Needles	Warren	Wild	Williams
Introduction to Financial Accounting	12.3	10.5	11.9	12.8	12.2	12.2	15.3
Business Income (Adjusting Process)	11.5	9.8	12.5	12.1	12.1	12.5	12.9
Plant & Intangible (Long-Term) Assets	12.8	10.2	12.3	12.5	12.1	12.4	13.0
Introduction to Managerial Accounting	13.5	11.6	12.9	13.2	13.8	13.6	14.0
Job Order Costing	12.4	11.5	11.8	13.2	12.1	12.9	13.8
Master (Operational) Budgeting	12.7	12.2	12.3	14.3	12.9	13.6	13.6
Financial Accounting Section Mean (of first 3 chapters above)	12.2	10.2	12.2	12.5	12.1	12.4	13.7
Managerial Accounting Section Mean (of last 3 chapters above)	12.9	11.8	12.3	13.6	12.9	13.4	13.8
Overall Mean (of all 6 chapters above)	12.5	11.0	12.3	13.0	12.5	12.9	13.8

The Horngren textbook is the most readable (has the lowest grade level) for all six chapters tested. For the *Introduction to Financial Accounting* chapter, the Horngren text has a grade level of 10.5, compared to a range of 11.9 to 15.3 for the other texts. For the *Business Income* chapter, it has a grade level of 9.8 (11.5 to 12.9 for the others). For the *Plant and Intangible Assets* chapter, it has a grade level of 10.2 (12.1 to 13.0 for the others). For the *Introduction to Managerial Accounting* chapter, it has a grade level of 11.6 (12.9 to 14.0 for the others). For the *Job Order Costing* chapter, it has a grade level of 11.5 (11.8 to 13.8 for the others). Lastly, for the *Master Budgeting* chapter, it has a grade level of 12.2 (12.3 to 14.3 for the others).

Conversely, the Williams text is the least readable (has the highest grade level) for five of the six chapters tested. It has grade levels of 15.3, 12.9, 13.0, 14.0, and 13.8 for the *Financial Introduction*, *Business Income*, *Plant Assets*, *Managerial Introduction*, and *Job Order* chapters, respectively. The range of grade levels for those chapters for the other texts are 10.5 to 12.8, 9.8 to 12.5, 10.2 to 12.8, 11.6 to 13.8, and 11.5 to 13.2, respectively. The only chapter for which the Williams text is not the highest grade level is the *Budgeting* chapter. It is tied with the Wild text for the second highest grade level (13.6) for that chapter.

The Kimmel text was the second most readable text, with the second lowest grade level for four of the six chapters tested. The Kimmel text had the second lowest grade level for the *Financial Introduction*, *Managerial Introduction*, *Job Order*, and *Budgeting* chapters with grade levels of 11.9, 12.9, 11.8, and 12.3, respectively. The four remaining texts, Edmonds, Needles, Warren, and Wild, have grade levels that generally represent a middle-ground between Horngren and Kimmel at one end (most readable) and Williams at the other end (least readable).

An interesting observation concerns the financial versus managerial accounting sections of each text. For all seven texts, the mean of the managerial accounting section exceeds the mean of the financial accounting section. Since every textbook has at least two authors, a possible explanation is different writing styles of the authors of the two sections of the book. Another explanation may relate to the academic rigor of the material, since the financial accounting section appears in the first half of the book and covers what might arguably be considered less challenging material than that of the managerial accounting section.

Overall Comparison of Textbooks

While the entire text of each target chapter is tested, those results constitute sample passages relative to the text overall. Therefore, t-tests are performed to determine whether significant differences exist between the textbooks overall. Independent-samples t-tests are performed on the sample means, without assuming equality of variances. Table 3 shows the p-values of differences between the overall grade level means of each textbook. The Horngren text is clearly the most readable text. Its mean grade level (11.0) is significantly lower than all of the other texts (at the .01 level for five of those texts; at the .05 level for the sixth). The Williams text, with a mean of 13.8, is the least readable text, since it is significantly higher than five of the other six texts (at the .01 level for two of them, the .05 level for another two, and the .10 level for one other).

