The Journal of Learning in Higher Education

Contents

Motivating Students for Better Grades: A Study of the Relationship Between Absenteeism and Student Performance

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ABSTRACT

The authors investigate how student exam performance changes as the number of absences changes over the semester. The results reveal that class absence directly affects individual student's learning. A further regression analysis shows that student absence overall is not a significant determinant of exam performance after controlling for the grade-point average. However, excessive absences do significantly negatively affect student's grade. A student who attends classes regularly may not earn a better grade than a classmate who misses classes, but the student's own grade may be lower than the expected grade if the student misses class excessively.

INTRODUCTION

Observing classroom behavior, faculty and students apparently have perceptions about the relationship between classroom attendance and academic performance. Faculty and students, however, frequently seem to disagree about the direction and magnitude of this relationship. A number of studies have been done to investigate the effect of class attendance/absenteeism on students' academic performance in economics (e.g. Schmidt 1983; Brocato 1989; Park and Kerr 1990; Romer 1993; Durden and Ellis 1995; Marburger 2001; and Krohn and O'Connor 2005) and in other disciplines (e.g. Blerkom 1992; Chan, Shum, and Wright 1997; Clump, Bauer, and Whiterleather 2003; and Gump 2005). Not surprisingly, most studies have found a negative correlation between absence and course performance.

The majority of these studies employ a joint approach to examine the relationship between attendance and performance. Specifically, previous researchers either examine the overall correlation between absence /attendance and grade performance among all study subjects or regress a measure of the students' overall performance for the course against their attendance. The fundamental limitation in each of these studies was the uncertain cause-and-effect between absenteeism and performance. The primary reason students who miss a lot of class perform poorly on exams may not be that they are absent from classes, but that they are less motivated or less academically capable. In other words, the relationship found in previous studies is at most an association between absenteeism and performance and cannot be understood as the cause-and-effect relationship. Many studies note this problem and attempt to control for it by including students' grade-point-averages (GPAs), scores on college entrance exams, proxy variable for motivation or other factors. Still, the cause and effect remains inferred rather than directly observed and measured.

Our study eliminates this problem by investigating how a student's performance changes as the number of his/her absences changes over the semester. We divide the semester into four quarters based on the date of four exams and record the class absences during each quarter. Then, we analyze the change of the exam performance as the number of absences increases, decreases, or remains the same. By comparing a student's own performance over time as the number of absence changes, we can identify the "pure" attendance effect and isolate the impact of various other factors. Our results show that, when students reduced their class absences from quarter to quarter, their exam scores significantly improved. On the contrary, when students missed more classes, their exam scores significantly declined. After we regress the average exam scores against the number of total class absences during the semester, GPA, and other controlling variables, however, we find no significant relationship between student grade

and the number of absences, although excessive absences have a significant impact on the dependent variable. These results indicate that attendance affects students' grade individually, but attendance itself can not determine the final grade collectively, though excessive absences do lower grades.

The purpose of this study is twofold: (1) to present direct evidence showing how class absence affects student performance and (2) to provide data that may help motivate students to improve classroom attendance.

LITERATURE REVIEW

Numerous descriptive analyses have been conducted to examine the relationship between attendance and grades. Gump (2005) found a strong overall correlation of -0.601 between the number of absences and final grades in a general education course at a large mid-western university. Similarly, Brocato (1989) demonstrated a strong negative association between absences and grade performance in undergraduate economics classes. Clump, Bauer, and Whiteleather (2003) showed that the students who were present for all three unannounced quizzes in a General Psychology course had significantly higher overall test scores than other students. They concluded that attendance is important on both immediate test scores and overall test scores.

These studies confirm the intuitive tendency of grades to decrease as absences increase, however, the study design is not without question. Student attendance is not exogenous since students choose whether or not to attend class. As shown by Durden and Ellis (1995) poor students tend to miss class excessively. Those students who often miss class may be less interested, less focused, less motivated, or less academically prepared, and inevitably do score lower on exams. If these students had attended all classes, they might have done better but may still not do as well as students with strong historical academic performance. On the other hand, students who are more interested in the material, more skilled academically, or more focused on academics are almost certain to attend class more often. Therefore, students' grades reflect many other factors rather than just the effect of attendance. In fact, the strong correlation between attendance and student learning may be spurious.

To address this problem, Romer (1993) employed three ways in a study to investigate the relationship between student attendance and overall course performance in an intermediate macroeconomics course. First, he restricted the sample to only those students who had completed all problem sets assigned during the semester in an attempt to get a homogeneous sample of motivated students. Second, he used a variable (doing the problem set) as a proxy for motivation.

Third, he included GPA as a control variable in the regression to control for some of the differences across students in general ability and motivation. In all three cases, he found a significant impact of attendance on student performance.

In a study to find determinants of academic performance in a money and banking course, Park and Kerr (1990) estimated a multinomial logit model to measure the probability of receiving a specific letter grade for the course as a function of several independent variables. Their results showed an inverse relationship between the students' course grades and their absences. To control for student motivation, two variables were included in the model: students' self-reported hours of study time devoted to the class and their perceived value of the course.

Durden and Ellis (1995) also studied the link between attendance and student learning using the sample from several principles of economics classes over three semesters. They estimated an ordinary least square (OLS) regression with course grade average as the measure of student performance and the dependent variable. Students self-reported absences were included in the model as a continuous independent variable along with other variables to control for differences in background, ability, and motivation across students. Durden and Ellis then found that overall attendance was not a significant determinant of student grades. However, when they included absences as a dichotomous variable, indicating different levels of absence, results revealed that excessive absenteeism (five or more absences in their study) is associated strongly with poor academic performance.

METHODOLOGY AND DATA

Data for this study was gathered from two sections of undergraduate macroeconomics at a state-supported regional university in Arkansas in the fall 2005 semester. One section met for a 50-minute class on Mondays, Wednesdays, and Fridays, and the other met for a 80-minute class on Tuesdays and Thursdays. Both classes were taught by the same instructor, who primarily taught by lecturing with some class discussion. The professor used the same syllabi, class material, instructional strategy, and examinations in both sections to minimize heterogeneity of the sample.

During the semester, there were four non-cumulative exams (including the final) in each class. The final grade was based on the average of these exams; no points were assigned to class attendance; therefore, missing classes did not directly affect a student's grade. Each 100-point test consisted of 40 multiple-choice questions, equally-weighted at 2.5 points. Based on analysis of class averages, exams were curved by assigning 2.6-2.8 points to each correct answer, resulting in a mid-C class average on each exam. The students were given sample test questions on the course web site (Blackboard), but none of these questions appeared on any test. All of the material pertaining to test questions was covered in the class lectures and in the text. Therefore, a student who missed class could have studied by reading the text.

The instructor recorded the attendance of each student throughout the semester. For purposes of this study, class absences included both voluntary absences and involuntary absences, such as missed classes due to sickness, funeral, jury duty, business traveling, and road games for student athletes.

Four exams were given during the 16-week class sections. Based on exam dates, the semester was divided into four parts: quarter 1 (Q1), quarter 2 (Q2), quarter 3 (Q3), and quarter 4 (Q4). Each quarter ranged from three to four weeks. Actual absences were counted and measured in terms of weeks since the number of class meetings per week in the sample classes differed. Due to the difference in the duration of quarters, actual absences were normalized by the following equation:

$$\text{Normalized absences} = \frac{\text{Actual absences}}{\text{Duration of the quarter (in weeks)}} \times 3.5 \text{ weeks}$$

Here, 3.5 weeks is the average length of each quarter. After making the adjustment, normalized absences were more comparable among quarters.

EMPIRICAL RESULTS AND ANALYSIS

Average student exam scores and normalized absences are reported in Table 1. After curving, the exam averages were similar, with each approximately equal to a mid-C grade. The median scores are slightly lower than the means, indicating that student scores were somewhat skewed to the low end. Because the exams were curved, the highest scores could exceed 100 points.

On average, students missed 0.58, 0.65, 0.74, and 0.76 weeks out of 3.5-week period, representing 16.57 percent, 18.57 percent, 21.14 percent, and 21.71 percent of class meetings during four quarters respectively. This shows that class attendance decreased from the beginning to the end of the semester, consistent with the findings of Blerkom (1992) and Marburger (2001). The degree to which students missed classes was also in line with previous findings. Surveying three elite colleges/universities in California, Romer (1993) reported that one-third of the economics class was absent during the typical class period. Marburger (2001) found that absenteeism averaged 18.5 percent during the semester for a principles of microeconomics class at another Arkansas state-supported university.

Intra-semester Exam Score and Absence Changes

Previous research attempted to examine the absence/performance relationship by building regression models to measure the students' academic performance for the course against their absences, either over the entire semester or during a sample period. Some studies found negative relationships (or association) between absenteeism and performance. The fundamental limitation in these studies, however, was

TABLE 1 DESCRIPTIVE STATISTICS OF EXAM SCORES AND NORMALIZED ABSENCES					
Exams	Mean	Median	Std dev	Minimum	Maximum
#1	74.71	70.00	14.55	49.00	105.00
#2	74.95	74.00	14.03	49.00	100.00
#3	74.40	71.00	16.23	39.00	107.00
#4	74.56	72.50	14.63	40.00	107.50
Normalized absence	Median	Mean	Std dev	Minimum	Maximum
Q1	0.58	0.43	0.68	0.00	2.80
Q2	0.65	0.50	0.59	0.00	2.00
Q3	0.74	0.59	0.63	0.00	2.50
Q4	0.76	0.50	0.91	0.00	3.50

that absence/attendance could be related to other variables, which could then affect students' performance. For example, Park and Kerr (1990) found a strong inverse relationship between grade point averages (GPA) and absence. In other words, students with high GPAs tend to not miss classes. They usually do well in the classroom, not necessarily because they come to classes, but because they are more capable – as suggested by their higher GPAs.

To circumvent these problems and isolate the impact of other student characteristics on examination scores, we compared each student's own performance from one quarter to a subsequent quarter. In total, there were six instances for comparison over the semester: Q1→Q2; Q1→Q3; Q1→Q4; Q2→Q3; Q2→Q4; and Q3→Q4. In each instance, the sample is divided into three groups based on the change of the number of absences from quarter to quarter. Specifically, if one student missed the same number of classes (measured in weeks), he/she was included in the group "unchanged." Students having fewer absences were included in the group "less," and students missing more classes were included in the group "more." Average exam scores and absences were computed for these groups and shown in Table 2.

As shown in Table 2, on average, students missing the same of number of classes earned higher score in the later exam in 4 out of 6 instances (Q1→Q2; Q1→Q3; Q1→Q4; and Q2→Q3), while in the other 2 instances (Q2→Q4; and Q3→Q4), they did worse than the previous exam. When students missed fewer classes from quarter to quarter their exam scores improved in 5 out of 6 instances, (Q1→Q2; Q1→Q3; Q2→Q3; Q2→Q4; and Q3→Q4). In another case (Q1→Q4), the average score declined by merely 0.56 points. However, in all 6 instances when students missed more classes, their scores suffered, ranging from 0.89 to 3.85 points.

To investigate the significance of the difference of exam scores when absences changed, we merged normalized absence and exam data and performed pair-wised t-tests. The results are listed in Table 3.

As shown in Table 3, students missing the same number of absences from quarter to quarter earned average exam score that increased slightly by 1.23 from 76.86 to 78.09; this difference is not statistically significant. On the other hand, when students reduced their class absences by 0.52 week out of a 3.5-week period (i.e. one class meeting if the class meets twice a week), their exam scores improved by an average of 2.56 points from 71.95 to 74.51. This difference is statistically significant at the 5 percent significance level. Finally, if students increased their class absence by 0.64 week, their exam scores declined by 2.71 points from 75.56 to 72.87, and this difference is significant at the 1 percent level.

In summary, these results indicate that it costs to miss classes, and exam scores increase when students attend relatively more classes. The difference is statistically significant and economically non-negligible. If, in a 3.5-week period, a student misses about one week more than the previous quarter, his/her exam score is expected to decline by approximately 5 points.

The Effect of Absences on Exam Performance

To further analyze the impact of class absence on students' grades, a series of multiple regression analyses were conducted. Independent variables and the mean values are listed in Table 4. The dependent variable was the average score on four exams over the semester – the average on which the final grade was assigned. The overall average score was 74.51, indicating that the average final grade was a mid-C.

Absence Change	Number of Observations	Test Quarter	Normalized Absences	Exam Number	Mean Score	Difference
TABLE 2 **AVERAGE EXAM SCORES AND ABSENCE CHANGES FROM QUARTER TO QUARTER**						
Panel A: From Q1 to Q2						
Unchanged	12	Q1	0.00	#1	77.00	
		Q2	0.00	#2	82.92	5.92
Less	20	Q1	1.22	#1	68.03	
		Q2	0.62	#2	69.85	1.82
More	31	Q1	0.40	#1	78.15	
		Q2	0.92	#2	75.16	-2.99
Panel B: From Q1 to Q3						
Unchanged	8	Q1	0.00	#1	75.81	
		Q3	0.00	#3	80.25	4.44
Less	17	Q1	1.26	#1	68.38	
		Q3	0.60	#3	73.71	5.33
More	38	Q1	0.40	#1	77.32	
		Q3	0.96	#3	73.47	-3.85
Panel C: From Q1 to Q4						
Unchanged	23	Q1	0.30	#1	73.96	
		Q4	0.30	#4	75.54	1.58
Less	15	Q1	0.89	#1	74.23	
		Q4	0.29	#4	73.67	-0.56
More	24	Q1	0.65	#1	75.06	
		Q4	1.51	#4	74.17	-0.89
Panel D: From Q2 to Q3						
Unchanged	18	Q2	0.64	#2	77.00	
		Q3	0.64	#3	79.56	2.56
Less	21	Q2	0.75	#2	74.00	
		Q3	0.43	#3	74.10	0.10
More	24	Q2	0.57	#2	74.25	
		Q3	1.09	#3	70.79	-3.46
Panel E: From Q2 to Q4						
Unchanged	12	Q2	0.00	#2	77.17	
		Q4	0.00	#4	74.38	-2.79
Less	24	Q2	0.74	#2	74.42	
		Q4	0.34	#4	76.46	2.04
More	26	Q2	0.81	#2	74.50	
		Q4	1.52	#4	72.88	-1.62
Panel F: From Q3 to Q4						
Unchanged	10	Q3	0.00	#3	83.60	
		Q4	0.00	#4	78.25	-5.35
Less	28	Q3	0.74	#3	72.04	
		Q4	0.34	#4	77.41	5.37
More	24	Q3	0.78	#3	72.42	
		Q4	1.52	#4	69.69	-2.73

TABLE 3							
COMPARISON OF EXAM SCORES AS NORMALIZED ABSENCE CHANGES							
Absence change	**Number of Jobs**	**Variables**	**Mean in previous quarters**	**Mean in later quarters**	**Difference**	**t-stat**	**p-value**
Unchanged	83	Absence	0.22*	0.22	0.00		
		Exam	76.86	78.09	1.23	0.90	0.3713
		GPA	3.24	3.24			
Less	125	Absence	0.96	0.44	-0.52		
		Exam	71.95	74.51	2.56	2.15	0.0338
		GPA	2.91	2.91			
More	167	Absence	0.58	1.22	0.64		
		Exam	75.56	72.87	-2.69	-2.71	0.0074
		GPA	2.96	2.96			

As an independent variable, students' cumulative grade point average (GPA) prior to the semester and major were obtained from university records. Numerous studies show that GPA is a strong predictor of student performance in the course (see, for example, Romer 1993; Krohn and O'Connor 2005; Eskew and Faley 1988; Sachdeva and Sterk 1982; Fox and Bartholomae 1999; Terry 2002; Durden and Ellis 1995; and Chan, Shum and Wright 1997). The average GPA of students in this sample was 3.01. Actual absences were defined as the number of weeks a student missed during the 16-week semester. An average student was absent for 2.4 weeks of class. Excessive absence was a dichotomous variable, taking a value of 1 if a student missed 4 or more weeks and taking a value of 0 otherwise. In this sample, there were 13 students (20.6 percent) who were absent from more than 4 weeks of class.

Other variables included a dummy variable for the student's major, taking 1 if a student was a business major including agriculture business major, and 0 otherwise. Among 63 students in the sample, 85.7 percent were business majors and 14.3 percent non-business majors.

The instructor classified students by gender and race to control for gender and race differences. Race is another binary variable, taking a three-level value. Thus, two variables were actually created in the operation. White students account for 60.3 percent of the sample, African American (AA) 28.6 percent and others (including Asian and Hispanic) 11.1 percent. Gender is also a dummy variable, set equal to 0 for female and 1 for male.

Finally, students reported the number of hours spent preparing for the test in a survey given prior to each exam. Study time was the average of self-reported study hours. A typical student reported studying 3.67 hours before an exam.

Ordinary least-squares (OLS) estimates are reported in Table 4. In model (1), actual absences enter as a continuous independent variable along with other variables which were included to control for differences in background and motivation for students, but GPA was excluded from the model. In this case, actual absence is a significant determinant of student grade performance. The coefficient is -1.79, indicating a negative relationship between student performance and absenteeism. Model (1) implies that a typical student, who missed 2.4 weeks throughout the semester, could earn 4.3 points more if he/she were not absent from any class. The adjusted R^2 is 0.220, indicating only 22.0% of variation of exam scores was explained by actual absence and other student characteristic variables.

Model (2) includes GPA to control for students' ability but excludes actual absence from the model in order to compare the importance of these two variables. The results show that GPA is a significant factor for students' grade performance. The coefficient of GPA, 11.10, indicates that a one point higher GPA results in an additional 11.10 points in the test average, slightly more than a letter grade. The adjusted R^2 increased from 0.220 in model (1) to 0.445 in model (2), indicating that a higher percentage of variation of the dependent variable is explained by independent variables.

When both GPA and actual absence are included in model (3), the adjusted R^2 changed very little from model (2). GPA remains a significant factor, but actual absence fails to be significant compared to model (1). The coefficient for actual absence (-0.52) is small, indicating marginal influence on student performance. It is negative as expected and reflects an inverse relationship between academic performance and class absence. It appears that GPA is a more important determinant of student grades than class attendance. This is consistent with previous findings (see Park and Kerr 1990; Chan, Shum, and Wright 1997; Durden and Ellis 2003).

TABLE 4					
ORDINARY LEAST SQUARE (OLS) ESTIMATES					
Independent variable	Mean	Model (1)	Model (2)	Model (3)	Model (4)
Constant		66.11	36.98	39.57	40.52
GPA	3.01		11.10***	10.47***	10.01***
Actual absence (in weeks)	2.40	-1.79**		-0.52	
Excessive absence (4 or more wks)	20.6%				-5.78*
Major					
Non-business	14.3%				
Business	85.7%	6.88*	0.38	0.94	0.52
Race					
African-American	28.6%				
White	60.3%	4.68	1.86	1.83	2.39
Other	11.1%	17.3***	8.04*	8.61*	9.66**
Gender					
Female	49.2%				
Male	50.8%	-1.40	-0.35	-0.01	0.42
Study Time	3.67	0.73	0.57	0.51	0.51
Adjusted R²		0.22	0.45	0.44	0.47

*** Significant at 1% level
** Significant at 5% level
* Significant at 10% level

In model (4), actual absence was replaced with excessive absence. This time, the absence measure becomes significant even after controlling for GPA and other student characteristics. This confirms previous findings of Durden and Ellis (1995), which showed that the typical student is not adversely affected by a few absences, but excessive absenteeism is associated strongly with poor academic performance. As shown in Table 5, students with excessive class absences (4 weeks or more) significantly under-perform their classmates with better attendance records by 8.6 points even though both groups spent almost as much time preparing for exams. On average, one week of class absence cost these students about 2.1 points. Extending the analysis, on average those who missed classes frequently also had a significantly lower GPA (2.70) than their counterparts. It seems that poor students tend to miss class, confirming previous studies.

In summary, when jointly analyzing the effect of absence on academic performance, the actual absence is not a significant factor after controlling for GPA and other student characteristics, but excessive absences significantly reduce the ultimate average grade. With less than excessive absences, however, the adverse impact on the student grade performance was marginal; the equivalent of one week of class absence only reduced the average score by 2.1 points.

The Effect of Other Controlling Factors on Exam Performance

Business majors were found to perform slightly better than their non-business counterparts. The difference was less than 1 point except in model (1) where GPA was excluded from the model. Although Table 5 shows that business students outperformed non-business majors by 5.35 points, much of this difference was explained by the disparity in GPA.

In this study, white students did slightly better than African Americans (AA), but the difference was neither statistically nor economically significant. After controlling for GPA and other factors, the difference ranged from 1.83 to 2.39 points. Other ethnic groups, however, significantly outperformed both white and AA students. On average, AA students earned 70.25; white students earned 74.58, and other groups earned 87.46 with GPAs of 2.76, 3.03 and 3.54, respectively. Even after controlling for GPA and other possible differences, other ethnic groups (primarily Asian students) still outperformed AA students by almost a letter grade as shown in model (2), (3), and (4). As presented in Table (5), international students did significantly better than their American classmates by 16 points. International students had significantly higher GPA and studied longer hours, even though they missed as many classes as the others.

		TABLE 5			
		COMPARISONS OF DIFFERENT STUDENT SEGMENTS			
Student segment	Number of Observations	Mean score	GPA	Normalized absences	Study time in hours
Magnitude of absences					
Excessive	13	67.92	2.70	5.64	3.39
Normal	50	76.55	3.09	1.56	3.76
Difference		-8.63**	-0.39*	-4.08***	-0.37
Major					
Non-business	9	70.19	2.62	1.78	3.70
Business	54	75.54	3.07	2.50	3.68
Difference		-5.35	-0.45*	-0.72	0.02
Race					
African American	18	70.25	2.76	2.81	4.02
White	38	74.58	3.03	2.15	3.41
Other	7	87.46	3.54	2.69	4.33
Nationality					
American	51	71.73	2.90	2.38	3.27
International	12	87.70	3.47	2.49	5.44
Difference		-15.97***		-0.11	-2.17***
Gender					
Female	31	76.69	3.15	1.85	4.02
Male	32	72.92	2.88	2.93	3.36
Difference		3.77	0.27	-1.08**	0.66
*** Significant at 1% level					
** Significant at 5% level					
* Significant at 10% level					

On average, females missed 1.85 weeks of classes over the semester compared to 2.93 weeks for males. The difference is statistically significant. However, we found no gender-related differences in student performance. Female students scored 3.77 points higher than males, but female students also had higher GPA, missed fewer classes, and spent more time preparing for exams. After taking into account all of these factors, males performed as well as females. This is contrary to previous studies on gender effects. Many researches have found that males score higher than females on multiple-choice exams in college economics courses (see, for example, Siegfried 1979; Lumsden and Scott 1987; Walstad and Robson 1997).

Finally, study time contributed marginally and insignificantly to student exam performance in all four models. This is in line with the findings of Schuman, etc. (1985), who found a very small relationship between the amount of studying and grades. However, Krohn and O'Connor (2005) showed that study time has a small, but statistically significant, negative effect on student performance.

CONCLUSIONS

This study provides direct evidence regarding the pure relationship between absenteeism and student learning. It appears that when students missed more (or fewer) classes over the semester, their exam scores significantly declined (or increased). Class attendance does affect individual student's performance.

The study further shows, however, that the actual absence fails to discriminate good exam performers from average students after controlling for GPA and other student characteristics. Although excessive absences significantly hurt a student's grade, the findings suggest that grades are related more to ability than to motivation if attendance is a proxy for student motivation.

To improve student motivation, this study may provide concrete reasons to minimize class absences. Attending class is important for learning and may be one of the easiest things that students can do to improve their grades. As this study confirmed, cutting class can be costly. Although, attendance itself may not determine the final grade, excessive absences do lower grades, and better attendance leads to better grades.

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End-User Computing Peer Training: Development on Both Sides

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ABSTRACT

With the increasing use of peer training in various disciplines, a situation for study was chosen in which communication and organizational skills were developed through peer training via business computing. In the effort to develop trainer and trainee skills in the scope of utilizing a particular software program, first-year university students were trained by upper-division students familiar with the program. A pre-training questionnaire was administered to the selected group of freshmen to determine their level of use and familiarity with the program. To measure changes, a survey questionnaire was administered six weeks later to those who received training. For comparison, a random sample of freshmen who were not trained completed the same questionnaire.

Findings indicated that there was a statistical difference in use and familiarity of the software in those who underwent peer training versus those who did not. The five groups of students who underwent training all indicated hands-on instruction in a computer room as the best of the suggested training methods. However, opinions by major varied in respect to the next three methods, which included group demonstrations in a lecture room, printed quick-tip sheets, and online tutorials. The method of least effectiveness by almost all majors was the university's help desk. Most statistically significant differences by major occurred between business and non-business freshmen.

Conclusions include the perceived usefulness of having the peer trainers on-site. Those methods of learning rated as most effective involved trainers as opposed to methods involving more independent study. Also, respondents indicated outright through survey questionnaire the relative usefulness of training. Although the sample included freshmen in such varied fields as computer science and elementary education, there was no significant difference seen in usefulness of the training. Recommendations for further research include selecting a sample of other students besides freshmen and the obtainment of more perceptions of the student trainers.

Introduction

The merit of peer training has recently been utilized in a multitude of disciplines, ranging from such diverse fields as nursing to education to sales (Runy, 2005; Thiemann & Goldstein, 2004; Zimmerman, 2003). The prevalence of peer training and tutoring has developed due to an increasing reliance on the many apparent advantages of "more tailored" instruction. The benefits of such a situation are obvious—trainees are guided by peer trainers through whom the learning activity is low-pressure but can simultaneously be a highly motivating activity (Topping, 2005). Moreover, trainees and trainers can more easily work through simulated situations and problems at the pace of the learner, where the levels of knowledge application and evaluation are comprehensive due to more one-on-one instruction. Trainers benefit from the experience by increasing their comprehension through application and further developing technical skill when called upon to explain and illustrate. Thus, due to the more informal and individualized instruction of peer training, it has been shown to possibly be more effective than more formal "classroom" training (Selwyn, 2005; Topping & Bryce, 2005).

In addition to such benefits for trainers and trainees, learning through this process is usually more cost-effective than formal training programs with one classroom instructor and many students. Peer training seems especially useful in technical fields, as evidenced by the potential to save money by usage of on-the-job training in medicine, science, and business (Kassab, Abu-Hijleh, Al-Shboul, & Hamdy, 2005; Muehlenbrock, 2006; Schleyer, Langdon, & James, 2005). Indeed, in business computing, the average software training course in-house cost is quite expensive and always can escalate due to high trainer/consulting fees, travel costs, and instructional materials that may even be marginally used (Burns, 2005).

Software training, one of the most hands-on activities possible from which to learn through example, provides an opportunity for peer training to be implemented. Such an experiment was recently put into practice to determine the effects peer instruction had on both trainers and trainees in an end-user computing environment. Using Microsoft's Outlook as the subject matter for instruction, a program was designed to give students used to a more formal training approach an opportunity to use peer training to learn (and teach) the computer software. Through this situation, variables examined included frequency of usage of software functions, and training effectiveness on both an absolute and relative basis.

Procedures

For several years, a small, rural, state university in West Tennessee used a send-mail Unix platform system for its student email accounts. In the Fall Semester of 2005, these accounts were switched to an exchange server using Microsoft's Outlook.

The Information Technology Services unit provided a one-hour training session for all students enrolled in the Freshman Experience (freshman orientation) course during the week previous to the start of regular classes. These sessions were conducted in a lecture hall with computer projection.

Additionally, as one of the projects in an End-User Computer course offered at the same university involved training, the switch to Outlook provided an excellent opportunity to provide the freshmen with additional instruction in the use of the program and training experience for the end-user students. Since some of the End-User (EU) students had little experience in using the program, the instructor devoted approximately three class hours to demonstration of the use of functions. The EU students were also instructed to complete an online tutorial provided on the university's intranet to gain further expertise in Outlook.

In choosing the sections of the Freshman Experience (FE) course for training, three factors came into play: the availability of computer-equipped classrooms/labs, the class schedules of the EU students, and the willingness of the FE instructors to participate. Ultimately, seven sections were selected, and two or three EU students were assigned to each.

In addition to the week previous to the commencement of the fall semester, the Freshman Experience courses met for one hour each week during the semester. During the fourth meeting, a pre-training questionnaire constructed by the EU students was administered to

determine the level of knowledge and experience the students possessed in using Outlook. The training sessions were conducted during the sixth week of the semester. Each included hands-on instruction in the major components of Outlook: email, contacts, tasks, calendaring, and notes. A question/answer opportunity concluded each session.

During the twelfth class of the semester, the FE students completed a post-training questionnaire. The EU course members analyzed the data gathered from the pre- and post-instruments and presented their findings to representatives from Information Technology Services at their last class meeting. Students enrolled in the FE courses but who did not receive Outlook training were randomly selected to complete the questionnaire while all students who were to go on to Outlook training also completed the questionnaire. Copies of each questionnaire are included in the appendix.

Student questionnaire responses were subsequently independently coded and checked for accuracy by the authors to determine accuracy in analysis and to solidify findings. Specifically, Mann-Whitney procedures as well as Spearman's rank order were used to analyze data and formulate findings. Mann-Whitney tests were performed on ordinal data to determine any difference in use of the various Microsoft Outlook functions from the group who underwent training (n=63) and those who did not (n=111). Also, using the survey regarding familiarity with the functions of Microsoft Outlook, Mann-Whitney tests regarding specific training aspects were performed to determine differences in those groups who underwent training by undergraduate major. Groups consisting of both business and non-business majors—political science, finance, management, computer science/information systems, and elementary education were represented in an effort to determine post-training differences by major.

In sum, five different methods of training in Outlook were ranked by post-training subjects according to effectiveness. The utilized training methods available for ranking were: group demonstrations in a lecture room, hands-on instruction in a computer room, printed quick-tip sheets, on-line tutorials, and the university's computer help desk. The training rankings across all grouped undergraduate majors were analyzed using the Spearman's rank order procedure and subsequent analysis of medians for ordinal data.

Findings

As the study attempted to investigate peer training factors by trained and control groups in addition to training methods, findings are categorized by those aspects.

Familiarity/Use of Outlook Functions by Trained/Untrained Groups

Not surprisingly, Mann-Whitney tests to compare groups' use of Outlook functions (e-mail, address book, rules/filters function, tasks function, calendar, and notes function) indicated a statistically sig-

nificant difference (p=.0007) between the group who did not have Outlook training and the group who had training. Those who underwent training used each function more than the group who did not undergo training. On a five point scale of familiarity and use, ranging from "not familiar at all" (coded as "1") to "use more than once a week" (coded as "5"), the mean was 2.83 for those who had training and 2.55 for those without training. Although both groups were between "familiar with, but never use this function," and "use less than once a week," those who had training averaged nearer once a week use.

Post-Training Use of
Outlook Functions by Major

In the scope of overall use of program functions across undergraduates who had training in Outlook, regardless of major, some functions were reported to be used more than others. As shown in Table 1, e-mail is the most used function on a five-point scale of familiarity/use, with rules/filters reported as the least used/most unfamiliar function. E-mail is used about once a week, contacts/address book is used less than once a week, and the other functions average use between "never use" and "use once per week."

TABLE 1 OVERALL FAMILIARITY/USE BY OUTLOOK FUNCTION						
	Microsoft Outlook Function					
	E-mail	Contacts/Address Book	Rules/Filters	Tasks	Calendar	Notes
Mean	4.0	2.9	2.2	2.35	2.5	2.25

In the scope of Outlook training, although those undergraduates who received training progressed through a uniform program, subsequent Mann-Whitney tests were conducted between groups of majors to indicate any varying uses of Outlook functions after training had been provided. Overall, the two majors with no statistical significance regarding differences found on Outlook function uses were political science and computer science/information systems (CSIS) and finance and computer science/information systems. A statistically significant difference, indeed the biggest consistent difference in means across Outlook functions, was found between CSIS and elementary education.

However, several statistical differences were found regarding the six functions of Microsoft Outlook between majors. These differences are described overall in Table 2 below.

TABLE 2 DIFFERENCE IN TRAINING OUTLOOK USE BY UNDERGRADUATE MAJOR		
	Statistically Significant Differences by Major	
Outlook Function	More Use	Significantly Less Use
E-mail	CSIS Finance	Management Elementary Ed Political Science
Contacts/ Address Book	CSIS Finance	Management Elementary Ed
Rules/Filters	CSIS Finance	Management Elementary Ed
Tasks	Finance Political Science	Management Elementary Ed
Calendar	Finance CSIS	Elementary Ed
Notes	Most Majors	Elementary Ed

First, regarding use of Outlook e-mail, it was shown in order of familiarity/frequency of use that both CSIS and finance use Outlook e-mail more than those in management and elementary education. As previously mentioned, there was no difference between CSIS and finance majors regarding use; however, elementary education reported more use of Outlook e-mail than political science.

Regarding the use of Outlook contacts/address book, the result was the exact same as on Outlook e-mail except for the fact there was no difference between elementary education and political science.

The functions with the least variation in use by major concern the tasks function and calendar function. With the tasks function, regarding business majors, there is a difference in that finance majors use tasks more than management; in non-business majors, political science uses that particular function more than elementary education. Interestingly, no other significant statistical differences were shown. With the calendar function, those in finance and CSIS science use the calendar more than those in elementary education. There was no difference between CSIS and management, but it was shown that finance uses it more than management majors.

In results regarding the last function, Outlook notes, all majors used notes more than elementary education; however, there were no further statistically significant differences.

Training Effectiveness

Subjects who underwent training in Outlook, regardless of major, saw hands-on instruction in a computer room as the most effective training format (shown in Table 3). Also, group demonstrations in a lecture room came in second for the three business majors, but not for the two groups of non-business majors. Indeed, after hands-on training, most majors (excluding finance) chose printed quick-tip sheets, online tutorials, and the university help desk in that respective order of effectiveness. All majors except elementary education indicated that the university's help desk was the least helpful training method. Table 3 shows training methods in order of effectiveness, with "1" indicating most effective.

TABLE 3 TRAINING RANKINGS BY UNDERGRADUATE MAJOR					
	Training Choices				
Major	Hands-on Instruction in Computer Room	Group Demonstration in Lecture Room	Printed Quick-tip Sheets	Online Tutorials	University Help Desk
Political Science	1	2	3	4	5
Finance	1	4	2	3	5
Management	1	2	3	4	5
CS/IS	1	2	3	4	5
Elementary Ed	1	3	2	5	4

In one of the overall lesser-used Outlook functions, the rules/filters function, again CSIS and finance reported use of the function more than management and elementary education majors. Interestingly, this mimics the results for Outlook e-mail, except political science reports more use than those in elementary education with rules/filters.

Moreover, across majors, Spearman's rank order procedures revealed that some training variables held associations through statistical significance at the .01 level. Those that showed statistical significance and that held the highest (though still fairly weak) correlation/relationship were group demonstrations in a lecture room coupled with the university help desk (-.349), hands-on instruction in a computer room and online tutorials (-.352), as well as hands-on instruction in

a computer room and the university help desk (-.355). Thus, as subjects tended to rank one variable higher, there was an associated lower ranking of the other associated variable.

In conclusion, as again seen in Table 3, excluding finance majors, there is somewhat limited variation on the rankings of training methods by effectiveness. Likewise, regarding overall training effectiveness regarding the five groups of undergraduate majors and their views of overall training usefulness (on a five-point scale of "useless" to "very useful"), no statistically significant differences were found. On a five-point scale of overall training usefulness, the lowest usefulness was a mean of 3.3 for management majors and the highest was 4.0 for political science and elementary education majors. Thus, most responses were near the measure of "somewhat useful."

Conclusions and Recommendations

While the findings indicate that the group of freshmen who had program-specific training use Outlook much more may not be a surprise, it is useful to establish this fact to assist in the determination that related training methods were valid. Of note was that even though training was provided, some Outlook functions are not used despite familiarity with them. Perhaps the further development of training methods, especially those such as help desk, online tutorials, etc., could assist in boosting use of these functions. The apparent theme in training effectiveness according to method was that those methods deemed most effective contained trainers on-site and hands-on instruction as opposed to online tutorials, quick tip sheets (both referenced individually) and the university help desk (usually conducted via phone).

Although the effectiveness of Outlook training formats was seen as quite similar across majors, the variation regarding non-business students as opposed to business majors is an opportunity for further investigation. In addition, the differences between among non-business majors (political science and elementary education) and business majors that came to light concerning the familiarity with Outlook functions even after uniform training may indicate inherent or more basic computer skills development needs. Also, the possibly more enigmatic variation between majors in business and non-business is an opportunity for further investigation.

Regardless of variation by major, perhaps one of the most satisfying conclusions, especially for the student trainers, is that there was no difference in groups as to the usefulness of the training. Even the two most differing majors (CSIS and elementary education) were not statistically different when it came to gauging the overall usefulness of training.

Recommendations for further research include more perceptions obtained from the student trainers—including their opinions of training effectiveness, the most difficult aspects of providing training, and what they gained from providing instruction to peers. Concerning the factor of time, a longitudinal study would be helpful to determine if and how much the students maintain use of Outlook in the time after the training was conducted. In conclusion, examination of another subgroup of students besides freshmen who may undergo such training would provide a greater understanding of software use, particularly in the examination of groups by major who have the opportunity to be more entrenched in their discipline of study.

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APPENDIX

FRESHMAN EXPERIENCE
OUTLOOK PRE-TRAINING QUESTIONNAIRE

PUT YOUR FRESHMAN EXPERIENCE SECTION NUMBER IN THE YEAR COLUMN.

Please use this scale to indicate your current level of experience with the following functions.

a. Never use
b. Familiar with but never use
c. Use, but less than once a week
d. Use weekly
e. Use daily

1. Send and receive emails
2. Use the contacts function
3. Use the rules (filters) function
4. Use the tasks function
5. Use the calendar function
6. Use the notes function

Please indicate your current level of experience with the following MICROSOFT OUTLOOK functions.

a. Never use
b. Familiar with but never use
c. Use, but less than once a week
d. Use weekly
e. Use daily

7. Send and receive emails
8. Use the contacts function
9. Use the rules (filters) function
10. Use the tasks function
11. Use the calendar function
12. Use the notes function
13. Had you used MS Outlook before coming to UTM?
    a. Yes   b. No

FRESHMAN EXPERIENCE
OUTLOOK POST-TRAINING QUESTIONNAIRE

PLEASE COMPLETE THIS SURVEY ONLY IF YOU WERE AT THE OUTLOOK TRAINING SESSION AT THE FIRST OF THE SEMESTER.

PUT YOUR FRESHMAN EXPERIENCE SECTION NUMBER IN THE YEAR COLUMN BUT DO NOT PUT ANY OTHER PERSONAL INFORMATION ON THE SURVEY.

Please use this scale to indicate your CURRENT level of experience with the following MICROSOFT OUTLOOK functions.

a. Not familiar with this function
b. Familiar with, but never use this function
c. Use less than once a week
d. Use about once a week
e. Use more than once a week

13. Email
14. Contacts/address book function
15. Rules/filters function
16. Tasks function
17. Calendar function
18. Notes function

Please rank, according to your opinion of their effectiveness, the following training aids for students with little or no knowledge of MICROSOFT OUTLOOK. Choose each method only once.

a. Group demonstrations in a lecture room
b. Hands-on instruction in a computer room
c. Printed Quick-Tip Sheets
d. On-line Tutorials
e. UT Martin Help Desk

7. First Choice
8. Second Choice
9. Third Choice
10. Fourth Choice
11. Fifth Choice
12. How useful has the training you received in the Outlook session conducted by the Information Systems 461 class members proven to be over the semester?

a. Useless
b. Somewhat useless
c. Neither useful nor useless
d. Somewhat useful
e. Very useful

Interdisciplinary Project-Based Learning: An Experiment to Create Real World Products and Services with Clients Involving the Disciplines of Business Management, Multimedia, Distance Learning, Engineering Technology, and English

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ABSTRACT

Project-based learning (PBL) utilizes "real world" problems and fieldwork to connect students and instructors together in a framework to enhance the learning experience. The self-organizing "real world" learning environment complements the course objectives by increasing the students' and instructors' opportunities to solve "real world" problems by "doing the real thing." This paper discusses the experiential research, observations, and fieldwork along with the interdisciplinary practical aspects of project-based learning in both face-to-face surroundings and in an online distance learning setting. In addition, this paper includes examples of projects that involved the cooperative efforts of students, instructors, and mentors from various disciplines including business management, multimedia, distance learning, engineering technology, and English. The project examples include two live TV concert broadcasts and recordings of award winning singer/songwriters from Nashville. This project resulted in a completed DVD and CD of the performances complete with licensing. The initial fieldwork and concert projects have lead to further process improvements and considerations for other projects that involve the PBL pedagogy. The authors envision further research with PBL projects to continuously improve the collaboration for implementing real world projects. Research continues on whether using PBL on the Internet with distance learning can compete with the face-to-face "being there" with "real world" projects in the classroom.

INTRODUCTION

Discussion among academicians at colleges, universities, and accrediting organizations often suggests that teaching and research are important objectives of their mission as an educational institution of higher learning. The academician and practitioner often differ on the best practices, methods, and approaches to apply in the learning process both in a face-to-face classroom and in an online distance learning environment. Project-based learning (PBL) is where students develop a product or service. It is an aspect of learning that is difficult to employ on the Internet or in a distance learning environment to the extent that face-to-face learning is used. Based on the availability of technology and the Internet, devices are available to give students and instructors access to enhance the students' educational experience. "Most major universities provide courses online, many of which are free. MIT's OpenCourseWare (OCW) initiative has been a leader in this effort. MIT (2005) offers courses for free on the Web for noncommercial use with over 250,000 viewers per month" (Kurzweil, 2005, p.336). (See the OpenCourseWare course list at http://ocw.mit.edu/index.html) The OpenCourseWare group at MIT conducted a broad survey and found that faculty valued face-to-face instruction above everything. The cost to date is about 40 million dollars and each professor receives a $3,000 stipend to post courses online (Bender, 2004).

The next step is for PBL to be transferred to the Internet through courseware. "Several efforts to do that are under way. One will add more video to the sites. OCW will film brief class introductions and exemplary lectures (from famous faculty about to retire, for example) and select video clips of lab demonstrations, field trips, or other educational events" (Bender, 2004, p. 4).

In reviewing the literature, the consensus is that project-based learning (PBL) is an instructional strategy that is intended to engage students in authentic, "real world" tasks to enhance learning. "Students are given open-ended projects or problems with more than one approach or answer, intended to simulate professional decision making situations" (Esch, 2000, p.1). PBL and fieldwork may not be able to be transferred to the degree necessary to the Internet. During the last century, project-based learning and educational services have been delivered from one person to another face-to-face and through a textbook. However, the nature of education will change; students at any age, time, and place will be able to access the best education in the world at affordable rates. Most colleges will follow MIT's lead, and students will begin to attend college virtually (Kurzweil, 2005). The late media theorist Marshall McLuhan believed our senses become extended outside of our bodies. He suggested that a book was an extension of your eye, and a car was an extension of your foot. He would say the Internet is an extension of our central nervous systems. PBL is also an extension from the classroom to application of that knowledge (Boese, 2004).

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PROJECT-BASED LEARNING AND THE CONCERT PROJECT

Utah Valley State College students from business management, multimedia technology, engineering, and English chose to produce, direct, and broadcast a live television concert on the local college cable channel; and then they streamed the live feed to the world over the Internet (PBL project). The mission was to organize a concert that was educational, entertaining, and artistic with a service learning component that was beneficial to the college learning community, artists, clients, and the non-college community. The students and instructors performed the real-world functions simulating the activities and decisions as executive producers in completing the concert project. The project involved real money, real risks, and real surprises with all of the necessary administrative, operational, and financial controls that are necessary to produce award winning singer songwriters from Nashville, Tennessee (Walker, 2004; Walker, 2006).

In these projects, the students worked with award winning Nashville singer/songwriters Tricia Walker www.bigfrontporch.com and Davis Raines www.davisraines.com. The artists/singer/songwriters instructed students in songwriting, the music business, and in creating DVD's and CD's of live performances, along with evaluating the assessment and outcomes of the students' work. In the English classes, the songwriters spoke about writing to the students, and instructors reported major improvements in students' writing as a result of the music component.

The students then created a DVD/CD package of the above projects. These packages were developed and authored by students working together with the instructors and mentors from various disciplines. Students in accounting, multimedia, distance education and the other disciplines developed a business plan; managed the project and the enterprise activities. (For information on the concert project: reference at www.bigfrontporchmusic.com and Promo Video on the menu that is linked to "5 minute Promo Clip") The concert projects also provided funds for scholarships.

The classes first performed the pre-production functions by planning, forecasting, writing business plans, generating contracts, assessing risks, budgeting, and cost analysis to determine break even and profit. They conducted marketing research, along with using software and technology in performing production tasks, and licensing functions. Scheduling and renting the theater along with insurance decisions were included in the decision process. Secondly, the students managed the production functions and accounting functions, such as operations, reporting, generating ticket sales, soliciting sponsorships, generating advertising and completing the design of posters and programs. Contact lists and data bases were generated to facilitate face-to-face communication and online communications. Positions and crews had to be organized for photographing, archiving, logging documentary materials, directing, sound mixing, and camera switching. The students and instructors used modeling techniques that required previous knowledge along with developing new knowledge through artist, peer to peer, instructor, client and mentor collaborations. Thirdly, the students executed the postproduction and distribution functions that included marketing, sales, authoring of the DVD/CD package, audio engineering, graphic design, editing, replication, along with decisions regarding the dynamics of the music industry. (The music industry is experiencing a major transition with online music and video downloads that generated much discussion.)