Ignoring the most and least readable texts, Horngren and Williams, respectively: The Edmonds and Warren texts each are not significantly different from each of the other texts. The Kimmel text is not significantly different from two of the other texts, but its mean grade level is significantly lower (at the .10 level) than the Needles and Wild texts. The lower grade level means that the Kimmel text is more readable than the Needles and Wild texts.

Table 3: T-Test Results: P-Values of Differences Between Overall Textbook Grade Level Means							
Textbook Author, et al. (Mean)							
Edmonds (12.5)							
Horngren (11.0)	.008***						
Kimmel (12.3)	.450	.016**					
Needles (13.0)	.266	.002***	.071*				
Warren (12.5)	1.000	.009***	.467	.276			
Wild (12.9)	.386	.003***	.084*	.714	.399		
Williams (13.8)	.021**	.000***	.007***	.143	.023**	.068*	
	Edmonds (12.5)	Horngren (11.0)	Kimmel (12.3)	Needles (13.0)	Warren (12.5)	Wild (12.9)	Williams (13.8)
	Textbook Author, et al. (Mean)						

Notes:
* Statistically significant difference at the .10 level.
** Statistically significant difference at the .05 level;
*** Statistically significant difference at the .01 level;

The Needles text is not significantly different from three of the texts, but it is less readable than the Kimmel text, as indicated above. The Wild text is not significantly different from three of the texts, but it is less readable (higher grade level) than the Kimmel text.

CONCLUSIONS

If faculty place substantial emphasis on readability in selecting an introductory financial and managerial accounting textbook, they should strongly consider the Horngren text. Its predicted readability is significantly higher than any of the other texts. The Kimmel text is a strong second-choice. The Williams text should be discounted, unless readability is not a major consideration in the textbook adoption decision. In terms of readability, there is no compelling evidence to choose any one of the remaining texts, Edmonds, Needles, Warren, and Wild, over any other of those same texts.

Faculty can use these findings in a variety of ways. They might, for example, initially pick the two or three most readable texts, and then narrow down the choices from there. Or, they could apply other criteria to get the field to two or three texts, and then consider readability grade levels. Faculty could also use readability levels as a tie-breaker. Or they could choose to discount or ignore readability entirely.

Editors of financial and managerial accounting texts can also use these findings. There is more to comprehensibility of a subject than the readability of text matter. The diagrams, charts, demonstrations, calculations, and figures included in textbooks are intended to aid in the student's comprehension of the subject matter. Nonetheless, long, complicated sentences, while sometimes necessary, may hinder a student's

comprehension when used extensively. Textbook editors may use these findings to adjust their expectations of authors.

LIMITATIONS

One limitation in this study concerns readability formulas in general. They assume that the lower the readability level the better; but an unrealistically low readability level may lead to lower transferability of the content. In addition, readability formulas *predict* readability; they do not *measure* it. More costly and time-consuming techniques such as the Cloze Procedure are necessary to actually measure readability. While there have been many critics that questioned the validity and value of readability formulas, there is ample research to suggest that formulas, despite their faults, can predict whether one piece of text will be easier to read than another (Pearson, 2002).

Secondly, the results of this study should not be the sole basis for adopting a particular introductory financial and managerial accounting textbook. Only the main body of each target chapter was tested in this study. The calculations, vignettes, journal entries, charts, exhibits, graphics, figures, and end-of-chapter material are excluded from testing. Ancillaries such as instructor and student supplements are also not considered. It is likely that faculty will subjectively evaluate the effectiveness of this material separately from the main body of the textbook.

Finally, as Smith and DeRidder (1997) indicated, business faculty, when making a textbook selection, attach the most significance to comprehensibility to students, timeliness of text material, compatibility between text material and homework problems, and exposition quality of text, respectively. The first of those criteria, comprehensibility, is addressed (at least in part) by this study. Future studies might address comparisons of texts based upon the remaining criteria.