This interactive learning technique (PBL) supports the premise that students retain more of what they learn when they do the real thing. Doing the real thing means applying and experiencing what was learned through a real-world situation. The knowledge retention patterns in project-based learning seem to reflect "The Cone of Learning," developed and revised by researchers Bruce Hyland and Edgar Dale (1969). The research demonstrates that students tend to remember:

- 10% of what they read (comprehension).
- 20% of what they hear (listening).
- 30% of what they see (charts, power points, videos, spreadsheets, and reports).
- 50% of what they hear and see (pictures and movies).
- 70% of what they demonstrate and write (oral presentations, explaining, teaching, instructing, and participation).
- 90% of what they do (real world practice-becoming aware of what they know, applying what they learn, and finding out what they do not know, creating and producing a finished product or service).

Reading and comprehension are vital to the learning process. It is well recognized throughout the literature that all aspects of the "Cone of Learning" are important when used appropriately by students and instructors in completing a successful project.

The learning processes between the classroom and distance learning are merging where the classroom and distance education instruction are closely combined. It is generally agreed and recommended that project-based learning utilizes a production model to develop the process resulting in a finished product or service. The steps used by students and instructors in this process are listed below (Arline, 2003).

- First, students define the purpose for creating the end product or service and identify their audience. This step includes researching course and project-based learning objectives along with considering student, client, instructor, and community initiatives.
- Second, students research their topics, design their products or services, and create a plan for project management.
- Third, students begin the project, resolve problems and issues that arise during the production of the product or service.
- Fourth, students present the product they created, and they are given time to reflect on the evaluation of their work. Where feasible, the completed work is entered in award competitions to receive constructive critical feedback from academicians and industry professionals (Arline, 2003).

- Fifth, the entire process is authentic and mirrors a real world production activity that allows students and clients to exchange ideas, make recommendations and collaborate in solving problems to meet or exceed product and service objectives. The process is open to allow students to be flexible and to recognize the surprises and serendipity.

It is proposed that using PBL with immediate feedback to students will seamlessly integrate the functional competencies (as required in many disciplines) with the required personal and broader perspective competencies to gain students results. (See Table 1 - 4: Recommended Competencies – PBL Reference: Autodesk Foundation, 2006; Portland, MA, Public Schools, 2006) This effort seeks to make education a process and to remind students that learning is continuous and part of a larger global community. The real world music project has brought the learning community together for interdisciplinary learning and created levels of awareness that were not present among the students, instructors, artists, mentors and community before these projects became part of the learning process.

PROJECT-BASED LEARNING AND FACE-TO-FACE LEARNING

Students have access to the technology and Internet that enables them to achieve the recommended student competencies of a college graduate entering a profession as a self- learner. The determination is whether teaching pedagogy in the courses will emphasize competency-based learning or information-based instruction using face-to-face and/or distance leaning resources.

The Commission on Industrial Productivity at the Massachusetts Institute of Technology (MIT) notes that academic institutions must create a new cadre of students and faculty characterized by (1) interest in, and knowledge of, real problems and their societal, economic, and political context; (2) an ability to function effectively as members of a team creating new products, processes, and systems; (3) an ability to operate effectively beyond the confines of a single discipline; and (4) an integration of a deep understanding of science and technology with the practical knowledge, a hands-on orientation, and experimental skills and insight (Dertouszos, 1989).

- As part of the collaborative effort between the Utah Student Investment Program and the Governor's Office of Economic Development to create hands-on experiences in the business world for students, Utah Valley State College has established a Student Investment Fund (SIF) to be managed by UVSC students and faculty (Laurie, 2006).
- Business Plan student competition and business plan awards are open to all UVSC students to win real money with real plans with prizes ranging from $5,000 to over $40,000 in cash for the first prize winner from the state competition.
- The Delta Music Institute (DMI) is a center for Music Industry Studies at Delta State University. The DMI features a revolutionary approach to learning. Using state-of-the-art digital recording gear and computer technology, students learn the art of engineering by mixing, comparing, and ana-

lyzing files of landmark records of top engineers. The focus of the DMI is to provide students with an exemplary education in both music and business. DMI students will study music engineering, music production, and video editing, as well as contemporary composition and studio musician theory and practice. The College of Business at Delta State will contribute studies in music industry law, music publishing and copyright, as well as standard business practices and entrepreneurship (Putnam, 2006).

Further review of the literature dictates that project-based learning is student centered and includes the teacher as facilitator or coach. Students engaged in project-based learning generally work in cooperative groups and solve problems generating a performance assessment of the outcomes that are based on the process of the worked performed and products and services produced. Implementation of project-based learning in the classroom and across disciplines is an effort to develop meaningful ways to challenge students and instructors. The objective is to have students and instructors learn useful skills and gain knowledge, and then apply those skills and knowledge in a process that leads to solving real world problems (Oakey, 2000). The processes and end products are the driving forces of project-based learning. "It is the content knowledge and skills acquired during the production process that are important to the success of the approach. Projects vary widely in scope and time frame, and end products vary widely in level of technology used and sophistication" (Esch, 2000).

The research demonstrates that student retention of information follows identifiable patterns; and the strength of PBL is not measured by student performance on multiple-choice exams, but by demonstration of higher-order learning through guided authentic learning activities (Cheaney & Ingebritsen, 2005). (See Tables 1 – 4 Recommended Competencies - PBL).

PBL PROJECT RESEARCH

The authors were searching for ways for students to demonstrate their learning beyond what was captured on multiple-choice tests, essay examinations, and case studies. Below are samples of research on project-based learning and various assessments and outcomes.

- In Challenge 2000, a five-year study, researchers at SRI International found that technology-using students in Challenge 2000 Multimedia Project classrooms outperformed non-technology-using students in communication skills, teamwork, and problem solving. The Center for Learning in Technology researchers, led by Bill Penuel, found increased student engagement, greater responsibility for learning, increased peer collaboration skills, and greater achievement gains by students who had been labeled low achievers. A performance assessment was designed to measure students' skills in constructing a presentation aimed at a particular audience. Students from Multimedia Project classrooms outperformed comparison classrooms in all three areas scored by researchers and teachers: student content, attention to audience, and design. The Multimedia

Project involved completing one to four interdisciplinary multimedia projects a year that integrated real-world issues and practices. The study appeared in Educational Psychologist, 27 (3): 291-315 (Edutopia, 2001).

▸ The Cognition and Technology Group in a 1992 study of 700 students from 11 school districts in Tennessee found that students doing projects using videotaped problems over a three-week period performed better in a number of academic areas later in the school year. The study, by the Cognition and Technology Group at Vanderbilt University, examined student competence in basic math, word problems, planning capabilities, attitudes, and teacher feedback. Students who had experience in the project work performed better in all categories. The study appeared in Educational Psychologist, 27 (3): 291-315 (Edutopia, 2001).

▸ In this report, "Does It Compute?" Wenglinsky (1998) found that if computers were used for drill or practice, they typically had a negative effect on student achievement. If they were used with real-world applications, such as spreadsheets, or to simulate relationships or changing variables, student achievement increased. Data were drawn from the samples of 6,227 fourth graders and 7,146 eighth graders. Rockman et al.'s survey reported that project-based instruction had increased since the introduction of the laptops in their classrooms. Among the many reported benefits of this project-based approach to learning were greater student engagement, improved analytic abilities, and a greater likelihood to apply high-order thinking skill (Rockman et al, 2004; Snider, 2006b). The students arrived one hour and a half before school every day, cleaning the raceways in the hatchery, checking on the eggs, doing all the chores. They had to manage their time and administer an annual budget of $50,000 a year that was raised totally by donated funds. As a side note, about four years ago, a teacher in Japan sent a copy of the English text used by all the schools in Japan, and chapter four is about the project, so they get checks from Japan. (Snider, 2006a).

▸ Additional research by students assessing project-based learning revealed one project that came about in a town of about 1600 people in Whitwell, Tennessee. The "Paper Clips" was created by Linda Hooper, principal, to help students become open to the diversity of the world. The idea was to collect paper clips to determine what six million of anything would be like. The students did some research, and discovered that citizens of Norway, where paper clips were invented, wore them on their lapels as a sign of patriotism and resistance against Nazi tyranny during World War II. Students decided to collect one paper clip for each individual exterminated by the Nazis. By the end of the project, the students collected 11 million paper clips, and housed them in a donated WWII railcar, as a permanent memorial. The research on project-based learning served to motivate and inspire students to make a difference in what they could do if they tried (Miramax Film Corp., 2004).

▸ Students had created a peer tutoring program as well as taking on mini-projects such as Voluntary Income Tax Assistance (VITA). Through these projects, the students helped younger students with their schoolwork, enabled workers in their community to claim tax refunds, and taught fellow students about SATs, graduation requirements, and community service opportunities. "For VITA, students were trained in the classroom; and during tax time, students signed up to work after school and weekends. Certain students became coordinators for the VITA project, working directly with an IRS taxpayer education coordinator to remedy the fact that $9 million had gone unclaimed in Oakland in 2002. The curriculum, "From Vision to Action," helps students define their communities' needs and determine how to address them, then develop an action plan. GEP also helped to secure money, writing a $25,000 grant and raising extra money for special projects, such as stipends for students who participate in VITA and in peer tutoring (Ball, 2003).

RECOMMENDED COMPETENCIES - PBL

Tables 1 through 4 summarize the recommended competency framework for students entering a career and preferred outcomes from using project-based learning in the classroom (AICPA, 2002). (Autodesk Foundation, 2006; Portland, MA, Public Schools, 2006)

CONCLUSION

There is extensive literature showing that there is no significant difference between lecture-based student performance and PBL student performance on standardized exams. However, standardized exams are specifically designed to test knowledge of the type that is easily conveyed through a lecture-based format. It is suggested that the strength of PBL is not measured by student performance on multiple-choice exams, but by demonstration of higher order learning through guided authentic learning activities (Cheaney & Ingebritsen, 2005).

With technology and mobility, there is no longer a need to be confined to the classroom for instruction. Real world enterprising activities benefit communities through product development and service. The PBL research and fieldwork is conducted with anticipation of moving the learning process from disconnected "educational silos on campus" to a learning alliance with students. Technology allows the educational community to engage in a well designed cross-cultural learning process with students, instructors and mentors to share expertise and experiences. This educational experimentation process may help to enhance the learning environment while developing a product or service that contributes both to the educational community and to a business enterprise.

The early stages of the transformation with vast knowledge are occurring on the Web with useful search engines, high quality open Web courseware, and increasingly effective computer assisted instruction

TABLE 1
WELL CRAFTED PBL.
• Engage and build on student interests and passions
• Provide a meaningful and authentic context for learning
• Immerse students in complex, real-world problems/ investigations without a predetermined   solution
• Allow students to take the lead, making critical choices and decisions
• Connect students with community resources and experts
• Require students to develop and demonstrate essential skills and knowledge
• Draw on multiple disciplines to solve problems and deepen understanding
• Build in opportunities for reflection and self-assessment
• Result in useful products that demonstrate what students have learned
• Culminate in exhibitions or presentations to an authentic audience

TABLE 2
CHARACTERISTICS OF PBL.
• Learning is student centered
• Learning occurs in small student groups
• Teachers are facilitators or guides and become part of the learning process
• Problems for the organizing focus and stimulus for learning
• Problems are a vehicle for the development of clinical problem-solving skills
• New information is acquired through self-directed learning

TABLE 3
PROCESS OF PBL.
• Students confront a problem
• In groups, students organize prior knowledge and attempt to identify the nature of the problem
• Students pose questions of what they do not understand
• Students design a plan to solve the problem and identify the resources they need.
• Students begin to gather information as the work to solve the problem

TABLE 4
OBJECTIVES AND OUTCOMES OF PBL.
• Problem-solving skills
• Self-directed learning skills
• Ability to find and use appropriate resources
• Critical thinking
• Measurable knowledge base
• Performance ability
• Social and ethical skills
• Self-sufficient and self-motivated
• Facility with computer
• Leadership skills
• Ability to work on a team
• Communication skills
• Proactive thinking
• Congruence with workplace skills

that are providing widespread and inexpensive access to education (Kurzweil, 2005, p. 336). The authors are aware of these trends and are determined to continue investigating and joining with industry on projects that appear to help students to keep pace with the reality based needs and recommended competencies necessary to enter a career, profession, and the community. Through the use of PBL pedagogy, students become aware of the need for developing high level communication skills and self-confidence. Additionally, students become aware of strengths and weaknesses in themselves and others and the need to correct certain aspects of their behavior, and they are able to share in the real life work experiences with each other.

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Multi-Disciplinary Introduction to Business Via Computer Simulation

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ABSTRACT

This paper addresses the creation of a multi-disciplinary introduction to business course developed around problem-based learning and computer simulation. The advantages of both pedagogical approaches serve to enrich student knowledge by providing an integrative format for active learning in a group setting. The paper addresses the benefits as well as the unique challenges associated with these approaches to business education, and the specific course objectives, activities, and means of student assessment. The paper concludes with a discussion of positive and negative student reactions to the course, and adjustments to the course curriculum that have resulted. This innovative approach to business education should be of interest to both educators and practitioners alike.

Introduction

Teaching in an institution of higher education is slowly, but irrevocably, shifting from a content-driven approach to a learner-centered approach (Fink, 2003). Teachers encountering and embracing this shift are struggling to create significant learning experiences for their students. They recognize their student audience is assertive, cost-conscious, and outcome-oriented; their campus environments are similarly engaged. Taking this and disciplinary needs into consideration, institutions of higher education are seeking to connect learning with the real-world, and extend teaching beyond the traditional formats of lectures and discussions (Fink, 2003).

Students in schools of business need to have their learning framed within the context of real-world business, and be able to transform the content and concepts from the academic realm to present and future marketplace problems (Sternberg, 1986, 1990). Awareness of this need led Samford University's School of Business to create a multi-disciplinary introduction to business course. In this course, the instructor sought to expose and engage the learner in applications designed for students to move beyond the traditional "learn by doing" and performing of tasks (Marriott, 2004).

The course is taught in the first year of the business school's four year undergraduate program. Predominant goals of the course are for students to develop an awareness of the interrelationships among the various disciplines affecting business operations, effective team work, the co-dependency of one function upon another, and the broad scope and objectives of business viability. Accomplishing this goal lead the instructor to combine the pedagogies of problem-based learning and technology through a computer simulation problem that enables students to engage in real-world problems. Problem-based learning (PBL) captures the multiple intelligences required for confronting new and complex real-world challenges (Tan, 2000). Furthermore, integrating technology with alternative and traditional teaching methods can enhance student learning (Frayer, 1999). In this situation, technology does not reinforce passive learning, but rather facilitates active learning.

By using this process from the beginning to the conclusion of the program, students can be expected to apply their learning to subsequent business courses and future real-world business experiences (Middleton, 1980). Ensuring an effective start to this process, the Undergraduate Process Education Committee at the School of Business assisted in researching and selecting the appropriate computer simulation tool. The computer simulation chosen provides students with a problem-based learning experience within the context of managing a 40 million dollar electronic sensor company.

Problem-Based Learning

PBL arose as a pedagogical strategy in the 1950s and 1960s when it was used in medical schools. Further refining of the technique was accomplished by Howard Barrows, a neurosurgeon, who when frustrated with the apparent inability of medical students to transfer classroom knowledge to the clinical arena, incorporated PBL as a major teaching method. Barrows and his colleagues created complex, ill-structured, real-world problems that drew upon content knowledge and essential skills such as collaboration, communication, and problem solving (Koschmann et al., 1995; Savery & Duffy, 1994; Williams, 1992). Students at the McMasters University School of Medicine were exposed to these problems with the distinct goal of creating cognitive dissonance and stimulating learning. Since that time, PBL has been implemented throughout the educational system, from kindergarten through twelfth grade (K-12) schools as well as a

number of higher education disciplines including architecture, education, engineering, nursing and law (Savery & Duffy, 1995).

Problem-based learning (PBL) is both a curriculum and a process. The curriculum consists of carefully selected and designed problems that demand from the learner acquisition of critical knowledge, problem solving proficiency, self-directed learning strategies, and team participation skills. The process replicates the commonly used systemic approach to resolving problems or meeting challenges that are encountered in life and career (Barrows & Kelson, 1995). Problem-based learning's implementation ranges from the model proposed by Barrows in which learning is student-centered and guided solely by problems, to that of a hybrid model. Most institutions have found the Barrows model, while desirable, may not be feasible or desirable by itself due to their institution's facilities or personnel issues. Therefore, in practice, a hybrid model in which PBL is integrated with lectures, case studies, etc. is more the norm.

Regardless of the model, the PBL process entails students working in groups of 4 to 6 to solve unstructured problems while their instructors act more as coaches or facilitators. The decision as to which PBL type to use depends upon one's teaching philosophy and one's institutional mission. At Samford University, PBL is viewed as an instructional strategy that promotes active learning and can be used as a framework for modules, courses, programs, or curricula (Samford, 1998). Aside from the use of small groups, there are other key elements. For one, teachers perform as facilitators which requires them to draw upon different knowledge and skills from that of traditional instruction. They have to embrace a move from the "sage on the stage" to that of the "guide on the side." Developing problems instead of solving them, handling groups, and using new forms of assessment require a pedagogical paradigm shift. PBL also requires a collaborative environment and stresses students' "learning to learn" versus "learn by doing." The former draws heavily on metacognitive skills and the need to reflect on what is known, what is learned and how it will be applied. As a result, the responsibility for learning is placed heavily on the student learner. The fulcrum of PBL is the use of an ill-structured problem (Koschmann et al., 1995; Wilkerson & Gijselaers, 1996). PBL problems are generally more systemic, holistic, integrative, inductive and contextual whereas traditional educational scenarios are reductionistic, analytical, deductive, fragmented, linear, and rational (Tan, 2003). PBL problems should also be:

- ▸ Engaging and oriented to the real-world
- ▸ Generate multiple hypotheses
- ▸ Require team effort
- ▸ Be consistent with desired learning outcomes
- ▸ Build upon previous knowledge/experiences
- ▸ Promote development of higher order cognitive skills

The process of working a PBL problem is typically delineated into a series of steps or stages (Koschmann et al., 1995). These stages are as follows:

1. *Problem formulation*. Students isolate important facts from their rich context, identify the problem, and generate one or more research questions.

2. *Self-directed learning*. Group members identify and address information needed to evaluate the research questions that were generated previously. This list of needed information sets the learning agenda for the individual and group learners.

3. *Problem re-examination*. Group members bring to bear their findings from their self-directed learning activities--adding, deleting or revising hypotheses as warranted.

4. *Abstraction*. This is an articulation process (Collins, Brown, & Newman, 1989) during which members compare and contrast cases, forming cognitive connections to increase the utility of the knowledge gained in specific contexts.

5. *Reflection*. At this point the group debriefs the experience and identifies areas for improvement in their learning processes.

Of the number of issues related to PBL, the predominant one tends to relate to the group work. While the potential benefits of group learning are many, there are a number of unique challenges presented by this learning approach. For instance, individual group members' contributions can vary. Introspective students may contribute less or feel suppressed by more dominant students. Without sufficient guidance about these group learning issues, this situation can degrade. Differences of opinion may not be voiced or heard, and work divisions may be unequal. Therefore, in order to minimize the potential for negative consequences, teachers must learn to discuss the rules of the group and the potential outcomes of group problems prior to entering into the PBL process. At Samford University, many faculty have used a tool similar to the White, Amos, and Kouzekanani (1999) "Rules of Trust."

"Rules of Trust" is a document that allows for the student group and its respective members to delineate the group's ground rules. Instead of relying on individual assumptions as to group behaviors and consequences, the "Rules of Trust" signify a discussion and agreement with the group's rules. There are many ground rules that effective groups must address and the first step is to identify those rules. After the group has discussed the rules, they are recorded and each member of the group signs the group "contract" and thus signifies concurrence with the rules.

Considering the time-consuming nature of the PBL approach, another challenging issue involves the teacher's course preparation. Implementing PBL can be challenging and overwhelming to faculty, particularly when dealing with students who lack effective problem-solving skills. Exceptional students can find the process tedious and frustrating as they wait for their fellow students to grasp both the problem and the solutions. Authentic and well-planned problems that require specific activities and have adequate resources available lead to the generation of new knowledge and reduce the causes of student and teacher frustration mentioned previously.

Student learning has been enhanced with technology (Abdulla et al., 1983; Carroll, 1998; Levine et al., 1999; Pelletier, Ness, & Murphy, 2002; and Richardson, 1997), and with PBL (White, Amos &

Kouzekanani, 1999). Use of the two pedagogies encourages students to solve a problem using technology as both a research and communication tool (Carroll, 1998; Pelletier, Ness, & Murphy, 2002). The ability to locate information pertinent to a PBL problem is less of an issue with access to the far-reaching information available via the Internet. According to Pelletier et al. (2002), integrating technology with PBL could motivate students to learn as well as to develop essential information literacy skills. PBL can also be integrated with technology by using such items as groupware (Stefik & Brown, 1989), hypertext/hypermedia; databases, and various software programs.

Technology and Learning

Instructional technology in higher education has continued to grow in use and acceptance by students and faculty (Poindexter, 2003). The inherent power of technology for students is its ability to provide access to real-world events, facilitate communication among their peers and instructors, support analysis and synthesis of information, and simulate ill-structured and complex environments (Kozma & Johnston, 1991).

Using technology successfully to teach requires sufficient training and support. Without a comprehensive information technology infrastructure, faculty, schools, and institutions all will have difficulty achieving the full potential of educational technology to enhance the student learning experience (Kozma & Johnston, 1991). Appropriate use of technology is another relevant issue. Various factors should be considered in determining the need to incorporate technology to a given course, including the compatibility with course content and program curriculum, the degree of pedagogical advantage, the students' interest and capabilities, and the level of administrative support. Faculty incentives to employ technology in a course are necessary as well. Providing "release" time, student and clerical support, stipends, and reassurance that these activities will contribute to promotion and tenure are all incentives that should be considered.

Computer Simulation

The tendency in incorporating technology into a course is to try to enhance a current offering rather than structuring the course around the technology. Using course learning outcomes as a guide, the teacher should consider methods in which technology could assist in achieving these goals and maintain active learning. Computer simulations are one such method. According to Scardamalia et al. (1989), a course wishing to incorporate computer simulations as a method should observe the following basic tenets:

- ▸ Keep knowledge-construction activities overt.
- ▸ Maintain focus on student learning outcomes.
- ▸ View knowledge deficits in a positive manner.
- ▸ Provide process-relevant feedback.
- ▸ Encourage use of alternative learning styles.
- ▸ Encourage multiple passes through information.
- ▸ Support alternative methods of organizing information.
- ▸ Encourage reflection on prior assisting knowledge.

- ▸ Facilitate transfer of knowledge across contexts.
- ▸ Encourage peer teaching.