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WATCH THIS CLIP: USING FILM AS AN AUGMENTATION TO LECTURE AND CLASS DISCUSSION

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ABSTRACT

This paper examines the use of popular film as a teaching tool for enhancing business education. An extant review of the literature regarding popular film as a teaching tool is followed by a discussion of survey data collected by the author in an upper-level management course. Finally a discussion regarding the limitations and potential for future research concludes this article. It is hoped that this paper will encourage other researchers to consider and pursue further study into the effectiveness of popular cinematic productions as a potential vehicle for teaching business concepts.

INTRODUCTION AND REVIEW

As technology continues to enhance the development of business education in institutions of higher learning (e.g. the abundance of Microsoft PowerPoint presentations being used across all business disciplines; increased online course offerings; et cetera) and professors continue to deal with students who have grown up with the Internet, video games, television and movies as central parts of their lives and therefore expect the utilization of technology in the classroom, it becomes increasingly important to note there will be challenges for effectively teaching basic and advanced business concepts in the 21st century. Professors increasingly must deal with students who are easily distracted in class and who may be more technologically savvy overall. By employing clips from popular films and television shows business professors may be able to enhance their connections with students in the classroom and illustrate concepts that may be difficult for some students to appreciate such as customer service, professionalism in meetings or leadership techniques.

The notion of using film as an effective teaching tool has been recognized for many years by scholars in numerous disciplines. Professors and instructors in history, political science, human development, psychology, family counseling, social work, physics, astronomy, advertising, marketing and management have successfully used film in their classes to enhance their pedagogies. The practice of using film to enhance university level education reaches beyond the shores of North America; universities in Great Britain are also using film to augment teaching techniques (Johnston 2001).

The idea of using film in business education dates back to the mid-20th century, when Ohio State University professor W.J. Fleig (1950) argued that "movies make it possible to bring to students types of industrial activities which are foreign to their locality. The films may be presented during regular class hours and can be tied in with a class discussion. All or part of a film may be repeated if desired." Although Fleig was arguing for the use of films produced by corporations not motion picture studios, his points are salient in the 21st century when considering the use of popular cinematic productions. The use of film as a teaching tool has been implemented

in a variety of disciplines for many years. The consideration of how other disciplines outside of commerce and business may provide valuable insights as to the benefits of using film to those who teach in traditional business areas.

Several studies detail the advantages of using film in the classroom. The use of popular film as a "framing tool" is noted in scholarly articles (Higgins and Dermer 2001; Harper and Rogers 1999). The alternative to additional reading assignments is also noted by several researchers (Weinstein 2001; Higgins and Dermer 2001; Huczynski and Buchanan 2004). The most praised advantage is the ability of film to stimulate discussion and thinking on the part of the students (Huczynski and Buchanan 2004; Boyer 2002; Higgins and Dermer 2001; Weinstein 2001; Harper and Rogers 1999; McPherson 2001; Witze 2004).

In psychology and counseling literature, the use of film as an effective teaching tool is noted. Higgins and Dermer (2001) point out that "films can demonstrate difficult-to-teach concepts." Harper and Rogers (1999) reported that "films can dramatize and enlarge theoretical issues in ways that clarify and promote discussion." Christopher, Walter, Marek and Koenig (2004) effectively teach students about stereotype formation and prejudice using the 1985 John Hughes film *The Breakfast Club*.

The University of Central Florida offers a course to non-science majors entitled "Physics in Films" (Witze 2004). "More than four-fifths of one class surveyed said it was more interesting than the standard physical science course" (Witze 2004). Other colleges have instituted similar courses for non-science majors that are interdisciplinary (Borgwald and Schreiner 1994). It may be an important factor to take note of, given the background of traditional undergraduate students in the early 21st century. Even more advanced scientific disciplines, such as pharmacology, are beginning to use film as instructional tools. Farre, Bosch, Roset and Banos (2004) considered the use of popular film to introduce topics to their students including clinical research, bioethics and social and psychological aspects of drug therapy.