These tenets are aligned with those of problem-based learning. In particular, problem-based learning encourages self-directed learning that mirrors that of computer-simulated instruction (Scardamalia et al., 1989). Students are expected to exercise their learning strategies, skills, and goals to learn the relevant content with both pedagogies. Since students do not always have these skills, Scardamalia et al. (1989) propose that a computer-simulation environment allows students to practice these cognitive and reflective skills. This environment, referred to as a computer-supported intentional learning environment (CSILE), "fosters rather than presupposes the ability of students to exert intentional control over their own learning..." (Scardamalia et al., 1989, p. 52). Studies performed by Scardamalia and Bereiter (1994) discovered that students were able to delineate high-level inquiry on a new topic using prior-assisted knowledge. Furthermore, these inquiries were able to guide students' exploration into the content. Thus, intentional learning environments, like PBL, can facilitate high-level, content-relevant activities.

Intentional learning environments are comprised of 3 essential elements according to Scardamalia and Bereiter (1994). These include: a) intentional learning; b) process of expertise; and c) restructuring the classroom into learning communities. The first was identified from the research of Ng and Bereiter (1991) in which they observed students and their ability to learn computer programming. From their observations, they delineated intentional learning as having 3 distinct goals: performance goals which involve the completion of certain tasks; instructional goals which are those outlined by the teacher as student learning outcomes; and learning goals which are the means by which each student identifies his/her learning needs and the processes by which they can be achieved.

As students acquire knowledge, they develop a level of expertise (Scardamalia & Bereiter, 1994). This knowledge becomes routine, and thus enables the students to move onto higher and more complex content. These same individuals are committed and engaged in systematic intentional learning, and continually open their capacity to learn. Learning communities allow for dynamic and peer-related learning. Contrasted to static learning in which the student must adapt to the course's stable routine, dynamic learning communities are constantly adapting to new information and members (Scardamalia & Bereiter, 1994). The community has the potential to raise the standard of learning. Transformative learning occurs and each community member contributes his/her prior-assisted knowledge and inquiries.

Taking Theory Into Practice

In 1998, Samford University in Birmingham, Alabama, received a million-dollar grant to design, implement, and assess the use of problem-based learning in undergraduate courses. The schools of arts and sciences, business, education, nursing and pharmacy vigorously un-

dertook this task and many of their respective courses continue to utilize PBL as both a teaching strategy and program guide.

In the school of business at Samford University, PBL was used to enhance student learning in an "Introduction to Business" course. The overarching goal of the course is to familiarize students with the business world. Specific goals of the course are delineated in Table 1.

et al. (1989). For example, knowledge deficits should be handled in a positive manner and "encourage multiple passes through information" by allowing the students to make weekly decisions and view results in a non-threatening (i.e., not evaluated for grade performance) environment. The computer simulation chosen meets those principle needs. Furthermore, each simulation team engages in four practice rounds and eight "real" rounds of performance. With each iteration, the student (with their respective teams) evaluates their performance,

TABLE 1
INTRODUCTION TO BUSINESS COURSE GOALS AND OBJECTIVES
Goals and Objectives

1	Understand and apply the elements of basic business planning.
2	Study and manage external factors that effect business.
3	Apply business terminology.
4	Analyze the internal functional areas of business.
5	Understand and apply basic principles of business finance.
6	Conduct competitor analysis.
7	Experience the effects of business decision making through simulation.
8	Define basic business concepts and terms.
9	Identify the main participants and activities of business.
10	Determine how organizations assign responsibility for tasks and delegate authority.
11	Specify the functions of marketing and summarize the environmental forces that influence marketing decisions.
12	Demonstrate the accounting process and decipher the various components of the income statement and balance sheet.

Since the introduction of the course, the curriculum has continued to build upon the PBL foundations and incorporate its principles via a computer simulation problem. Using a business computer simulation tool from the business Capstone course (Tompson & Tompson, 1995), the simulation problem was first a peripheral, educational tool, and later was integrated throughout the Introduction to Business course.

The computer simulation gives each team and team member the ability to make Research and Development, Marketing, Production and Finance decisions over eight years of operations. The software allows six teams (companies) in an electronic sensors industry to compete across ten indices. Some of these include margins (contribution, net and ROS), profitability, market share, market capitalization, forecasting, customer satisfaction, and productivity. The learner is able to influence market supply and demand based on sales forecasting and production, create and liquidate product lines, establish credit policies and financial structure, align cost structure based on variable costs of labor and material, and control overtime and inventory.

To enhance its effectiveness, the computer simulation should reflect at least some of the suggested principles mentioned by Scardamalia

adjusts their learning, and makes decisions for the following "year" (round) within the evolving competitive context (Scardamalia et al. 1989). Students in the class seek to connect to the world through the classroom learning and understanding gained through the simulation. Further, the simulation allows the use of multiple media via the internet, desktop software and interactive decision-making. Through these weekly activities, each team member has an individual function that becomes part of the total submitted decision. The student thus has an active part in individual decision-making and participation that contributes to the whole team's success.

The Management Simulation, Inc. was selected for a myriad of reasons including the program's capacity to: (a) generate feedback based on teams' decisions and decisions of competitors; (b) provide extensive feedback; and (c) allow for multiple answers (Tompson & Tompson, 1995). According to Mitchell (2004), computer simulations offer a number of advantages as compared with the traditional business case method including: (a) allowing learning on a conceptual level; (b) allowing the student to experience interactions among various parts of a system and decisions made by considering the integration of all elements of the system; (c) placing students closer to the role of a decision maker with a sense of responsibility for the "bottom line"

results; and (d) permitting students to test and experience the consequences of their decisions.

Computer simulations also have the capacity to address many of the perceived needs of the current generation of students (i.e., "the Millennials"). According to Daniels, Norman, and Stewart (2004), teaching Millennials presents a number of unique challenges. The authors recommend communicating the "value added" of the course and respective assignments; emphasizing the impact business has on the global community; using multiple methods and media to address students' ability to engage in critical thinking; providing opportunities for students to voice their perspectives; and balancing the tension between collaborative and individual learning. Recognizing

and working within the value system of the Millennial is also essential. Some of these values include: (a) self-reliance; (b) technology; (c) speed; (d) flexibility; and (e) individuality (Daniels, Norman & Stewart, 2004).

Simulations cause students to assimilate a vast array of information and work through team decisions within a limited timeframe. Using this paradigm encourages the student to draw upon their learned experience(s) and knowledge to effect a solid decision through technology. Further, teamwork is essential, as each group member assumes a specific function and ultimately contributes to the group's results throughout the simulation competition. In the business simulation, the students are able to quickly make decisions and view their

TABLE 2 SEVEN PRINCIPLES FOR THE APPLICATION OF PBL AND TECHNOLOGY (MODIFIED FROM CHICKERING AND GAMSON, 1987)	
Principle	**PBL & Technology Applications**
Good practice encourages contacts between students and faculty.	Posting of PBL problem Internet resources Rules of trust E-mail Discussion boards "Electronic office hours" Course website
Good practice develops reciprocity and cooperation among students.	"Electronic study groups" Internet resources E-mail Discussion boards Oral/written presentations
Good practice uses active learning.	Electronic communication Computer simulations Statistical programs Internet resources Quizzes/surveys
Good practice gives prompt feedback.	E-mail Discussion boards Audiovisual performance critiques Text comments Quizzes/surveys Assignment drop-boxes Portfolios
Good practice emphasizes time on task.	Time management Internet searches/resources Electronic communication Computer simulations Student tracking Bookmarks
Good practice communicates high expectations.	Electronic communication Electronic examples of student work Self-assessment tools Course objectives
Good practice respects diverse talents and ways of learning.	Inventories Internet searches/resources Multimedia Quizzes and selective release Course modules/assignments

results in a zero-sum competition while managing their simulated companies (Tompson & Tompson, 1995).

Course Activities

One of the primary course activities requires that each team develop both a situational analysis and a business plan. Additional activities include teammate evaluations, the creation of an organizational memo, and a final team presentation to the class in which a review of the company's results is discussed. The course curriculum also includes the analysis of business cases for class discussions. The cases serve to validate the current teamwork or management principles. To further cement the process, the entire class visits a local production facility to observe actual operations that are consistent with the situations simulated in the computer program. Topical expertise related to the computer simulation problem is interjected throughout the semester via visits from school of business faculty who provide lectures from their respective disciplines, typically including marketing, operations, human resources, and financial accounting.

Course Assessment

Assessment of the course is guided by Chickering and Ehrman's (1996) use of the Seven Principles for Good Practice in Undergraduate Education as applied to technology use in a course (Chickering

& Gamson, 1987). These principles are founded on the idea that the purpose of technology is to enhance student learning, not be an obstacle or add-on pedagogical technique. Table 2 highlights these seven principles and the methods of applying them in a PBL and technology-based course.

Student assessment of the course occurs both at midterm and at the conclusion of the semester. At the course mid-term, the instructor asks for student feedback with respect to class progress, individual learning, and the achievement of course objectives. Based upon the midterm feedback, the instructor may adjust the course content and teaching methods as needed. Student evaluations completed at the end of the course provide additional information for subsequent improvements. Examples of student commentary generated in this initial course offering are provided in Table 3.

As indicated in Table 3, the students reported both positive and negative reactions to the business simulation experience. Based upon these student experiences and suggestions, a number of course adjustments have been made. First, it was discovered that the use of computer simulation software as well as the inter-group activities produced a high level of anxiety in some students (Anderson, 2005). In many cases, this was the student's first experience with one or both of these pedagogical techniques. The instructor therefore decided to (a) implement individual as well as team meetings during the first few

Comments
▸ Helps student understand business world
▸ Provides opportunity to view a business
▸ Good preparation for future
▸ Need textbook/source book for better understanding
▸ Lost interest in class with lack of overall understanding upfront
▸ Provides prelude to more advanced business courses
▸ Confusing without a textbook
▸ Need more resources – confusing initially
▸ Very confusing to someone who has never taken a business class
▸ Did not learn anything because after the first two weeks two team members took over and rode their coattails
▸ Overall course was useful but at times very confusing
▸ Simulation a bit overwhelming at first
▸ Thrown in – hard to manage group work when group is unreliable
▸ Not enough information given early to play the game successfully but learn by the end
▸ "Baptism by fire"
▸ Harder than it seemed – very time consuming but enjoyable and learned a lot
▸ Kind of neat trying to manage business but really confusing
▸ Students do not learn the basic material before going into the simulation
▸ Gives opportunity to really see how a business performs and works and how vital teamwork is
▸ Teamwork learning
▸ Simulation is fun while providing a real-life application

weeks of the semester, and (b) delay the initial assignments to allow time for the students to first become acclimated to both the technology as well as the group work.

Subsequent to the course revision, the instructor discovered that reducing the anxiety levels had an unanticipated effect on the students' engagement in group work. The students actually became less engaged which allowed the more capable group members to dominate the group's activities. This is a common problem associated with group-based learning, commonly known as the "free-rider" effect. In an attempt to address the uncertainty of the simulation semantics and the observed steepness of the learning curve for some students, the instructor incorporated more in-depth explanation of the software, slightly reduced the level of difficulty of the simulation, and provided more specific discipline-based lectures relative to the simulation activities. Further, to improve the accuracy of individual and group assessments, the instructor included a percentage of the final course grade for classroom participation, including both the instructor's perceptions as well as peer evaluations of contributions made by their fellow group members. Finally, the course curriculum was altered to include both individual and group presentations of simulation results in order to improve assessment of student learning and performance.

Conclusion

This paper has addressed the creation of a multi-disciplinary introduction to business course developed around problem-based learning and computer simulation. We believe the advantages of both pedagogical approaches serve to enrich student knowledge by providing an integrative format for active learning. While we are pleased with the initial results of this course offering, the course curriculum will continue to evolve and improve over time based on student assessment and target outcomes. We hope that our experience may encourage others to consider integrating similar pedagogical techniques into their business curricula.

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Linking Academic Learning to Actual Experiences: Using Reality TV in the Classroom

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ABSTRACT

The author reflects on her use of Trump's The Apprentice as a means of connecting management concepts to reality within a traditional classroom. This study investigated the use of a reality show to create experiences through which the student may link concepts introduced in the classroom. The author analyzed data from individual journal writing and across student journals. In addition, a focus group was arranged and conducted by a college administrator. The researcher reports her belief that it is the responsibility of the teacher to provide "staged" experiences: The Apprentice provided this staged experience for students in her classroom, and from it, the findings of this study indicate their learning was enhanced.

Introduction

As a teacher, I continually hear students doubt their ability to think critically. Most often referenced by traditional age students is their apparent lack of experience. While most acknowledge the importance of the classroom and effectiveness of good teaching, little research has explored how the classroom experience interacts with other factors to influence student learning (Tinto, 1997; Chickering, 1993; Cross, 1994). Acknowledging that good teaching can be taught, researchers contend that creating optimum conditions for learning can be a complex task (Chickering, 1993; Pascarella and Terenzini, 1994; Tinto, 1997). Creating a bridge between student and teacher is never easy. We live in a connected or wired world, and yet we struggle with our attempts to understand and connect with one another. Creating a bridge between reality and the classroom is even more difficult.

In December 2003, I was asked to teach three management courses for a local community college located in Pennsylvania. As I began to prepare, NBC was promoting yet another reality show – Trump's *The Apprentice.* I thought the show provided an opportunity to *connect* or create a bridge between this liberal New Englander and community college students from central Pennsylvania. I knew that it was important to encourage dialogue within the classroom. Researchers have reported that dialogue, represented as interaction between teacher and student and between students themselves, creates an environment that encourages reflection and learning (Jarvis, 1992; Basseches, 1990; Freire, 1993; Kegan, 1982). Initially, I thought only about finding something we could all have in common – something light to begin each class. What I found, however, was something from which we all learned. In the fall of 2004, I joined another local college, Pennsylvania College of Technology, as a full-time member of their business faculty. Trump's *The Apprentice* came along with me. When I introduced my idea about requiring all to watch this new reality show, I was shocked to see the apparent lack of interest. What I heard were the typical complaints: not enough time, out that night, one T.V. in the house and no control over what was on, etc. I persisted and suggested they tape the episodes. NBC's website offered students another medium to view the show. I required students to include in their weekly journals reflections on what they learned from watching the show.

Following each episode, I opened up the next class with questions about the show. My emphasis was on themes common to the show and concepts studied in class. While many struggled with what I wanted to see in their journals, the discussions helped make that leap from reality show to concepts to actual learning. Gradually, I watched as the majority of the students became hooked on this new way of learning. Each week, an increased number of students were successfully making connections between the show and the course concepts. As a teacher, I was convinced the learning was being enhanced by this experience. To check my own reality, I decided to verify my perception.

Methodology

The purpose of the study was to provide a broader understanding of how faculty may better support students' efforts to link concepts to reality. The focus of the study was on the actual use of the reality T.V. show, The Apprentice, across three Principles of Management classes taught in the fall of 2004 at Pennsylvania College of Technology.

If a student wished to be involved in this part of the study, I requested that he or she either return their original journals to me. These journals were entered into the qualitative software NVivo. Students were asked to sign a release allowing me to use their journal entries. In addition, I arraigned to have the Director of Instructional Technology at the College, run a half-hour focus group in one of the Principles of Management classes during the last week of the semester.

The data from the journals were gathered and then organized into categories, themes, and patterns. Using the qualitative software, I developed codes from management concepts found in our readings as well as those discussed in class. Those codes that did not already exist within the node tree but found within the students' journals were added. I continued the coding process and utilized the software capabilities to determine common themes and to link the individual journals to other journals with the similar themes. This produced suggested patterns of significant factors or lessons learned.

There were limitations of the study. Across three classes with an average size of 25 students, I received journals from eighteen students. At the beginning of the semester, my syllabus reflected the show as required watching and asked that students come to class prepared to discuss management principles that the weekly show may have presented. It also required that weekly journal entries include concepts or topics of interest gathered from their observation of the show.

The in-class discussion and the journals made up a portion of the grade for the class. This grade was to reflect 15% of the overall grade. Journals were not given letter grades. Rather, I assigned checks, check minus, check plus or excellent to each journal. Those that received check plus or excellent were those which most successfully were able to connect concepts from the course to events within each episode. Those receiving a check were primarily summaries of the episodes. Those whose journals consistently received check pluses or excellent were more freely offered as samples of journal writings.

Findings

Focus Group

Prior to the end of the course The Small Group Instructional Diagnosis (SGID) was used to interview one of the three Principle of Management classes used in this study. This class was made up of 25 traditional age students. Students were broken into four groups and asked to address three key questions, to gain consensus and then to report to the entire class. The findings of one of these questions are reflected below:

What aspects of the course most helped you to learn?

# Students x/25	Responses
25	Watching and writing on "The Apprentice"
21	Journals
17	Visuals and PowerPoints
17	Group Work
25	Open door policy of professor, approachability
25	Use of movies and their connection to the course

Data Analysis of Journal Themes

I first ran a report by node with all references coded to that node. The first nodes added to NVivo were those also noted by a student, Michael: "For managers to be successful they must be able to plan, organize, lead, and control. Depending on what type of situation you are in you must evaluate and act accordingly." Journals and class discussions revolved around these primary themes.

One theme added and noted frequently both in class and in journals was the expressed surprise at this requirement. Mathew noted in his journal:

> While never seeing the TV show *The Apprentice* before, I was wondering what it might be like. I knew it had to be about our management class in some way because why would you have us watching it if it wasn't. College football was my Thursday night entertainment. But, oh, well. *The Apprentice* started and it was very interesting...because I could relate back to management class and see how the things I was being taught really affects a real life experience.

Two weeks later, Mathew not only provided me the support I need to continue but also amazed me with this reaction: "This week's Apprentice was very good. Since I started watching this show, I really did not know if I would be in to it like I would be a college football game but I am. Maybe even more." Another student wrote: "It was interesting to see the management skills pour out of almost all individuals." These two students exemplified the reaction of the majority of the students across all classes. Further, while I noted that in class and in journals, some struggled with recognizing concepts, their fellow students led the way in discussions and provided the impetus to encourage others to recognize the connections between reality and concepts. Initially, a few students led class discussions. Each week, an increasing number of the students clamored to be heard. In all, 27 nodes or common themes were discussed by students in journals and coded by the researcher:

> Use of Apprentice, Planning, Planning/Research, Organizing, Leading, Leading/Motivation, Leading/Presence, Controlling, Controlling/Flexibility, Team Work, Team Work/Groupthink, Team Work/Brainstorming, Team Work/Social Loafing, Team Work/Devils Advocate, Emotional IQ, Self Analysis, Self Analysis/Responsibility, Environment, Communication, Communication/listening, Creativity, Creativity/Diversity, Decision-making, Experience, Structure, Task vs General Factors, Strategy

What follows were taken from representative student journals. The primary themes of planning, organizing, leading, controlling will be discussed.

Planning

The show is billed as the *ultimate interview* creating situations or tests of the participants' character and talent to maneuver through the obstacles presented them. Often management recruits will be presented with situations and/or challenges from which others will judge their capabilities. Students noted those teams who most often succeeded in weekly assigned tasks were those who had planned and done their research. I continually heard from students: Know your opponent; know your customer; be prepared; do your research. Whether in the classroom, in your profession or in your personal life, accumulating

knowledge through research is a critical ingredient to success. Philip provides an excellent example of these themes:

> The poor planning and management decisions of team Apex directly resulted in the disastrous finished product that they displayed to the real estate appraiser. In the boardroom, Trump did state that most of the team members worked hard to achieve the vision of the team manager. Unfortunately, the decisions and planning that the team utilized to accomplish that vision led to their downfall.

Note the consistent use of terms discussed in class: planning, decision-making, vision. Michael had become so involved that he was predicting outcomes and speaks of those who fail due to lack of planning:

> Apex did not fail me; their whimsical team provided me with plenty of laughs and horrible examples of how not to manage a team. Ivana, who said she could not control the team, was also not in control of any of the problems that arose throughout their pitiful sales day. To make matters worse, Ivana also did not plan well at all, which lead to poor organization. All in all, it was just a disaster from the start gun.

Connor took the connection one step further when he not only spoke about concepts seen in the show but also made direct links to class and then to himself:

> This past week was spent discussing planning and strategizing. Planning and strategizing is used not only in business, but also for such as homework and family affairs. Planning and strategizing was also present in this week's Apprentice. Both teams had to find the best way to introduce Crest's new flavor of toothpaste, vanilla mint. Both teams had to plan to gather the resources needed and meet the requirements for Crest and Mr. Trump. The teams also had to strategize to beat the other team. Both teams ran into problems from poor planning by going over budget and the other team counting on their plan to give away one million dollars which did not work out. Proper planning and strategizing is key to being successful in business, school, and life in general. Everyday, I must plan to make sure I accomplish everything that is necessary for the following day/week within the time and resources that I have available.

Organizing

Organization, experience and creativity consistently proved to be necessary characteristics of the winning teams. Corey emphasizes not only one team member's experience but also her ability to organize: "Right off the bat, Sandy's experience kicked in and she took charge of the group and organized everything." In a later episode, Darren reports the reason the women's team loses: "The women ob-

viously were unorganized and had no real plan." Michael echoes this when speaking about Pamela:

> She asked what everyone thought they were good at and assigned the tasks accordingly. This strategy for job design really has not been seen by either team in the prior weeks...division of labor is a very efficient way for team projects to be completed. For the first time in weeks, Apex actually was communicating and not at each other's throats...Pamela's organizational structure was excellent and very visible to Mr. Trump.

In addition, another student follows these concepts from reading, to discussion, to staged reality to his own reality:

> This past week consisted of discussions on organizational structure. Organizational structure plays a very large role in business, large and small. The way a business organizes will affect how well or how poorly that business does. I noticed this while watching this past week's *Apprentice*. Both teams had to open their own restaurant. The guys organized their resources, tasks, functions, and team manager immediately, leaving enough time in the day to hire a cleaning company, organize and get some sleep to have enough energy for a very busy schedule the next day. Meanwhile, the girls were not so quick to organize, nor did they organize their resources, tasks, functions, or team manager as efficiently and effectively as the guys. They did not hire a cleaning company, making them tired and less prepared for the next day, and because of disagreements between some of the girls and the team manager, they eventually failed at having the best rated restaurant between the two teams. The way one organizes will definitely affect how successful he/she is in their daily lives and will determine how much he/she gets accomplished each day.

Leading

Another theme discussed extensively was that of leading and the skills and characteristics of good leaders. Erin mentions a characteristic of a good leader, draws comparison to herself, and acknowledges the characteristic as one she needs to develop:

> The Apprentice started this week. It had some principles in it that directly related to management. For example, the woman that went over to the guys group to be the leader showed good management skills by showing presence. Presence is very important because it gets others' attention and respect. It has everything to do with the way you speak and carry yourself. I could probably take a lesson from her because I don't have much "presence" because I don't assert myself much.

Later, James does note the necessity of a leader to find balance within the team: "I found this week's *Apprentice* very interesting to say the least. I must start by commenting on Trump's decision to fire Elizabeth in the presence of the whole team. Frankly, it was brilliant...I think it is important to say that, any leader, regardless of their skill or experience, needs to have a good synergy with their team."

Trump's decisions were often debated in class: "I thought Chris definitely should have been fired. No leader should give up right from the beginning and that's what Chris did. The leader is supposed to give motivation to the team, but if the leader basically gives up then the team has no chance from the start." However, not everyone agreed with Trump's decisions regarding leaders:

> The men really came through with an ingenious plan to donate some of their earning to the leukemia foundation. The men eventually won, but it was the ending that had most people talking. Donald fired the Apex Corp leader because he spoke out and said he would forfeit his immunity. This made Donald furious and he was fired, even over the women that should have actually been fired in the fist place. I somewhat disagree with Donald's decision for I feel that it was made prematurely and out of frustration. He was just trying to "Go into battle with his team" like a good leader always should.

Controlling

Jen noted, "We just finished talking about control. When I read the chapter, I thought a good type of control should motivate employees to achieve their organizational goals, and that controlling also means to anticipate events that might occur...Control should motivate employees and sometimes direct supervision doesn't do that because it's too much supervision" as she noted on that week's episode. Mike drew parallels to his own experience with the need to control:

> Raj was fired was not because of his idea to make their four bedroom house a three bedroom house, but because he was not firm when telling the contractor that things needed to be complete by the given time. What I have learned from working in the construction industry is that you must have a contract that lists a specific date. When that date is agreed upon there is always a clause that states what will happen if the contractor does not complete the project on time.

Phil noted Trump's emphasis on controlling one's finances: "He said that, 'A penny saved, is a penny saved.' His point is that saving money, even in small amounts, will eventually make an impact on a business and its respective finances." Phil continues with this theme as he discussed that week's task: "...they needed to restructure their team organization and make one individual in charge of finances and follow up on purchase agreements so they don't.... pay $7,000 for a flier that they only budgeted $1,800 for."

Sharon spoke about culture and control while lamenting the firing of that week's participant:

> This week's chapter and class discussion was about Culture and Control. Organizational control is the values, norms, standards of behavior and common expectations that control the ways in which individuals and groups in an organization interact. Control is a way to monitor and achieve efficiency... the way Pamela went through and ran her team was a good understanding for the Control Process. She had to establish all of her teammate's abilities and then delegate certain jobs to each person depending on their expertise. Then they went and did a run through of the task they were told to do. After that was over they went back and discussed what had to be changed in order to make it more successful and appealing to the customers.

Other Themes

Themes spoken about often in journals were Emotional Intelligence and the need to be flexible. For a teacher of traditional age students, it was interesting how often these students were able to recognize immaturity in the participants: The whole team "had very low emotional intelligence. Raj, Andy, and mostly everybody else drooled over the models when they were assigned to work with them...On Apex, Elizabeth lacked most if not all of the traits of effective leadership..., nor did she demonstrate dominance, self-confidence, or tolerance of stress. Her maturity level was very low as well." On the theme of flexibility, one student noted "What really won this competition was the group's ability to be flexible and perform many different tasks..."

Teamwork and one's ability to listen were important lessons and frequently talked about in journals. In each class, I asked that students worked together in teams on a variety of projects including a final research project. Many journals addressed the importance of working together effectively. It was as though each student was seeking to understand how to best work with his or her own in-class team:

> As the woman's group lead by Bradford was attempting to choose a team name, it was a great example of brainstorming. One individual wrote down all the proposed names, which made it easier for all to see and to remember. The men's group did not look like it was too well organized. No one wrote the proposed names down and the decision-making process was not a group effort at all.

The dangers of teamwork were also noted: "I also noticed a case of groupthink after the guys lost the tasks. While they were swirling around looking where to place blame, Trump mentioned that the fashions were priced too high, and all of a sudden they were all saying the same thing."

Summary Lessons

Near the end of the series, some questions began to be raised as to how staged this *reality* show may have been. I knew I would have the need to summarize what we may have taken from this *reality* show, staged or not. The lessons learned had begun to accumulate. As we neared the end of the semester, I reflected on my notes, our experiences, discussions, journal writings, and lessons learned. I tried to summarize some of our most important lessons learned from watching *The Apprentice* and the resulting class dialogue.

► The theme song, Money, Money, Money opened each episode. Whether it is a game, a stage, or your profession, putting things in perspective and setting priorities is essential. Once you do that, it establishes a clear vision for how you should act. Unless we understand what is most important to each of us, we often overreact to trivial events or situations. Some of the participants overreacted. In the end what many found most important was family – not winning, not Money, Money, Money.

► Business is business; it is not personal. We will each make mistakes. Once we all accept this, it frees us from the emotion that clouds our ability to think through and carefully consider alternatives to actions.

► Image seemed to be most important to winning as we were faced each week with gorgeous participants. Yes, in business it cannot be denied, how we dress, move and with whom we surround ourselves is noticed. Do we need to be the most beautiful? No. We need merely to respect ourselves enough to take care of ourselves. However, most important, we need to know ourselves before we can truly present an impression of ourselves. Most of these participants appeared to be in the self-discovery stage. In fact, self-knowledge is a life-long journey.

► Think out-of-the-box; dare to be creative. It will distinguish you. By taking risks, we differentiae ourselves from the pack.

► Do not forget the importance of charity. From many of our business leaders, we have seen the importance of charity. It is imperative that those who gain from society stay committed and connected to their communities.

► Life is a series of situations and people. To be successful we must be able to change our styles to accommodate the variations and the diversity. People are drawn to those who are willing to listen and compromise.

► Be energetic and passionate while also controlling your emotions. Emotions only cause us to react without giving us time to research and reflect on alternatives. Passion is believing in what you are doing and loving it. Trump is right: such heart is needed in business.

► Take responsibility but also defend yourself. Your inappropriate action or lack of action is ultimately your choice. Merely explain your rational for making bad choices; explain what you have learned and move on while not making excuses. Most will appreciate your honesty and your willingness to recognize we learn most from our mistakes.

► Experience, experience, experience – even bad experiences are those from which we learn and grow. If we do not seek out experience, we fail to educate ourselves.

Conclusion

While many of us reflected on how difficult - even abusive - the boardroom scenes felt, we agreed that the participants and we had all learned and progressed. Learning by reflection is essential in education and in life. The journal entries in combination with the classroom discussions helped many students progress through the learning by vicariously experiencing concepts presented in class and then lived on stage. As one commentator of the show mentioned, this may have been *social Darwinism* with commercial breaks but for me and for these classrooms, it offered an opportunity or a bridge from which to connect: to students, to theory and concepts, to staged reality to lived experience. The goal of any educational experience should be to create experiences that only begin to reflect the adversity and struggles we all experience *in reality*. Researchers, who have reported on the value of experiential learning, provide a convincing indication that learning accelerates when the student is able to link concepts/theories to actual experiences. A considerable body of literature recognizes an indigenous knowledge gained from experience and the value of linking it to classroom learning (Apps, 1989; Freire, 1993; Cohen, 1997; Jarvis, 1992). Many of my students expressed their belief that their personal experiences were limited. Thus, the classroom becomes the critical or only experience for them. I believe it is the responsibility of the teacher to provide "staged" experiences: *The Apprentice* provided this stage for both our classroom and the show's participants. We began to live the experience, and students expressed opinions and predictions frequently and with passion. Were some episodes of *The Apprentice* staged? Possibly so, but, as Shakespeare suggests, "Life is a stage and all of us are mere players upon it". Trump created a stage, and, simultaneously, set up obstacles from which not only the *players* learned but also from which we all may have learned. I have continued to include *The Apprentice* every season in my marketing and management classes and only hope it will be continued in subsequent seasons.

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Publication Authorship Etiquette: When Advising What Advice Should You Provide Your Students?

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ABSTRACT

University faculty provides the extremely important function of student advising. One aspect of advising is how to publish papers and therefore, how to order authors' names on multi-author contributions, thus leading to the authorship etiquette dilemma. This paper discusses the authorship etiquette dilemma within the context of the doctoral student/candidate experience. Utilizing a process of literature review and university graduate programs' survey, the paper develops an authorship etiquette proposition to provide consistent guidance on the topic.

Introduction

University faculty often has the great opportunity of providing the extremely important function of student advising. One aspect of this advising role is providing guidance on how to publish article. Within this capacity, the advisor may be requested to advise the student on how to order the names on multi-author papers. For this paper, the discussion point is termed the authorship etiquette dilemma –who's on first?

Within the academic world, publish or perish is a commonly heard phrase and a guiding principal for advancement. Indication or proof of publication is associated with authorship. Authorship is "... of enormous importance to researchers as decisions about promotion, tenure, and the funding of grants are very often based upon the number of articles one has published" (Ethics 2005). A key element of this publication list is how often you are listed as the first or maybe the second author. Authorship can be viewed from two viewpoints. One view is the discussion and agreement of authorship order among those who are of relatively equal academic stature. The other authorship view involves individuals of unequal academic stature as in the interrelationship between doctoral students and advisors and/or advising committee member.. The second view point is important to the doctoral candidate as publications are a contributing factor in their ability to obtain a future academic faculty position.

This paper discusses the second viewpoint, the doctoral candidate and their advising committee's authorship etiquette relationship. This view may be related to the "...differences in the criteria that junior and senior researchers use to define authorship. Junior researchers may put more emphasis on having done practical work, while senior social scientists may put the emphasis on ideas and data interpretation" (BSA, 2001).

The paper organization first provides background references as to the definition of authorship, followed by a short literature review of existing publications and guidance on the relationship between authorship and submitting papers to peer reviewed journals. The literature review also develops the paper's definition of authorship. The paper concludes with recommended authorship etiquette.

Authorship Definition

Authorship is critical to obtaining and maintaining employment within academic communities. Authorship also provides the principal means of contributing to the body of knowledge. As a doctoral candidate, it is a significant step in career advancement to begin publishing in peer reviewed journals and peer reviewed conference proceedings. Yet what constitutes authorship? The answer to this question is provided next based on a review of authorship literature.

Table 1 identifies a few literature reference definitions of authorship:

TABLE 1 AUTHORSHIP DEFINITIONS	
Definition	**Reference**
"An author is the creator of the original expression in a work"	ICJME (2004)
"... authors on such articles only when they made 'substantial contributions' to the study..."	Fine, Mark A. and Lawrence A. Kurdek, (1993)
"Authorship is an explicit way of assigning responsibility and giving credit for intellectual work"	Harvard (1996)
"The source (as the author) of a piece of writing, music, or art'	Merriam-Webster (2006)

As this short literature review quickly identifies, authorship equates to the creator of a given piece of writing. It also provides the assignment of responsibility and credit to the individual or individuals that solely or substantially contributed to the development of an original work. Authorship equates to ownership of the body of work.

Literature Review

As indicated in the various authorship definitions/descriptions authorship requires 'substantial contributions to the work' (ICJME, 2004; Fine and Kurdek, 1993; Harvard, 1996; Ethics, 2005). Unfortunately, the definition of 'substantial contribution' is sometimes left ambiguous (Fine and Kurdek, 1993) while other literature proposes a set of guidelines such as:

- ▶ substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data, and
- ▶ drafting the article or revising it critically for important intellectual content, and
- ▶ approval of the version to be published (ICMJE 2004)

Further delineating when 'substantial contributions' has occurred or not Harvard (1996) positions that:

Acquisition of funding and provision of technical services, patents, or materials, while they may be essential to the work, are not in themselves sufficient contributions to justify authorship.

The International Committee of Medical Journal Editors also state that

In determining authorship, look to the source of the original expression. If the person who prepares the physical object in which the work is embodied takes detailed direction from another person, the person giving detailed directions is the author and the person preparing the physical object is not a joint author, even if the person who prepares the physical object brings to that process a degree of technical skill. (ICJME 2004)

Thus, while authorship literature and proposed guidelines may not universally define 'substantial contributions,' there is sufficient documentation that clarifies a commonly accepted understanding of this phrase. Based on the preceding relationship arguments, for someone to be included - as an author - requires that they have actively participated in the paper development beyond an administrative or general support role. Their active and substantial intellectual participation is required.

Dissertation Associated Etiquette Participation

Doctoral dissertations are often source documents that drive publications and generate the question of authorship etiquette between the doctoral student/candidate and their respective advisor and advising committee. Fine and Kurdek (1993) state "The importance of authorship in the faculty—student research context was underscored by Goodyear, Crego, and Johnston (1992) who found that authorship issues were among the 'critical incidents' identified by experienced researchers in faculty—student research collaborations." (pp. 1141)

Pivotal to the faculty – student authorship etiquette question is the apparent divergent faculty publication needs for "...promotion, tenure, and the funding of grants..." (Ethics, 2005) and the student publication needs as students with ... strong publication records [are] often considered to have more competence and expertise than their less published counterparts" (Fine and Kurdek, 1993). First authorship is commonly identified as determination of the principal author and thus the primary contributor to the paper. Thus, first authorship appears to carry significance in determination for both the faculty and student needs.

The American Psychological Association looked at various dissertation discussions and developed the following guideline:

As an initial guideline, the American Psychological Association's (APA's) Ethics Committee (1983) issued a policy statement on authorship of articles based on dissertations. The statement indicated that dissertation supervisors should be included as authors on such articles only when they made "substantial contributions" to the study. In such instances, only second authorship was appropriate for the supervisor because first authorship was reserved for the student. (Fine and Kurdek, 1993)

From Michigan State University Guidelines on Authorship as Adopted by the University Research Council, January 15, 1998,

(To apply to all academic units which have not adopted their own written policies)

1. Authorship- A person claiming authorship of a scholarly publication must have met the following criteria:

a. Substantial participation in conception and design of the design of the study, or in analysis and interpretation of data;

b. Substantial participation in the drafting of the manuscript;

c. Final approval of the version of the manuscript to be published;

d. Ability to explain and defend the study in public or scholarly settings.

(Note: these criteria follow closely those recommended by several professional associations. See especially the International Committee of Medical Journal Editors, *Annals of Internal Medicine* 1988; 108: 258-65.) (MSU, 1998)

Supporting this guideline is the recognition that a dissertation has three primary objectives:

1. The doctoral student/candidate is able to do independent research;
2. The doctoral student/candidate makes a contribution to the body of knowledge;
3. The doctoral student/candidate is able to document the research and make it available to the scholarly community (Davis, 1997)

United States University Graduate Program Directors were sent the survey to identify what, if any, guidance and standards existed and were being followed.

Out of the 80 graduate programs, responses were received from fourteen universities. Of the 14 responses 3, or 21.4% provide written student/advisor/other authorship guidelines/polices. The majority, 78.6% or eleven responses, have no written guidelines or policies.

For those who do have a written guideline or policy, the survey asked the respondent to identify who would be first author listed on the manuscript. Table 1 provides the responses showing the full spectrum of potentials.

FIGURE 1. WRITTEN POLICY SURVEY RESPONSE
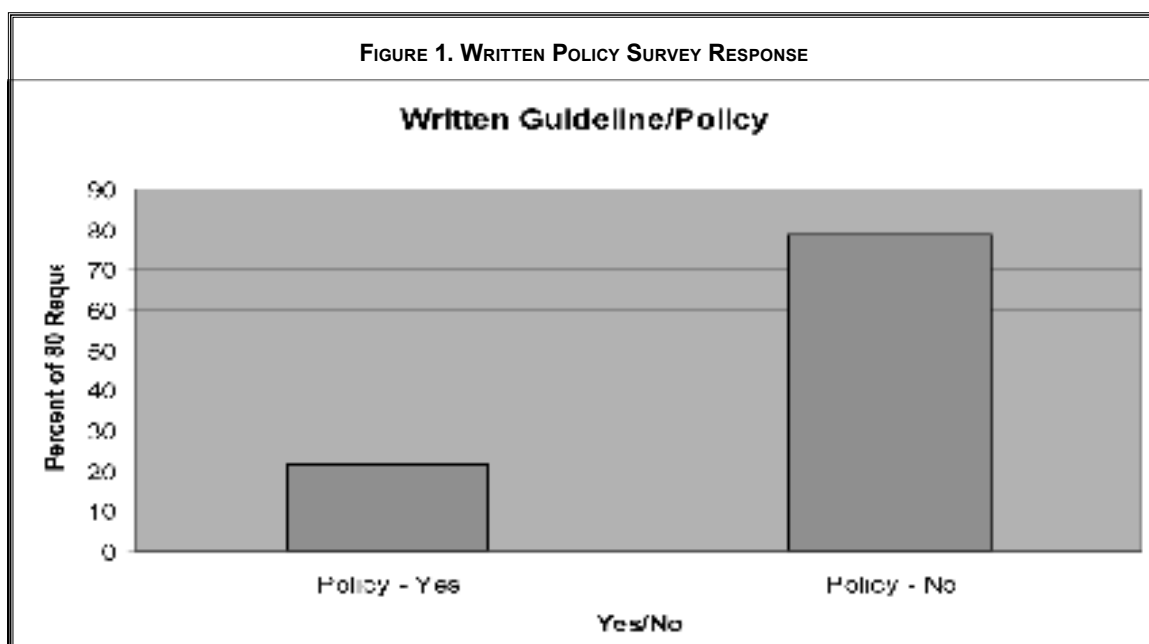
Integration of the various authorship definitions/description/guidelines, dissertation primary objectives, and the assumption that the doctoral student/candidate has fulfilled the role of 'significant contributor' generates firm support that the doctoral student/candidate should be identified as the first author. Yet, the question becomes – What is academia actually doing when authorship etiquette is the topic of discussion? A partial answer is presented next as part of a U.S. graduate school survey.

Graduate School Guidelines.

While the literature review provides a foundation for advising the doctoral candidate, a survey was conducted to determine what practical academic standards and guidance are occurring. This survey was Emailed to a set of graduate program listings as found in Petersons Graduate School in the U.S. 2006 (Aoran, 2006). A total of eighty

TABLE 1 WHO IS 1ST AUTHOR RESPONSE	
Category	Number of responses
Student/Candidate 1st	1
Advisor 1st	1
Advisor/Committee member 1st	1

While the survey sample size may not be statistically significant, it provides an indication of academia's standardization, or lack thereof, for authorship etiquette.

Conclusion

A literature review has identified that some professional associations and related journals have clearly identified who and how various authors are assigned positions. These entities have delineated that

the one who has made the most significant contribution will be first author with subsequent authors contributing less to the overall significance of the document.

A survey of U.S. University Graduate Programs indicates a lack of consistent academic acceptance, policy, or guideline for the doctoral student/candidate, advisor, and or advising committee authorship etiquette. Of the survey respondents who have written guidelines or policies the first author is assigned to different individuals.

Combining the literature and survey responses it can be surmised and proposed that the doctoral student/candidate should be listed as the first author, while the doctoral student/candidate's advisor would then be the second author on doctoral related publications. This proposition is based on the premise that as the doctoral advisor they are "...a faculty member who supervises the work of the doctoral student and is primarily responsible for mentoring and guiding the student" (Davis, 1997, p. 43). In this capacity, they have the opportunity to 'significantly contribute' to the work through activities such as "... analysis and interpretation of data, and drafting the article or revising it critically for important intellectual content, and approval of the version to be published..." (ICMJE 2004).

It is recognized that others might also make 'significant contributions' to the work, such as the doctoral student/candidate advisory committee members. The authorship order of these contributors would be established by level of contribution and discussion by the authors (ICJME, 2004; Fine and Kurdek, 1997).

While the paper presents authorship etiquette, it recognizes that it does not address all conceivable authorship interactions. Many other conceivable authorship interactions can and do occur. In light of the various combinations of potential joint authorships it is recommended that authorship inclusion, and order, be resolved prior to development of the paper. Resolving these issues requires the participants to engage in open and frank interaction. A guiding principal of these open discussions should be that the final authorship etiquette is "... based on the scholarly importance of the professional contribution and not just the time and effort made..." (Fine and Kurdek, 1993).

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Teaching Actionable Knowledge:
A Case for Games in the Classroom

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ABSTRACT

The use of experience-based learning is becoming more popular in business courses, especially the use of games. While case analyses are traditional in strategy classes, they have slowly evolved away from their original intended purposes. Yet experiential learning is still as important as it ever was, and is an important tool for the business educator. Two exercises are described for instructors who are interested in using games in the classroom to increase understanding of the material and to build critical and creative thinking skills.

As the old adage says, "Experience is the best teacher." Dewey (1998), who is often credited with popularizing experience-based learning (Baker, Jensen, & Kolb, 2002; Brookfield, 1987, 1990; Gibbons & Gray, 2002; Margetson, 1991), understood and promoted experience as the key to effective learning: "the achievements of the past provide the only means at command for understanding the present" (pg. 93).

Experience-based learning has long been a tradition in business schools (Cruikshank, 1987) and the use of cases and simulations are standard fare in many business courses (Greiner, Bhambri, and Cummings, 2003). This article discusses the benefits of experience-based learning and the use of games in particular. Games are gaining popularity in classrooms (Faria, 1998). The steps to successful game playing are included. Two simple games are described that may be played in a variety of business courses where business and information strategy is covered. They can provide student involvement in intuitive understanding, ownership of the material presented, and long lasting learning (Brookfield, 1990).

Literature Review

Gaining new information alone does not foster critical thinking. It is through the testing and assimilation of that information into experience that allows for a critical review of its veracity and legitimacy. Brookfield, (1987) and Sternberg (1985) have remarked that what instructors teach as critical thinking in higher education does not often mesh with those skills needed in the "real world." Experience-based learning and exercises allow for testing and assimilation to take place in a realistic and pertinent setting. This allows educators to guide their students to their learning based on the Socratic Method (Gibbons & Gray, 2002).

Experience-based learning allows students to become actively involved in the learning process. Because many experiential exercises simulate reality, or they can be related to real world situations, students perceive them to be useful. This, in turn, leads to an emotional attachment to the material (Brookfield, 1990), thus fostering feelings of ownership, (Fryxell & Dooley, 1997) resulting in students remembering the information for a longer period of time (Brookfield, 1990; Thiagarajan & Parker, 1999) than information provided in a pure lecture format (Brown, 1980). Practicing skills with experiential exercises is much like a sports team practicing drills or a pianist sitting at the keyboard practicing scales. The more often the skills needed are performed, the more adept the student becomes (Greiner, et al., 2003).

In order to expose students to the skills needed in the practice of their future fields, experience-based learning has been adopted in law schools (Nuy & Moust, 1990), medical schools (Barrows & Tamblyn, 1980), social work education (Gibbons & Gray, 2002), and business schools (Greiner, et al., 2003).

Nonetheless, students and faculty alike are lamenting the fact that higher education is falling away from a strong theory-practice combination (Brookfield, 1990; Greiner, et al., 2003). The use of experience-based learning in strategic management started with the Harvard Business School in the early 20th century. Case-based simulations were developed and introduced (Cruikshank, 1987), and they are still widely used today (Greiner, et al., 2003; Peterson & Govindarajulu, 2003; Rippin, Booth, Bowie, & Jordan, 2002). However, many business schools have slowly slipped into using case analysis as problem-solving, technical skill learning tools, rather than developing critical thinking associated with complex situations (Rippin, et al., 2002).