It is only fair to consider that business education might benefit from popular film as well. Baccarani and Brunetti (2002) argue that movies have "particularly good potential" in preparing students in teaching management subjects and because of the "content and method" of film presentation provide professors "a useful aid in reaching certain educational goals." Lynch and Shank (1991) argue for more extensive use of film in marketing education. They suggest that films such as the aforementioned *The Breakfast Club* could be used in developing courses in consumer behavior. Huczynski and Buchanan (2004) suggest that films are useful in "illustrating management and organizational concepts and the application of theory in practice" thereby allowing movies to be "a useful medium for exploring the dynamic complexities of organizational processes."

Using movies as a classroom teaching tool has a number of advantages for business educators. First popular movies are useful in illustrating concepts such as ethics, product placement, team leadership and human resource management. Second the use of film in the classroom is legal in the United States. Under terms set forth in the 1976 Copyright Act, as long as films are shown in class for teaching purposes at not-for-profit educational institutions, instructors and professors have access to a wealth of material to supplement their texts, lectures, class discussions and in-class presentations.

INITIAL SURVEY RESEARCH

In order to determine if showing films and clips in class would help students better understand course material the author used an 11-item survey instrument utilizing a 5-point Likert scale, and surveyed 53 business students in two sections of a third-year management course at a major post-secondary institution in the Mid-South

section of the United States. The responses for the survey instrument ranged in the following order: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree. The instrument was designed to gather feedback from students regarding the effectiveness of popular film in the course used to highlight concepts.

The films shown in class were *12 Angry Men*, *Wall Street*, *Glengarry Glen Ross*, *Gettysburg*, *The Bounty, Apollo 13, Crimson Tide, Clerks, The Big Lebowski* and *Michael Collins*. The films *12 Angry Men* and *Wall Street* were shown in their entirety to illustrate critical thinking skills and ethics. The clip from *Clerks* was shown to illustrate the difference between critical and creative thinking. *The Big Lebowski* clip was used to discuss negative image with a commercial product. Clips from the other six films were used to support issues relating to ethics and leadership.

FINDINGS

The results of student responses to the in-class survey and selected voluntary comments by the respondents are detailed below. (A copy of the survey items is appended to the end of this article.)

Survey items 1, 3, 4, 8, 10, and 11 dealt with the relationship between the films shown in class and the course material.

Item 1: *The films shown in class were helpful in illustrating topics covered in course material.* Fifty-eight point five percent of students surveyed strongly agreed while 41.5% of students surveyed agreed.

Iem 3: *After watching the movies in class I was better able to understand the concepts discussed in the texts.* Forty-five point three percent of students surveyed strongly agreed; 49.1% agreed; 3.1% neither agreed nor disagreed; 1.9% disagreed.

Item 4: *Movies make the material more enjoyable to study.* Sixty-seven point nine percent of students surveyed strongly agreed; 30.2% agreed and 1.9% neither agreed nor disagreed.

Item 8: *The movies shown in class reflected the material discussed.* Fifty point nine percent of students surveyed strongly agreed; 45.3% agreed; 1.9% neither agreed nor disagreed; 1.9% strongly disagreed.

Item 10: *Showing movies in class was a complete waste of time.* One point nine percent of students surveyed neither agreed nor disagreed; 41.5% disagreed and 54.7% strongly disagreed.

Item 11: *The movies shown had little or nothing to do with the course material.* One point nine percent of students surveyed neither agreed nor disagreed; 35.8% disagreed and 62.3% strongly disagreed.

Items 2 & 9: Itemsdealt with student enjoyment of watching films in general.

Item 2: *I like watching movies.* Eighty-one point one percent of students surveyed strongly agreed and 18.9% agreed.

Item 9: *I don't watch many films.* (N=51 for this item). One point ninety-six percent of students surveyed strongly agreed; 3.92% agreed; 7.84% neither agreed nor disagreed; 49.02% disagreed and 37.25% strongly disagreed.

Items 5, 6, 7 Items related to student opinion of the professor and the course.