The strong historical roots business schools have established in experience-based learning are being undermined by the extensive use, or abuse, of lectures (Brown, 1980). In addition, instructors are guiding students to "right" answers during the case discussion (Greiner, et al., 2003).

Perhaps, in response to this disconnect between theory and practice, there is an increase in other types of experiential exercises adopted in business classrooms. These can include Internet simulations (Horton, Davenport, Hall & Rosenbaum, 2002), case-based simulations (Du-Babcock & Babcock, 2000), problem solving drills (Chen, 2000), student consulting projects (Brown, 2000), and games (Klassen & Willoughby, 2003).

More professors are finding the use of games to be beneficial in the business classroom (Faria, 1998). Like other experiential exercises, the use of games can sharpen critical thinking skills (Brookfield, 1987), foster creativity (Sternberg, 2003), and create tacit knowledge (Greiner, et al., 2003). These are important characteristics of busi-

ness managers as well as workers (Brookfield, 1987). Managers who have learned only theory often have difficulties putting theory into practice (Greiner, et al., 2003; Brookfield, 1987, 1990). While creativity is "the key to American economic resurgence in the face of crippling foreign trade competition" (Brookfield, 1987), these activities may confer a competitive advantage (Sternberg, 2003).

Naik (2003) found in her study of business students that a large majority have sensing, visual, active, and sequential learning styles. This indicates that most business students would prefer to learn through real-world application, demonstrations, hands-on activities, and group problem solving. They gain an understanding of how the parts generate the whole. Game playing is extremely satisfying to students who have these types of learning style especially if the simulations are reflective of components of strategy.

Additionally, many students in a higher education setting have feelings of inadequacy that lead them to revert to child-like behaviors and to a need for authority. Game playing satisfies this inner-child in a relatively safe environment, and it allows trust to build between the student and educator (Brookfield, 1990).

Students find it most exciting to be exposed to game playing as it provides a chance to think creatively. It allows them to break away from normal classroom conventions, and to think and act "outside the box". They experience the material presented in a more fundamental way than with traditional lectures (Brookfield, 1990).

Using Games in the Classroom

Three components are needed for successful game playing. They are the game itself, the reflective period, and the debriefing.

The Game

For students to immerse themselves in the game, it should be simple. It should have some intuitive elements that allow students to see progress, to perform well, to understand the results of what they are doing, to have fun, and to learn from the experience (Faria, 2003).

Neither the game itself nor the group who plays it is static (Brookfield, 1990). In order to preserve the learning objectives, the instructor must be prepared to adapt and change the game as the situation warrants. This can be during the game or afterwards, (Jones, 1985, 1987). As students may very well react to the game in ways that were not expected (Brookfield, 1990), the content of the game, its style and timing, its elements and components will need to be continually changed and refined (Greenblatt, 1988).

Reflective Time

One important key to a successful game session is allowing for reflection. Many students complain that presentation of information is too quick to be absorbed. They also feel that little time is given to

cogitate and assimilate the information into their own experiences (Brookfield, 1990). Dewey (1998) stresses, "... observation alone is not enough. We have to understand the *significance* of what we see, hear, touch" (pg. 79).

Reflection can be accomplished in many ways. In shorter class periods, the game can be completed in one session with debriefing in the next. During the downtime, students may write a paper that discusses the experience; and how the experience reinforced their learning. The paper allows the students to reflect upon what was learned. This may be formal (as an assignment) or informal (notes to use in class). A benefit of making this a formal assignment is that the instructor can see whether the students learned what was intended. Additionally, formal papers may give the instructor time to reflect upon the outcomes of the game. It can offer some insight as to changes that may need to be made in the format or content of the game.

In longer class sessions, a break should be given between the game and the debriefing session. Ten minutes is usually sufficient (Brookfield, 1990). This break allows the students to stretch and to think about what happened during the exercise. A quiet reflective time for small group discussion is appropriate.

Any combination of these methods can be used. The reflective time is imperative for a successful game.

Debriefing

The debriefing portion of the gaming session is as important as the game itself (Brookfield, 1990). It is during this debriefing that students share what they have learned. The instructor emphasizes important points and guides discussion toward the learning objectives. The instructor should make the connection between the game and the real world.

During this period, the instructor must be, literally, ready for anything. Games, through their very definition, contain an element of spontaneity in learning. This is, after all, one of the purposes of using a game. Students may gain insight into topics that were completely unexpected or unintended. The instructor must be ready to deal with these issues as well as tough and intuitive questions that may arise from the expected lessons of the game session (Brookfield, 1990).

Using a Socratic style during the debriefing portion of the session is beneficial. It allows the students to affirm their own learning. It assists students in understanding what they have experienced. Debriefing is valid, and it allows the students to critically analyze the information they have received. "Banking" the information that was to be learned during the game defeats the purpose of the game, which is, in part, to develop these very skills (Gibbons & Gray, 2002). On the other hand, allowing students to answer their own or other's questions reinforces the ownership of the material learned.

Caveats

A word of caution must be given at this time. The use of games in the classroom is not for everyone. The use of simulations is time consuming. Games require a great deal more activity and preparation on the part of the instructor than the traditional lecture methods (Brookfield, 1990). Additionally, a strong understanding of the material to be covered is essential. The debriefing stage of the game often leads students to ask difficult and insightful questions (Brookfield, 1990). The game may have to be adapted and changed in progress (Greenblatt, 1988; Jones, 1985, 1988). Additionally, some instructors are not particularly comfortable using a Socratic teaching style (King, 1993). Thus, it is important for the instructor to determine if game playing fits with his or her personal teaching style. A poorly played game is worse than no game at all.

An inadvertent, but not inconsequential, benefit of using games is increased class attendance. Daily class attendance has increased considerably through the repeated use of experiential exercises. The students always want to know "What are we going to do today?" Indeed, Lau (2003) has suggested that faculty who take a more practical and less theoretic stance in the classroom can actually help maintain or increase enrollment.

Examples

The following section describes two games that are particularly useful in many business and information technology courses. They can be adapted to other courses as well1. With a minimum of resources, preparation, and effort, the simple nature of games allows instructors a chance to try games in the classrooms. Both of these games can be used in classes from 15 to 45 students. Actually, challenges are much more likely in the smaller classes. It may be difficult to obtain enough answers to "what resources" and "what capabilities." With the outsourcing game, you may not have enough students to make the game actually work. The main problems with large classes, for both games, is have enough time for all of the students to be involved. The games work best with classes with 20 to 30 students.

Resources, Capabilities, and Core Competencies—*Hansel & Gretel*

Purpose & Objectives

One of the key aspects of education is to teach future practitioners to "talk the talk" of their chosen profession (Hunt, 1991). The purpose of this exercise is to reinforce the terminology of the Resource Based View of the Firm. It focuses primarily on the differences and similarities among "resources," "capabilities," and "core competencies." The goal is to have students think more creatively about what these

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1 For example, games can be used in Management of Technology class as well as in traditional Policy and Strategy class.

may be in a specific situation. Students may technically understand these concepts and be able to make an obvious list of them as stated in a case context. However, it may be difficult for them to recognize intangible resources or to make inferences from the case.

For example, in the M.A. Patout & Sons, Ltd. Case (Peterson & Govindarajulu, 2003), it may be easy for students to list Mary Ann Patout as a resource. However, the inference that one of the firm's capabilities was its willingness to follow a woman manager in a time when woman did not manage2, may be lost. Thus, this game allows students to brainstorm ideas regarding what constitutes resources, capabilities, and core competencies. In addition, they should examine how they are interwoven and how they may overlap.

Setup and Preparation

Little preparation is required for this exercise. All that is needed are a simple worksheet and a copy of the Hansel & Gretel story. An example of the worksheet is provided in Appendix A: Figure 1. This gives instructors guidelines for class activities.

Break the class into small groups of three to five students. Give each group a copy of the worksheet.

The Exercise

The instructor needs only to read the story to the students. However, instructors should use a particularly nicely illustrated copy of the book. The instructor should make a big production of showing the students the pictures and reading the story with character voices.

Reflective Time

Give the groups between 10 and 15 minutes to discuss the story. They should identify the resources, capabilities, and core competencies recognized in the story.

Debriefing

The instructor should ask each group in turn to identify Resources associated with Hansel and Gretel. Follow this with identification of Resources associated with The Witch. Then do the same for Capabilities and Core Competencies. Once each group has identified one of each, the instructor should open the floor with groups giving input as they wish. The instructor should write these down on an overhead or whiteboard.

During the debriefing, the atmosphere should be free and open. The instructor should ask leading questions. For example, "Why is this a capability and not a core competency?" "What makes this a core competency?" "Are you certain this is a resource? Why?" All of these are examples of employing the Socratic Method. There is a need to

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2 The case takes place directly after the Civil War.

start deeper discussions of these terms and their meanings. After the exercise, the instructor can then link these terms to a simple case or an organization with which the students are familiar.

Anecdotes and Comments

After making a big production of reading the story, the students become involved in the story and the exercise. During one session, a group stated that one of the resources of the Witch was that she had a "very large oven." In the interest of saving space on the board, "oven" was written. The group promptly stated: "Not an 'oven' a 'very large oven'!"

Students are quick to recognize the tangible resources, capabilities, and core competencies. However, with some coaching, they can be encouraged to think creatively and to list some intangible items as well. For example, groups have listed such items as "Hansel's imagination," "The witch's lack of conscience," and "Gretel's ability to think on her feet" as resources. Additionally, as business students tend to be competitive (Thiagarajan & Parker, 1999), once the initial group list is created, the groups will often try to respond with items that are unique or exceptionally insightful. When a particularly astute or clever idea was mentioned, more than once, group members lament, "Oh, we didn't think of *that*".

When transferring this situation to a simple case or an organization with which the students are working, the list of resources, capabilities, and competencies is much longer than without the exercise.

Students enjoy this exercise. One comment made after the exercise was that is was not a "standard dry lecture" and "how easy it was to figure out." This exercise is simple and easy to understand. It easily transfers to real world applications. An energetic reading of the story results in more questions asked. The students become much more involved. They also become more creative and think more critically.

Outsourcing—A Quiz

Purpose & Objectives

The purpose of this game is to allow students to experience the decision making process and the ramifications of outsourcing. While it is easy to understand the concepts of when to outsource and why to outsource, some of subtler aspects are involved in deciding to outsource. Students must decide which outsourcer to use and how much to pay. These are just a few of the objectives that are a bit more difficult to teach in a pure lecture format. This game allows students to outsource a required quiz. Each student must decide whether to outsource, determine which outsourcing partner to employ, negotiate a fee schedule, and then to accept the consequences of his or her decisions.

Setup and Preparation

This game is best when used in a setting where students are used to taking unannounced quizzes on material that was to be read before class. The setup consists of preparing the quiz in the normal fashion,[3] choosing three[4] students to act as outsourcers, and to prepare an outsourcing "contract" for each of the three outsourcing students (see Appendix A: Figure 2 for an example).

The students may be chosen at random or for a specific reason. For example, the instructor may choose students based on highest midterm grades, past quiz performance, or overall grades at the time of the game. Regardless of the actual reason for the choice, the important thing is that students chosen give the *perception* that they can perform well as the outsourcers in the game.

The Exercise

Remember all classes are different. The game will work whether a majority of students choose to outsource or whether a majority does not outsource. The game will also work if the class is split evenly on their decisions.

Separate the three students who will be acting as outsourcers from the rest of the class. After you discuss the exercise with the rest of the class, they should be briefed on their role in the game. Pass out the quiz to the remaining students and explain how the outsourcing works:

- ▸ Students do not start or fill in any answers until they are instructed to do so. Everyone will take the quiz at the same time.
- ▸ The students may choose to take the quiz or to have one of the three outsourcers take it for them.
- ▸ The outsourcers will take the quiz one time and anyone who has "hired" them will get the same grade on the quiz as his or her outsourcer.
- ▸ Students may negotiate with the outsourcer as to how much will be "paid" for his or her services. This is in the form of points on the quiz. The students negotiate what they will pay the outsourcers. For example, if the student agrees to pay Joe one point for taking the quiz, and Joe earns the full ten points; the outsourcing student's score will be recorded as a 9 (10-1). If Joe scores an eight, the outsourcing student's score will be seven. How students negotiate, how much or how little students pay, and how students come to this agreement is entirely at the students' discretion.
- ▸ Students may interview any or all of the outsourcers before making their choices.

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3 It is recommended that the quiz be worth at least 10 points. This gives the students some room to negotiate without unduly affecting their grades in a negative manner.

4 A reserve outsourcer can be appointed in case one of the three students is not in class.

- Do not tell the class why the students were selected. It is preferable that the instructor gives as little information about the outsourcers as possible. If a question arises in this area, the instructor may defer the question to the outsourcers, themselves.
- Invariably questions will arise that have not been covered, but this game is very flexible, so the instructor should be able to "make it up as he or she goes."
- After explaining the content to the class, give students time to examine the quiz. During this period, the instructor should explain the roles to the outsourcer students. It is imperative that the rest of the class does not know the instructions given to the outsourcers.
- If the instructor has a reason for choosing the students, tell them. In addition, the instructor should tell the outsourcers that he or she has not told the class the reason for the selections.
- Outsourcers are to "sign up" as many students as possible and should receive the highest fees possible. In this effort, outsourcers may:
  ▷ Tell their "clients" whatever they want with respect to why they were selected.
  ▷ How prepared they are to take the quiz.
  ▷ Tell how many questions.
  ▷ Negotiate fees in any manner they wish.
  ▷ Provide any other information, real or imagined, that will enhance their ability to obtain outsourcing students.
- Fees do not have to be the same for each student. Fees are a negotiating point between each outsourcer and his or her potential outsourcing student, and may be setup in any appropriate manner (e.g., flat rate, sliding scale, etc.).
- Again, it is most likely that questions will arise that are not covered in these instructions. The instructor should use his or her judgment in addressing these issues.
- Rewarding the outsourcers for their efforts may take one of several forms:
  ▷ They receive only the points they earn on the quiz.
  ▷ They receive a set "fee" and possibly the points they negotiated from their clients.
  ▷ They earn only the points they generated through outsourcing.
  ▷ As each has its pros and cons, this is a judgment to be made by the instructor. If the instructor chooses one of these reward schedules, and the students do not perceive the game as fair (for example, few students decide to outsource), then adjustments may be discussed with the outsourcers.

Once the outsourcers have been briefed, they should be brought back into the classroom for interaction with the other students. Depending on class size, allow approximately 10 to 20 minutes for students and outsourcers to make contact with each other, to determine choices, and complete paperwork. If the dynamics of the class are such

that this is accomplished early, the instructor should not hesitate to proceed to the next step.

Once everyone has either chosen an outsourcer or decided not to outsource, collect the unneeded quizzes, and then have the students take the quiz. When the students are finished, collect and grade the quizzes. Then collect the contract sheets from the outsourcers. As a reinforcement tool, the instructor may ask the students to respond to the quiz questions.

Once the grading is complete, the instructor should announce to the class the grades of the outsourcers. If the students agree, grades for other students may also be announced.

The grade calculations for the outsourcing games usually include some sort of bonus. It is important that the overall grade should not have negative impacts on the grades of students.

Negotiated Contracts

Wow! This varies so much from class to class. The instructor should provide absolutely no input. Students have negotiated "flat rates' from 3 points to ½ points per quiz. The have also used a sliding scale where 10 answers is worth 2 points; 8-9 worth 1.5 points; 7 worth 1 point and anything less is worth no points. They have also used "percentage rates" ranging from 5 percent to 20 percent. The outsourcer students seem to either work this out among themselves before they return to the classroom, or the "economy" adjusts so that they are pretty close at the end. It is also possible that a single outsourcer will charge student A one price and charge student B another price.

Reflective Time

The students need to reflect upon the exercise. To accomplish this, give the students a 10-minute break to stretch and think about and/or discuss what happened during the game.

Debriefing

A word of caution to the instructor is necessary. Positive comments are necessary for this exercise to accomplish its goals. Students should not be chastised for not reading or for not being good test takers. Negative feedback for whatever reason given for outsourcing will lose students, and the debriefing discussion will flounder. Thereby, the game will be worthless. Instructors should know that not all students are reading or performing at any given time, and instructor should accept this so that the game is a learning exercise. Generally using humor at this point will make the students more comfortable and more willing to discuss their reasoning in an open and honest environment.

One of the key missions of the debriefing is convert the personal experiences of the students into a business situation. A typical debriefing exchange may follow along these lines[5]:

I: Mary, why did you decide to outsource?

S: I didn't read the chapter.

I: Why not?

S: I didn't have time.

I: Why not?

S: I was studying for my Accounting exam.

I: So, you only had enough time to do one or the other?

S: Yes.

I: (to class) So, what would you call this in a business situation? What is time?

C: Time is a resource. Mary had to decide where she was going to use her resources and decided that the accounting exam was a more important use of her time.

I: One reason to outsource, then, would be that you do not have enough resources to do everything that needs to be done. Therefore, you are willing to take a lower grade on the quiz. Is this right?

At this point, the instructor lists "lack of resources" on the whiteboard or overhead.

I: Okay, Mary, you did not have the resources to take the quiz yourself. Why did you choose Fred?

S: I know him from other classes, and I know he receives high grades. In addition, he told me to select him because he had done well on the other quizzes.

I: (to the class) Are these valid reasons for choosing an outsourcer? How does this relate to the business world?

C: Well, she knows him. She thinks he has a reputation for performing well in this situation, so they might be valid reasons.

I: Is choosing an outsourcer because of reputation valid?

C: Among other things, you should examine fee charges. In addition, determine if the outsourcer has experience in this particular area.

The instructor lists "reputation" or "trust" on the board or overhead.

The instructor should continue to ask students questions. Questions could include:

- Why they did or did not outsource?
- Why a particular outsourcer was selected?
- Would they change their minds now that they know the results?
- What pitfalls were encountered?
- Was outsourcing worth the price paid?
- Why was it a good choice not to outsource?

When appropriate, the instructor should transfer the general comments into business terminology. From time to time, the instructor should look to the outsourcers for confirmation of the discussion. The instructor should obtain their input and perspective on the situation.

Other pertinent questions that may be asked are "Why did I give you the quiz to look over before the outsourcers returned?" and "If I told you that the outsourcer you chose would be taking all your quizzes from now on would you have still decided to outsource? Why or why not?"

The debriefing session is generally long. Students normally want to talk in depth about why they took the actions they did. Some will have repeat answers (such as "I didn't read the chapter"). It is up to the instructor to probe deep enough into the responses to see if new business reasons can be generated from these duplicate responses.

Finally, the instructor must be prepared for a dynamic discussion that will lead to many off-the-wall comments, reasons, and explanations. It may be difficult to convert these comments into business applications.

Anecdotes and Comments

In general, this game is very effective, especially if the instructor will allow the students to speak openly. Students will participate in the discussion. On occasion, the debriefing session will end with students still wanting to make comments. Students identify very interesting reasons for their choices. One student said she did not choose a particular outsourcer: "I knew he didn't have a copy of the book, so he couldn't have read the chapter." Another student was most distressed because an outsourcer made up a reason for being selected. (After his comment, there was a general discussion on whether or not outsourcers always told the truth or if they would say anything to get business.) Typical comments from students included: "Everyone else was signing up with her, so I figured she was the best bet" and "I thought you gave them the answers."

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5 I indicates instructor, S indicates Student, C indicates open general class response.

Student comments reflect the effectiveness of the game. One comment from a student: "I never realized how many things have to be considered at one time. I know that I will not hesitate to make an outsourcing decision in the future, though." The second comment came from an MBA student who had taken the strategy course as an undergraduate. He stated to a fellow student: "We played this awesome game about outsourcing. I learned more about outsourcing from taking that quiz than in any other class I've had."

Discussion

Experiential learning is an integral part of courses taught in business schools. The use of new methods is increasing, especially the use of games. Although the use of games is not for everyone, they can add considerably to the knowledge of the students of the covered material. When used properly, they can build creative and critical thinking and problem-solving skills. Experiencing the material first hand creates students who have actionable knowledge. The students gain a deeper understanding of how the material relates to the real world business options. The games are realistic - not an abstract theory taught in academia.

Two games have been presented that may help instructors use experiential exercises. These games are fun for the students (and the instructor) and cover material found in many classes. They are also easy first steps into the world of gaming in the classroom.

Future research should include determining actual learning that takes place before and after the game. For example, in the resources, capabilities, and competency exercise, students could be asked to list all of these for the case before the reading of Hansel and Gretel, and again after the exercise is finished. Additionally, two classes could be taught, one with traditional methods and one with exercises and games. Results would be compared against the learning objectives of the exercise. This would include comparisons of test, assignment, and participation scores performed.

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APPENDIX A
GAME RESOURCES

	FIGURE 1: HANSEL & GRETEL WORKSHEET	
Role	**Time**	**Action**
Instructor & Class	2-3 minutes	Describe that there will be a quiz. That the students have the option to take or outsource. Does NOT include answering why the students were chosen. Remind students NOT to take the quiz YET!
Instructor & Outsourcer students	2-3 minutes	Explain why they were chosen. Tell them that the point is for them to get as many students to sign up as possible. They can negotiate how ever they want. They can tell the students what ever they want about why they were chosen. That it is okay to "stretch the truth" when responding to questions about whether they studied for the exam, etc.
Outsourcers and Class	10-15 minutes	The students negotiate the contracts. Talk to each other, compare offers. Make a decision. This will be shorter or longer depending on class size.
Outsourcers and class	5 minutes	Take the quiz (only outsourcers and those who decide NOT to outsource). Others sit quietly.
Instructor & Class	2-3 minutes	Grade the quiz
Instructor & Class	???	Discussion – This may take as long as the instructor wants.

	FIGURE 2: OUTSOURCING CONTRACT	

Name of Outsourcer: _____

By initialing this sheet, the hiring student agrees to have the outsourcer take the quiz on his or her behalf. The grade the outsourcer earns will be awarded to the hiring student less any agreed upon reduction for outsourcing fees.

Hiring Student Name	**Initials**	**Payment information**

The Ethics Dilemma:
Are AACSB Accredited Business Programs Doing Their Part in Helping to Reestablish Confidence in The Free Enterprise System?

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ABSTRACT

Beginning about the middle of 2001, the stock market experienced extremes in variability of stock prices due to various critical events that caused concern among the investing public. Reports began surfacing of corporate malfeasance among Chief Executive Officers (CEOs) and Chief Financial Officers (CFOs) of several large publicly held corporations. First there was Enron; shortly thereafter came WorldCom, Tyco International, K-Mart, and others. This paper is a survey of events that led to the market collapse during 2002-2003. In addition, the paper looks at ethics courses required in AACSB accredited business schools as of the beginning of the 2005-2006 academic year, as well as, ethics requirements by boards of accountancy during 2005 for awarding the CPA certificate. Also, suggestions are offered that could lead to reestablishing confidence of the investing public in today's capital markets.

The investigation reveals that the markets suffered deeper hits and took longer to recover from corporate malfeasances than it did for it to recover from the September 11, 2001 attacks. The threat to the future of the free market system appears to be much greater from within than from external forces such as natural disasters and terrorist actions. This is the ethical dilemma discussed in the paper.

INTRODUCTION

The market is sensitive to adverse media releases. Some analysts argue that psychological considerations have greater impact on market prices than the actual worth of the companies traded. Then there is the market correction factor that comes along every few years. For example, the October 1987 sudden decline was attributed to market correction factors. Such events have had serious effects on the market in the past few years. A good example of an event (or series of events depending on how one views it) was the discovery of rampant management fraud involving earnings management that ultimately affected the securities market adversely. Beginning about the middle of October 2001 with Enron's unfavorable media publicity, several well-known companies announced plans to restate earnings or were otherwise subjects of the Securities and Exchange Commission investigations. Various stock indices reflected steep declines beginning around the middle of 2002 and continuing for long periods of time.

The country suffered the longest bear market since the depression days through the remainder of 2002 and most of 2003. One of the authors is a team teacher of the capstone Business Policy class required of all MBA/MAc graduates in their final semester at the University of Tennessee at Martin. Students are required to do an in depth study, in teams of three-five, of a company selected by the professors. Part of the study involves detailed financial analysis of the company. The financial analysis involves tracking stock prices of the company over a three-year period. Invariably, students will renounce stock price trends during 2002 as not being representative of true company worth because of the 911 attacks. Seldom has a student mentioned all

the corporate malfeasance that surfaced throughout 2002 as having any impact.

 This observation by the professor was instrumental in the selection of the research topic discussed in this paper. The need to assess the impact of unethical behavior by corporate officials, financial advisors, and external auditors on market price movement is an underlying driver of this research. Out of this research we offer recommendations for ethics education for Business Schools, the Accounting Profession, and Wall Street.

HOW WE GOT WHERE WE ARE

All of us old enough to remember the Kennedy administration are asked questions such as, "Where were you when President Kennedy was assassinated?" Likewise, we remember where we were and what we were doing when we first heard of the September 11 attacks. Our world changed forever on that day. Financial implications were far from the forefront as priority considerations during those first few hectic days after the attack. The market closed for almost a week during which time it declined 10-12%. During and shortly after the 911 travesty, most Americans placed financial gains on the back burner as a secondary priority behind burying the fatalities, cleaning up the Twin Tower area, and repairing the Pentagon. Even so, the markets reopened within a week after the disaster.

Random isolated instances of corporate impropriety by CEOs, CFOs, and other top management officials surfaced during the last half of the 20th Century. The McKesson and Robbins Case in 1939

involved material overstatements of accounts receivable and inventories (Zeff, 2003). After that, all was fairly quiet until the middle 1960s when bankruptcies of Penn Central and Four Seasons Nursing Centers generated huge losses for investors. These were followed by the Equity Funding scandal in 1973 and W. T. Grant bankruptcy in 1975 (Largay and Stickney, 1980). Corporate investors began to look suspiciously toward CEOs and external auditors, who had the power and abilities to manage financial statement information for their own good. However, these improprieties now seem mild when compared to the likes of Enron, WorldCom, Adelphia, Global Crossing, Tyco, and K-Mart.

Enron's problems first surfaced in the latter part of 2001. Global Crossing and WorldCom followed in early 2002 and not far behind was Adelphia, Tyco, and K-Mart among others. The market continued the growth trend of the late 1990s through early 2002, but finally gave way to the wave of corporate scandals around the first of June 2002. The market appeared to bottom out in September, made some recovery through the latter part of 2002, but then hit bottom again in early 2003.

ETHICAL CONSIDERATIONS AND THE PLAYERS

Recent literature attributes the rapid fall of the markets beginning in early 2002 to a misplaced focus on ethics as part of business school curricula throughout the country. Jennings (2004) notes that it appears to be acceptable practice in most business school management programs to encourage students to smooth earnings in order to maximize shareholder wealth. The writer further identifies typical ethical training received by today's management students as the kind that helps managers fulfill the social responsibility function of corporations. Jennings argues that this is a misplaced focus on business ethics and should change to include the broad spectrum of corporate stakeholders. This is reinforced as one observes corporate social responsibility activity that allowed winning companies to receive the 100 Best Corporate Citizens in 2002 award (Miller, 2003).

When did the push for rapidly increasing stock prices that were experienced from the mid-1990s to the beginning of the 21st century begin? Some (Jennings, 2004) say pressures put on top management to inflate revenue and earnings figures was so great that CEOs and CFOs began to manage these figures in quest of meeting unrealistic demands of stockholders and other investors. Then there was the Private Securities Litigation Reform Act of 1995, which made it harder to sue executives, auditors, and financial analysts for securities fraud. More notably, the bill made it legal for CEOs to "pipe up" their company prospects. As a result, forward-looking financial statements began to appear in annual reports. These statements always painted a better than actual picture of company operations. The investing public began to place as much faith in these statements as the statements prepared according to generally accepted accounting principles (GAAP).

A General Accounting Office report was highly critical of corporate improprieties that had begun to surface in the late 1990s. The report noted that the number of publicly held companies that restated financial statements increased 147% from January 1997 through June 2002. The report listed four factors that caused companies to use questionable accounting practices, including (1) corporate pressure to meet quarterly earnings projections and thus maintain stock prices during and after the market expansion of the 1990s, (2) perverse executive compensation incentives, (3) outdated accounting and rule-based standards, and (4) complex corporate financing arrangements. Based on the number of restatements as of June 30, 2002, the increase was expected to exceed 170 percent by the end of the year. (GAO, 2002)

In February 2001, Sunbeam Corporation was the first to receive extensive media publicity involving the financial restatement process (GAO, 2002) when the corporation filed for bankruptcy. Shortly thereafter former CEO, Al Dunlap was charged with securities fraud. Sunbeam's management was involved in earnings management during the years 1996-1998. Al 'Chainsaw' Dunlap came to the company in 1996 with promises to turn the company around. Liberal reserves were set up in 1996 to inflate the loss that year. This resulted in overstatements of 1997 and 1998 earnings thereby giving the impression that Mr. Dunlap had turned the company around.

The Enron collapse was perhaps the first major shock for the investing public. Questions about its operations and declining stock price began to surface in early October 2001. A conference call to address investor concerns was held on October 22 in which Ken Lay attempted to downplay investor alarm. Then on November 8, the merger discussions with Dynegy were aborted. Enron was well on its way to collapse and the corporate investing world was set on its heels. Even so, the market did not suffer too greatly over this isolated incident of corporate fraud. The DOW Index was at 10073 on January 2, 2002; the S & P 500 at 1149; and the NASDAQ at 1610.

On January 2, 2002, K-Mart bankruptcy stories began leaking out. Their CEO, Charles Conaway resigned on March 11 and the company filed its intent to restate earnings on May 15. Media releases first identified Adelphia as a corporation in trouble on April 5, 2002. WorldCom announced plans to restate income due to improper capitalization of expenses on June 27, 2002. It appeared at the time that there was no end in sight to reports of corporate improprieties that were directed toward earnings inflation and other corporate financial manipulations aimed at boosting stock prices and investor wealth.

Jennings (2004) notes two common threads in the collapse of corporations during this time frame; financial pictures painted of the companies were grossly distorted and the companies were deeply involved in double-digit growth. The pressure to increase the numbers as the economy took a downturn increased with each passing quarter.

WALL STREET ETHICS
(AN OXYMORON?)

Higher education and corporate executives were not the only parties that contributed to market declines during this time. The media reported almost daily on unethical behavior of Wall Street giants. Martha Stewart's case received the most dramatic media coverage, but there were others. Four high-ranking officials of a major Wall Street firm were indicted along with Enron officials for insider trading and stock price management schemes. Also, Wall Street was a major player in the enactment of the Private Securities Litigation Reform Act of 1995, which eliminated litigation possibilities against the Investment Profession for incorrect or 'pumped up' forecasts for publicly held corporations. This act paved the way for mass mailings of forward-looking financial statements to prospective investors. A good portion of the Dot.Com collapse in the late 1990s has been attributed to this Act.

RESULTING IMPACT ON THE MARKET

Figure One is a four-year summary (January 1, 2001-December 31, 2004) of the movement of the three major stock price indices and Home Depot, a company that generally mirrored such movements. The illustration reflects a sharp decline in market indices on September 11, 2001. However, recovery occurred in a relatively short period of time (2-2 ½ months). The adverse media releases that began to occur in early 2002 had a much deeper impact on market prices. Also, it took longer for the market to recover (in some instances, two years or more) than it did after the 911 attacks. The recovery to pre-911 figures is remarkable considering the psychological implications of the event. On October 11, one month to the day from the attack, the NASDAQ index had regained its pre-911 level. It took the S & P 500 one and one-half months and the DOW Industrials two months. Reflecting on the financial impact to our markets, one can see that the 911 attacks did not have the devastating impact that the enemies had hoped on our free market system. Neither did they have a lasting impact as recovery to pre-911 was completed within two months of the event. The researchers do not wish to downplay the significance of the event. More appropriately, we wish to emphasize the strength and resiliency of our capital market system in rebounding from such a catastrophic event.

Figure One indicates a much deeper hit resulted from corporate improprieties of 2001-2002 than was the case of the 911 attacks. Also, it took the DOW and S & P 500 stocks 24 months to return to the price level before corporate scandals became public. NASDAQ stock faired better taking only about one year to recover.

FIGURE ONE
STOCK PRICE MOVEMENTS
JANUARY 2001 THROUGH DECEMBER 2004
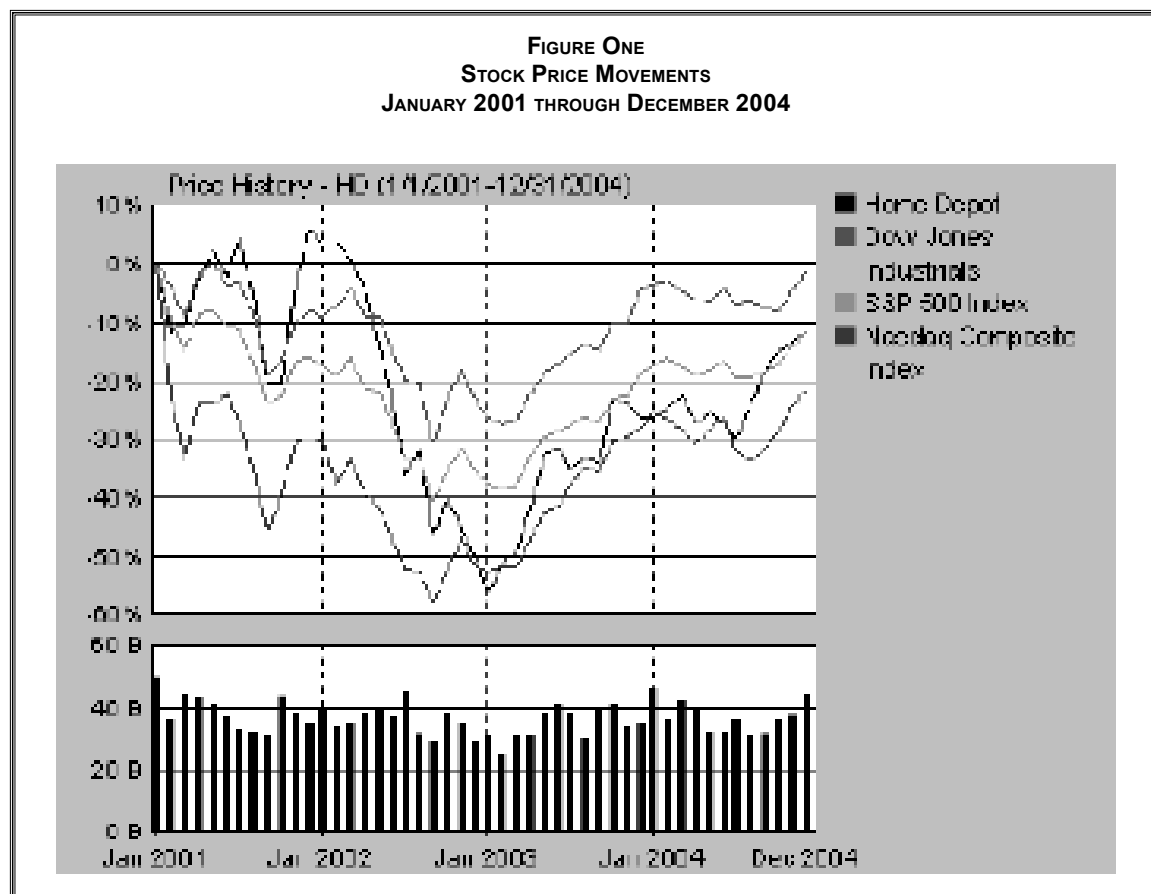
ETHICS CLASSES REQUIRED IN AACSB INTERNATIONAL ACCREDITED BUSINESS PROGRAMS

To determine how recent corporate improprieties have affected business ethics in education, an examination was made of business programs as of the start of the 2005-2006 academic year accredited by The Association to Advance Collegiate Schools of Business (AACSB International). The web pages of accredited Bachelor's, Master of Business Administration (MBA), and Master of Accountancy (MAc) degree programs were examined to identify required ethics courses. Of the 510 accredited business programs, information was unavailable on the web for three of the international programs. Therefore, the three programs have been excluded from the data in the following tables. Table One categorizes the Bachelor's, MBA, and MAc programs as to whether the school offering the program is a public, private, or international school. In addition, each category is further broken down as to whether the school does or does no hold separate AACSB International accounting accreditation.

Table Three looks at the results for ethics from the perspective of whether the school is public, private, or international. The results show that a higher percentage of the schools that are private require ethics than the public or international schools.

There are two possible reasons for this. The first is the large number of private schools that either began as or are currently affiliated with a religious group. The second is the greater number of US public schools that have 120 hour programs than US private schools (Griffin and Joyner, 2003).

Table Four examines required ethics courses in programs which possess additional AASCB International accounting accreditation. When comparing Table Four's results of Bachelor's programs to those in Table Two, the comparison indicated that schools without accounting accreditation are more likely to require ethics than those with the special accounting accreditation. There is little difference in required ethics in MAc programs when comparing the two tables, however, MBA programs at schools with accounting accreditation

TABLE ONE NUMBER OF AACSB ACCREDITED SCHOOLS' PROGRAMS CATEGORIZED BY PUBLIC, PRIVATE, AND INTERNATIONAL SCHOOLS, AS WELL AS, CATEGORIZED AS ACCOUNTING OR NON-ACCOUNTING ACCREDITED			
Programs	Bachelor's	MBA	MAc
Total Programs	455	457	235
US Public Schools – Accounting Accredited	129	122	111
US Public Schools – Non-Accounting Accredited	164	143	54
US Private Schools – Accounting Accredited	32	31	24
US Private Schools – Non-Accounting Accredited	84	91	33
International Schools - Accounting Accredited	5	5	3
International Schools - Accounting Accredited	41	65	10

Table Two summarizes the AACSB schools that require an Ethics course by degree programs. While only 29.89% of the Bachelor's programs have a required ethics course and only 28.01% of the MBA programs have a required ethics course, the authors were surprised that only 15.74% of the MAc programs required an ethics course.

are more likely to require ethics courses than those without separate accounting accreditation.

Table Five looks at accounting accredited programs from the perspective of public, private, or international programs. When Table Five is compared with Table Three, the comparison reveals at the Bachelor's level that all schools regardless of classification are less likely to re-

TABLE TWO AACSB ACCREDITED SCHOOLS REQUIRING AN ETHICS COURSE						
Programs	Bachelor's		MBA		MAc	
	Number	Percent	Number	Percent	Number	Percent
Total Programs	455		457		235	
Ethics Required	136	29.89%	128	28.01%	37	15.74%
Ethics not Required	319	70.11%	329	71.99%	198	84.26%

TABLE THREE AACSB ACCREDITED SCHOOLS REQUIRING AN ETHICS COURSE CATEGORIZED BY PUBLIC, PRIVATE, AND INTERNATIONAL SCHOOLS						
Programs	**Bachelor's**		**MBA**		**MAc**	
	Number	**Percent of Category**	**Number**	**Percent of Category**	**Number**	**Percent of Category**
Programs Requiring Ethics	136		128		37	
US Public Schools	70	23.89%	73	27.55%	24	14.55%
US Private Schools	56	48.28%	45	36.89%	12	21.05%
International Schools	10	21.74%	10	14.29%	1	7.69%

TABLE FOUR AACSB ACCOUNTING ACCREDITED SCHOOLS REQUIRING AN ETHICS COURSE						
Programs	**Bachelor's**		**MBA**		**MAc**	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Programs	166		158		138	
Ethics Required	42	25.30%	54	34.18%	21	15.22%
Ethics not Required	124	74.70%	104	65.82%	117	84.78%

TABLE FIVE AACSB ACCOUNTING ACCREDITED SCHOOLS REQUIRING AN ETHICS COURSE CATEGORIZED BY PUBLIC, PRIVATE, AND INTERNATIONAL SCHOOLS						
Programs	**Bachelor's**		**MBA**		**MAc**	
	Number	**Percent of Category**	**Number**	**Percent of Category**	**Number**	**Percent of Category**
Programs Requiring Ethics	42		54		21	
US Public Schools	27	20.93%	39	31.97%	15	13.51%
US Private Schools	14	43.75%	14	45.16%	6	25.00%
International Schools	1	20.00%	1	20.00%	0	0.00%

quire ethics if they possess accounting accreditation. However, at the MBA level all classifications with accounting accreditation are more likely to require an ethics course than those without accounting accreditation. When comparing MAc programs in the two tables, only private schools are more likely to require an ethics course with public schools less likely. There is only one accredited international school therefore a good comparison cannot be made.

Table Six summarizes those programs requiring ethics as a course in the curriculum. Public, private, and international programs are broken down into those programs with and those without separate accounting accreditation.

Table Six raises the question as to ethics requirements in accounting programs and CPA licensure. Table Seven reveals 32 of the 54 state, district, and territorial boards of accountancy require a separate ethics exams to be passed in order for a CPA certificate to be

issued. Eight of the 22 boards not requiring an ethics exam for issuance of a CPA certificate do require holders of the CPA certificate to regularly earn approved continuing education credit. Another study found thirty-eight of the boards of accountancy in 2005 required CPE credit (Tippin). The National Association of State Board of Accountancy (NASBA) proposed in an exposure draft and uniform accountancy curriculum for setting for the CPA exam requiring nine hours of ethics (NASBA, 2005). For several reasons the accounting educational and professional communities felt the curriculum was to structured in several areas. A revised curriculum was proposed in January, 2006 which would provide colleges and universities more flexibility in designing their curriculum.

	Bachelor's		MBA		MAc	
Programs	**Number**	**Percent of Category**	**Number**	**Percent of Category**	**Number**	**Percent of Category**
Programs Requiring Ethics	136		128		37	
Public Schools – Accounting Accredited	27	20.93%	39	31.97%	15	13.51%
Public Schools – Non-Accounting Accredited	43	26.21%	34	23.77%	9	16.67%
Private Schools – Accounting Accredited	14	43.75%	14	45.16%	6	25.00%
Private Schools – Non-Accounting Accredited	42	50.00%	31	34.06%	6	18.18%
International Schools - Accounting Accredited	1	20.00%	1	20.00%	0	00.00%
International Schools – Non-Accounting Accredited	9	21.95%	9	13.84%	1	10.00%

TABLE SIX
AACSB ACCOUNTING ACCREDITED SCHOOLS REQUIRING AN ETHICS COURSE CATEGORIZED BY PUBLIC, PRIVATE, AND INTERNATIONAL SCHOOLS AND CATEGORIZED AS ACCOUNTING OR NON-ACCOUNTING ACCREDITED

TABLE SEVEN
STATE BOARDS OF ACCOUNTANCY REQUIRING AN ETHICS EXAM FOR ISSUANCE OF A CPA CERTIFICATE

Ethics Exam Required	Boards of Accountancy	Percentage
Yes	32	59.26%
No	22	40.74%
Total	54	100.00%

This revised curriculum indicates while nine semester hours of ethics would be ideal, six hours should be satisfactory. Although three hours can be integrated, schools will be responsible for providing evidence of the equivalency to a three semester hours of coverage if integrated (NASBA 2006).

Table Eight shows whether the required ethics courses are required business courses or courses required outside of the business disciplines. The majority of the schools requiring an ethics course teach the course within a business discipline. The percentage of schools teaching ethics within a business disciplines increases from 60.29% for bachelor's programs to 76.56% in MBA programs and is highest in the MAc programs at 86.49%.

When a required ethics course is taught outside of the business disciplines the course title normally is referred to as Ethics, with Moral Reasoning or Social Responsibility being other course titles used. If the course is taught within the business disciplines at the bachelor's level the course is normally referred to as Business Ethics or is a course with Legal and Ethical in the title. A few programs use the title Professional Ethics. In MBA programs, most schools use a Legal

TABLE EIGHT
ETHICS COURSES REQUIRED OUTSIDE AND WITHIN BUSINESS DISCIPLINES SUMMARIZED BY COURSE TITLE

Courses	Bachelor's		MBA		MAc	
	Number	**Percent of Category**	**Number**	**Percent of Category**	**Number**	**Percent of Category**
Outside of Business:						
Ethics	43	79.63%	28	93.34%	5	100%
Moral Reasoning	9	16.67%	1	3.33%	0	
Social Responsibility	2	3.70%	1	3.33%	0	
Total Outside of Business	54	39.71%	30	23.44%	5	13.51%
Within Business:						
Business Ethics	47	57.32%	25	25.51%	5	15.63%
Legal & Ethical	33	40.24%	72	73.47%	14	43.75%
Professional Ethics	2	2.44%	1	1.02%	13	40.62%
Total Within Business	82	60.29%	98	76.56%	32	86.49%
Total	136	100%	128	100%	37	100%

& Ethical title. In the MAc programs the course is usually a Legal and Ethical course or a Professional Ethics course.

CONCLUSION AND IMPLICATIONS

Clearly, corporate scandals involving top management, financial analysts, and external auditors created a more dramatic decline in the markets that lasted longer than the 911 events did. Results of this research indicate that we are our own worst enemy when it comes to fulfilling market expectations. A good starting point to correct this situation is the revitalization of ethics courses in business schools throughout the country. Our preliminary research indicates that most colleges are seemingly integrating ethics into other courses rather than teaching separate courses involving ethics. At our institution, the visiting team for AACSB re-accreditation noted the need to implement a plan to incorporate ethics education into our curriculum. There is an Assessments Committee now in place that is in charge of such plan. However, as NASBA is suggesting for accounting curriculum, there is a need to validate the amount of coverage of ethics in the curriculum when a school chooses to integrate ethics rather than offering separate ethics courses.

Congress passed the Sarbanes-Oxley Act in 2002 in an attempt to place government control over ethical decisions of accountants, auditors, and corporate officials for their actions related to corporate financial reporting. Ethical behavior of top management, internal and external auditors, and financial marketers will be essential in the future to rebuild and sustain the public's confidence in our free market system that has served us so well in the past. Accountants, both internal and external, have had Professional Codes of Conduct for many years. These codes need to be re-examined by the professional organizations that have enforcement authorities (AICPA, IMA, State Boards of Accountancy, etc). These organizations can put pressure on schools to revise the business curriculums.