Iitem 5: *I recommended this class to a friend in part because we watched movies during the course.* Twenty point eight percent of students surveyed strongly agreed; 37.7% agreed; 37.7% neither agreed nor disagreed and 3.7% disagreed.

Item 6: *I would be likely to take this instructor again if there were movies shown in other classes.* Twenty-two point six percent of students surveyed strongly agreed; 45.3% agreed; 22.6% neither agreed nor disagreed; 5.6% disagreed and 3.7% strongly disagreed.

Item 7: *I would be likely to take this instructor again if there were NO movies shown in other classes.* Twenty-two point six percent of students surveyed strongly agreed; 43.4% agreed; 20.8% neither agreed nor disagreed; 9.4% disagreed and 3.7% strongly disagreed.

Student comments regarding the usefulness of film in enhancing business education are worth considering as well.

> *"Everyone enjoys watching movies & it is easier to learn something if you are enjoying what you are doing."* - A.D., Senior

> *"By watching the movies and reading the cases, the points are more interesting."* - R.O., Senior

> "*The videos did a really good job of pointing out situations involved with the topics we covered in class."* - R.P., Senior

> *"I enjoyed watching* Twelve Angry Men *because that was probably the first time I ever paid attention to everyone's different perspective on issues."* - H.S., Junior

> *"I found that watching the videos and then reflecting on* [them] *to write a paper was very beneficial to my gaining knowledge on* [course subject matter]*."* - J.H., Junior

LIMITATIONS AND IMPLICATIONS

An important point of consideration in this particular research is that there exists much room for developing future pedagogical studies into the effectiveness of using movies as a teaching tool by business professors. It would be interesting to see the results of an experimental design whereby students enrolled in different sections of the same course are tested on the same material where one groups serves as a control group and a second group as an experimental group. How much of a difference would exposure to movies make in illustrating concepts to students? Would there be a significant notable difference in learning for the group who watched clips or full-length feature films as an addition to course materials versus the group who did not watch clips or movies? These questions were not addressed by the author of this paper as the opportunity to conduct such an experiment was not practical given that the number of students enrolled in each course would have made any significant statistical analysis difficult to perform. It is important to consider going beyond the simple rationale that students enjoy watching films because of the popularity of the medium in the current culture. Scholars wishing to assess useful and inventive methods of teaching should consider conducting studies in this area to determine whether or not using films in class is effective and efficient for teaching in business areas. It is worth

considering whether or not the research performed for this paper would be supported or refuted in future research efforts by other business professors.

CONCLUDING POINTS

As has been shown in the literature and in the brief survey instrument administered for this paper, it appears that films can make materials, concepts and subjects easier for students to understand. Films often are useful to illustrate points that may be vague or confusing in course materials. It is obvious that students enjoy watching films in class rather than being subjected to long lectures over potentially dry material. There are a wide array of resources are available to instructors from textbook publishers to articles to film institutes that instructors can utilize in enriching their courses. Contrary to some popular perceptions films can cover a wide variety of topics in business education. While management and marketing are the obvious beneficiaries of Hollywood features, other films do exist to illustrate concepts in accounting, finance, economics and information systems.

This area of pedagogy is rich in potential for conducting future research, enhancing business education and bringing value to the learning experience of 21st century business students. With the changing environment of higher education, utilizing all means to include students in the learning process must be considered and taken advantage of to provide students with the best possible learning experience.

APPENDIX: SURVEY ITEMS

1) The films shown in class were helpful in illustrating topics covered in course material.
2) I like watching movies.
3) After watching the movies in class I was better able to understand the concepts discussed in the texts.
4) Movies make the material more enjoyable to study.
5) I recommended this class to a friend in part because we watched movies during the course.
6) I would be likely to take this instructor again if there were movies shown in other classes.
7) I would be likely to take this instructor again if there were NO movies shown in other classes.
8) The movies shown in class reflected the material discussed.
9) I don't watch many films.
10) Showing movies in class was a complete waste of time.
11) The movies shown had little or nothing to do with the course material.

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