While restoring public confidence in the free enterprise system may take considerable time, it is imperative for business programs to take a leadership role in addressing the ethics issue. At the very least, business programs at all levels must insure that ethical discussions are held. While it cannot be predicted what students will do when faced with major business ethical situations, exposure to ethical discussions throughout their college curriculum is an important step in reestablishing confidence of the investing public in today's capital markets.

Finally, the all-important player in this situation (Wall Street) should invest huge resources to assure the investing public that the shenanigans of the past five years will not be repeated. Perhaps this group of professionals can do more to restore confidence of our investing public in the free market system than any other organization.

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Merging the Corporate Requirements of Organizational Leadership into A University Course Founded in The Theoretical Aspects of Leadership

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ABSTRACT

The purpose of a university course in leadership is to provide research findings about leadership, leadership practices and skill development. While corporate training programs are usually designed to meet the perceived needs of individual organizations. The question to be answered is how university leadership classes' best can prepare their students to possess what the corporate world values in its leaders. That does not imply that certain theoretical topics should be eliminated or suffer reduced emphasis, but rather, places a burden on professors to incorporate into class work those topics that are deemed important by corporations. There will always be corporate specific material that can only be addressed by the organization. However, by achieving a greater understanding of the areas of leadership that corporations emphasize, universities will be better prepared to distinguish what to accentuate in their application of leadership topics.

Introduction

Leadership is seen as a significant topic in numerous disciplines and has become an important focus in corporate training. Recently, teaching and corresponding research about leadership topics have surged, with a number of universities offering degrees in Leadership. Many theorists, scholars and corporate executives are convinced that effective leadership is required to meet most organizational challenges.

The purpose of a university course in leadership is to provide research findings about leadership, leadership practices and skill development. It is hoped that the student who successfully completes a leadership course will acquire an overview of the voluminous leadership literature that is based on research and experience, gain understanding of the expectations placed on leaders and learn how to continue to develop their own leadership skills.

Corporate training programs are usually designed to meet the perceived needs of individual organizations. Organizations design leadership training and development to produce better qualified leaders who improve the bottom line (Wick & Flanagan, 2005). With the fast pace of change in the corporate world today, chief executives and managers are recognizing that corporate leadership training enhances performance and helps organizations achieve a competitive edge. It is anticipated by executives that corporate leadership training will be a catalyst to boost the overall effectiveness of the organization.

Corporate leadership training is often seen as providing a highly effective means of delivering real learning related to present challenges, with consequent immediate benefits to an organization's bottom line. Many corporations use a 'personalized action learning approach' hoping to achieve the greater flexibility required to build a responsive organization. There are a variety of types of leadership training programs currently in use. Some involve away and outdoor seminars while many are done on-site by either corporate trainers or by contracted facilitators.

The obvious difference in focus between corporate training and university courses does not have to result in significant disparity in for the university student. Preliminary surveys of students in leadership classes and employees who have completed corporate leadership training are summarized in Table 1. It is notable that there is considerable overlap in leadership topics; however, the degree of emphasis varies widely.

The question to be answered is how university leadership classes' best can prepare their students to possess what the corporate world values in its leaders. That does not imply that certain theoretical topics should be eliminated or suffer reduced emphasis, but rather, places a burden on professors to incorporate into class work those topics that are deemed important by corporations. There will always be corporate specific material that can only be addressed by the organization. However, by achieving a greater understanding of the areas of leadership that corporations emphasize, universities will be better prepared to distinguish what to accentuate in their application of leadership topics.

Methodology

A heuristic study was undertaken to explore specific topics corporate leadership training programs are covering. Although Heuristic Inquiry is most often associated with the Social Sciences it is deemed most appropriate for research concerning leadership. After all, the study of leadership crosses many disciplines and the underlying theories for university courses in leadership have their foundations in Social Science Research. Relying on the pioneering work of Clark Moustakas to guide this study, Heuristic Inquiry was employed.

Heuristic Inquiry was developed by Clark Moustakas (1967; 1981; 1990; and Douglass & Moustakas, 1985) drawing heavily upon the ideas of Michael Polanyi (1966/1983; 1969). It is defined as follows:

> Heuristic research is a search for the discovery of meaning and essence in significant human experience. It requires a

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Leadership Topic	University Leadership Course			Corporate Leadership Training		
	Extensive Coverage	Medium Coverage	Little or no Coverage	Extensive Coverage	Medium Coverage	Little or no Coverage
TABLE 1 **PRELIMINARY FINDINGS**						
Historical Background		X				X
Understanding Self & Others	X				X	
Charismatic/ Transformational	X			X		
Leader Behavior and Styles	X			X		
Contingency/ Situational	X					X
Ethics and Social Respon		X		X		
Power and Politics	X					X
Influence Tactics		X				X
Teamwork		X		X		
Communication		X		X		
Motivation		X			X	
Creativity and Innovation		X				X
Conflict Resolution			X		X	
Strategic Leadership			X	X		
Gender Differences	X					X
Culturally Diverse Aspects	X					X
Succession Planning			X	X		
Followership		X				X
Visionary Leadership			X	X		
Corporate Culture in general		X				X
Corporate Specific Culture			X	X		

subjective process of reflecting, exploring, sifting, and elucidating the nature of the phenomenon under investigation, (Douglass & Moustakas, 1985, p.40).

Heuristics is concerned with meanings, not measurements; with essence, not appearance; with quality, not quantity; with experience, not behavior, (Douglass & Moustakas, 1985, p.42).

The heuristic approach is an adaptation of phenomenological inquiry, but explicitly acknowledges the involvement of the *researcher*, to the extent that the lived experience of the researcher becomes the main focus of the research. Indeed, what is explicitly the focus of the approach is the transformative effect of the inquiry on the researcher's own experience.

From the beginning and throughout an investigation, heuristic research involves self-search, self-dialogue, and self-dis-

covery. The research question and methodology flow out of inner awareness, meaning, and inspiration. [. .] My primary task is to recognize whatever exists in my consciousness as a fundamental awareness – to receive it, accept it, support it and dwell inside it (Moustakas, 2001, p.263).

This means that the researcher became directly involved not only with the teaching of university leadership classes, but also by delving into corporate training programs, sessions and materials. Moustakas (1990) describes heuristic research as "an organized and systematic form for investigating human experience....From the beginning and throughout an investigation, heuristic research involves self-search, self-dialogue, and self discovery; the research question and the methodology flow out of inner awareness, meaning, and inspiration." Finally he describes the qualifications of the researcher to engage with the heuristic method. " In heuristic research the investigator must have had a direct, personal encounter with the phenomenon being

investigated. There must have been actual autobiographical connections" (Moustakas, 1990, p. 14).

Moustakas does not explicitly refer to the participatory quality of heuristic inquiry, but it is clearly implied by his stress on heuristics as a way of knowing that involves a personal encounter when he says, "The heuristic process is a way of being informed, a way of knowing," (Moustakas, 1990, p. 10).

Heuristic inquiry is an extremely demanding process, involving disciplined self-commitment, rigorous self-searching and self-reflection, and ultimately a surrender to the process. It does not suit a fixed time-frame for research, and was not entered into lightly. In essence, it is a research process designed for the exploration and interpretation of experience, which uses the self of the researcher. It is a research process that reflects Clark Moustakas' basic philosophy that "in every learner, in every person, there are creative sources of energy and meaning that are often tacit, hidden, or denied" (Moustakas, 2001, p. 3).

Teaching both graduate and undergraduate courses in leadership has fostered a deep involvement with the topic. Exploration was actually begun several years ago by approaching trainers in major corporations and engaging them in conversations about materials covered. Graduate students also presented opportunities for conversations regarding what they had covered in corporate sponsored leadership training programs and the differences they encountered between corporate training and university coursework.

Developing a formal research study was presenting a dilemma because it was apparent typical business statistics would not obtain the desired results. Coming across the work of Clark Moustakas (1990), it became apparent that the phases of engagement, immersion, incubation and illumination in the work done to date.

Heuristic inquiry was developed by Clark Moustakas (1990; see also Douglass & Moustakas, 1985), and bares some striking resemblance to the idea of *lived inquiry* developed by John Heron (1998), and *mindful inquiry* developed by Bentz & Shapiro (1998). The heuristic inquiry paradigm is an adaptation of phenomenological inquiry but explicitly acknowledges the involvement of the *researcher*, to the

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TABLE 2
SUMMARY OF MOUSTAKAS' CORE PROCESSES OF HEURISTIC INQUIRY
(MOUSTAKAS, 1990, P. 15-27)

Identify with the focus of the inquiry
The heuristic process involves getting inside the research question, becoming one with it, living it.

Self dialogue
Self dialogue is the critical beginning, allowing the phenomenon to speak directly to one's own experience. Knowledge grows out of direct human experience and discovery involves self-inquiry, an openness to one's own experience.

Tacit knowing
In addition to knowledge that we can make explicit, there is knowledge that is implicit to our actions and experiences. This tacit dimension is ineffable and unspecifiable, it underlies and precedes intuition and can guide the researcher into untapped directions and sources of meaning.

Intuition
Intuition provides the bridge between explicit and tacit knowledge. Intuition makes possible the seeing of things as wholes. Every act of achieving integration, unity or wholeness requires intuition.

Indwelling
This refers to the conscious and deliberate process of turning inward to seek a deeper, more extended comprehension of a quality or theme of human experience. Indwelling involves a willingness to gaze with unwavering attention and concentration into some aspect of human experience.

Focusing
Focusing is inner attention, a staying with, a sustained process of systematically contacting the central meanings of an experience. It enables one to see something as it is and to make whatever shifts are necessary to make contact with necessary awareness and insight.

Internal frame of reference
The outcome of the heuristic process in terms of knowledge and experience must be placed in the context of the experiencer's own internal frame of reference, and not some external frame.

extent that the lived experience of the researcher becomes the main focus of the research. The researcher really needs to feel passionate about the research question (West, 1998a; 1998b). Indeed, what is explicitly the focus of the approach is the transformative effect of the inquiry on the researcher's own experience. This is often achieved by a process that can usefully be called discernment.

Moustakas has identified a number of core processes (summarized in Table 2). Moustakas also outlines six basic phases involved in this approach, although he clearly indicates a seventh phase as well (summarized in Table 3).

It should be emphasized that, although heuristic inquiry can certainly involve the exploration of the experiences of co-researchers, it is an approach to research that very much focuses on the experience and transformation of the researcher. Here is how Moustakas (1990) describes this unique approach to research. He proposes that heuristic inquiry involves:

> . . . a process of internal search through which one discovers

the nature and meaning of experience and develops methods and procedures for further investigation and analysis. The self of the researcher is present throughout the process and, while understanding the phenomenon with increasing depth, the researcher also experiences growing self-awareness and self-knowledge (p. 9).

Three Phases

Douglass & Moustakas (1985) outline a three-phase model, and they suggest that, " . . a natural process is at play when one attempts to do a thing heuristically" (Douglass & Moustakas, 1985, p. 47). To simplify presentation of material this three-phase model will be employed.

Immersion

Immersion is that period of exploration, of asking the research questions, identifying the problem and perhaps setting a theme. This period began over two years ago as reading of popular business leader-

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TABLE 3
SUMMARY OF MOUSTAKAS' PHASES OF HEURISTIC INQUIRY
(MOUSTAKAS, 1990, P. 27-37)

Initial engagement
The task of the first phase is to discover an intense interest, a passionate concern that calls out to the researcher, one that holds important social meanings and personal, compelling implications. The research question that emerges lingers with the researcher, awaiting the disciplined commitment that will reveal its underlying meanings.

Immersion
The research question is lived in waking, sleeping and even dream states. This requires alertness, concentration and self-searching. Virtually anything connected with the question becomes raw material for immersion.

Incubation
This involves a retreat from the intense, concentrated focus, allowing the expansion of knowledge to take place at a more subtle level, enabling the inner tacit dimension and intuition to clarify and extend understanding.

Illumination
This involves a breakthrough, a process of awakening that occurs naturally when the researcher is open and receptive to tacit knowledge and intuition. It involves opening a door to new awareness, a modification of an old understanding, a synthesis of fragmented knowledge, or new discovery.

Explication
This involves a full examination of what has been awakened in consciousness. What is required is organization and a comprehensive depiction of the core themes.

Creative synthesis
Thoroughly familiar with the data, and following a preparatory phase of solitude and meditation, the researcher puts the components and core themes usually into the form of creative synthesis expressed as a narrative account, a report, a thesis, a poem, story, drawing, painting, etc.

Validation of the heuristic inquiry
The question of validity is one of meaning. Does the synthesis present comprehensively, vividly, and accurately the meanings and essences of the experience? Returning again and again to the data to check whether they embrace the necessary and sufficient meanings. Finally, feedback is obtained through participant validation, and receiving responses from others.

ship articles was notably dissimilar in some areas from textbooks and scholarly articles. While it was expected that corporations would design their leadership training to be particular to their own needs, it was interesting that some topics included in training programs were not being addressed by universities.

This period continued with increased intensity once the major research question was formalized. *How can university leadership classes' best prepare their students to possess what the corporate world values in its leaders?*

Acquisition

The collection of data was done in different ways depending on what was available. Major corporations were contacted and were agreeable to sharing their material, topics and some allowed observation. Employees discussed what they saw as the focus of their corporate training experience. Educators in business leadership shared what they considered necessary, important and current and what they covered in the classroom.

Realization

All of the data was them synthesized to allow for trend investigation. Because each company covered topics in their own corporate manor, some were given little to no coverage while others might have days of training in one area. The conclusions were based on compilation of materials covered, time allotted, employee perception of importance and placement within a university leadership class.

Study Limitations

What might be seen as limitations by some could be seen as necessary for the purpose of this study. The desired final outcome was to provide coursework in leadership that would incorporate the perceived needs of corporations. Because over 95% of business students from Maryville University remain in the St. Louis area after graduation, only local companies were contacted. The John E. Simon School of Business has an Advisory Board made up of executives from area businesses. This proved a logical place to begin making contacts. All corporations contacted were willing to participate; however, some did not have their own training programs and relied on outside trainers. The number of businesses numbered only 10; but, these were some of the largest in the St. Louis area.

Another possible criticism could concern the size of the organizations involved. Small companies were not included because they would not have the resources to fund their own private training centres.

Findings

In general, there were extensive similarities in leadership topics, the emphasis placed on the topics varied greatly. It was determined that a number of topics should be either added to the leadership curriculum or be re-prioritized with additional or less emphasis. Those topics include:

Authentic Leadership

The pillars of *authentic leadership* are especially pertinent in these days of corporate social responsibility and employer brand. Employees and customers want to see a consistency of message and actions that demand more of leaders than merely satisfying the board and improving the bottom line. *Authentic leadership* can exist at all levels — not just the boardroom (Couzins & Beagrie, 2005). Previously the topic of Authentic Leadership had not been included in either undergraduate or graduate leadership classes. Because the topic is so popular within the corporate world, it is deemed worthy of inclusion. However, there is currently limited scholarly material available to graduate students.

Communication

While communication is recognized as an integral process within the relationship of the leader and subordinate, often the topic is given cursory coverage in leadership classes. The assumption being that the topic is covered in other classes. Leaders as communicators "now wear coats of many colors as we work in various positions along the wide spectrum of the field. The demand for the know-how of professional communicators has burgeoned as corporations have come to understand and respond to the requirements of the Informal ion Age" (Sanchez, 2005). Going beyond the simplistic communication model to more in-depth analysis of effective leadership communication is called for.

Emotional Intelligence

Emotional Intelligence (EI or EQ) is defined as the capacity to reason about emotions, and of emotions to enhance thinking. "It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (Mayer, J.; Salovey, P.; Caruso, D. 2004, p. 197). This topic was not previously covered in detail; it was mentioned in general discussion regarding personality. Research found that some companies spend one to two days on this topic and while it is not called leadership training, it is designed for those in leadership positions.

Ethics in Leadership

Because business ethics, leadership and values have appeared repeatedly in the media, corporations are working to improve their reputations by focusing on ethical leadership. It is imperative that considerable attention be given to ethics in leadership because, "Ethical leaders are ultimately responsible for developing a strong and sustainable ethical climate in organizations" (Engelbrecht, Aswegen and Theron, 2004, p.19). It is expected that today's companies will be

run by ethical leaders – those that demonstrate honesty, credibility and consistency in putting ethical values into action. Even though universities teach courses in business ethics, students may have difficulty in making the direct connection to ethical leadership; therefore, additional emphasis will be placed on this topic.

Conclusion

The study is far from completed. In fact, it must continue as long as universities claim to prepare students for Corporate America. Because the nature of Heuristic Inquiry does not suit a fixed time-frame for research, it is appropriate that this investigation will continue. It is expected that changes in university leadership courses will routinely be required.

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Two is Better than One! Accelerated Learning in Workforce Education for Immigrants Acquiring English

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ABSTRACT

The profile of the workforce in the United States is increasingly changing to include high percentages of immigrant workers. Many immigrants come with low levels of formal education and English language skills; and they are seeking education that is targeted to their needs. Traditional forms of workforce education have not served the immigrant labor force well. A case is made for a paradigm shift in workforce education which would accelerate learning for this group by providing an integrated model of education that is delivered via two languages rather than one.

Introduction

In 2005, the Department of Labor reported 150 million people in our workforce. In the same year, the National Center for Educational Statistics reported 3 million students graduated from high school. Thus, at best, only 2 percent of our workforce comes from public schools each year (NAEPDC, 2006). Therefore, the source of workers must be the adult population today. Consider also reports indicating that that within the next decade the United States will be 12 million short of the types of workers that will be needed—those with a GED or a high school diploma plus some college (Carnevale, 2002, cited in NAEPDC, 2006). Couple this with the current demographics showing that foreign born immigrants comprise 15 percent of the current labor force in the U.S. (Bureau of Labor Statistics, 2006); and it becomes crystal clear that we must focus more attention on immigrant labor in order to maintain a successful economy in this country. It is imperative that we research and implement the most effective ways to help Hispanics, Asians and other immigrant populations raise their educational levels and their economic status through increased accelerated learning and attainment of jobs that pay sustainable wages. The purpose of this paper is to propose a paradigm shift in workforce education for immigrant workers who are acquiring English in order to accelerate their learning, transition them to postsecondary education, and provide them with a credential for a job that pays sustainable wages. The author first paints a picture of the immigrant worker's situation in the U.S. by providing some statistical information on the labor population. She then proposes a model for workforce education that departs from the traditional model and provides a theoretical and practical rationale for the model. The discussion continues with an example of the proposed model and concludes with a call for additional research.

Immigrant Workers in the U.S.

Immigrants[1] account for a large part of the workforce. Summ, Fogg, and Harrington, (cited in Capps, Fix, Henderson and Reardon-Anderson, 2005) indicate that immigrants accounted for half the growth in the U.S. workforce during the 1990's. Additional characteristics regarding the foreign born population[2] as per the Bureau of Labor Statistics (2006b) are as follows:

- In 2005, foreign-born workers made up about 15 percent of the U.S. civilian labor force age 16 and over

- 28 percent of the foreign-born labor force 25 years old and over had not completed high school in 2005, compared with about 7 percent of the native-born labor force.
- Foreign-born workers were more likely than their native-born counterparts to be employed in service occupations, and the foreign born were less likely than the native born to work in sales and office occupations.

Because a high school diploma is the credential that is expected for just about every mid-level (technicians, clerks, electricians, etc.) sub baccalaureate job (Grubb, 1996), it is logical that immigrant workers suffer high rates of unemployment and/or low paying jobs—as indicated by the following statistics from the Bureau of Labor Statistics (2006):

- The unemployment rate for the foreign born in the civilian labor force with less than a high school education was 7 percent as compared to 5.2 percent of those with some college or an associates degree and 3.6% of those with a bachelor's degree
- As with the native born, the earnings of foreign born workers increased with education. The foreign born 25 years of age and over with less than a high school education earned $385 per week in 2005, while those with bachelor's degrees and higher earned 2-1/2 times as much--$960 a week.

These statistics reveal a story about the immigrant laborer. As compared to native born workers, s/he is more likely to be unemployed, is less likely to have a high school diploma, makes less money, and is more likely to work in service, building and cleaning occupations. However, there is another dimension which has not been addressed in this picture—the lack of English language proficiency. Hispanics born outside the U.S., for instance, currently comprise 49 percent of the immigrant labor force (Bureau of Labor Statistics, 2006b). Yet, one report found that this group was 72 percent Spanish dominant, 4 percent English dominant and 24 percent bilingual (Suro and Passel, 2003). Additionally, research finds that:

- Nearly two-thirds of low-wage immigrant workers do not speak English proficiently (Capps et al, 2003); and
- 28 percent of the overall U.S. labor force with less than a high school education is Limited English Proficient (Capps et al, 2003).

Thus, the other part of the story about the immigrant worker is that s/he is in need of English language development—a key factor to acquiring better paying jobs. Wrigley, H. S., Richer, E., Martineson,

K., Kubo, H.,& Strawn, J. (2003) write that immigrants who are fluent in English earn about 14 percent more than those without English and that English proficiency narrows the earnings gap by 6 to 18 percent. Immigrants know that English language development and education is key to acquiring jobs that pay sustainable wages. However, it is not uncommon to find long waiting lists of thousands for free adult ESL (English as a second language) programs around the country. The National Institute for Literacy, for instance, reported in 2000 that Los Angeles had a waiting list of 50,000 adults for ESL (National Institute for Literacy, 2000). And in the current year we find that the situation has changed little. Trejos (2006) reports, for instance, that in Maryland the waiting list for adult education services includes over 5,000 people, with most of them seeking ESL classes. The situation for Hispanics and other immigrants, therefore, is one where in order to climb the economic ladder and to fill the labor demands in this country, they must not only acquire some form of post-secondary education but they must also acquire English language skills and struggle to find a place in ESL classes. Furthermore, as immigrant adults, most of them have few financial resources and often face the pressure of supporting families. While unemployed or displaced workers may be receiving aid from diverse funding streams (e.g., WIA—Workforce Investment Act funds, NAFTA—North American Free Trade Agreement, or TAA—Trade Adjustment Assistance), the entanglement and different eligibility requirements for such funds generally preclude support for more than 12 months—18 at best if a student is receiving combined funds, such as unemployment compensation plus NAFTA-TAA monies (Huerta-Macías, 2002). Unemployed and displaced workers do not have the luxury of time. Yet, acquisition of English language skills is not a short term endeavor. Wrigley et al (2003) report that basic interaction skills require 500 – 1,000 hours of ESL instruction if students are literate in the native language and that advanced communication skills require more time.

Yet, traditional models of workforce education for immigrants acquiring English have followed a sequential model of instruction where students are first provided with ESL classes with the expectation that once they develop basic proficiency in the language they will subsequently enroll in occupational training. Even if one assumes that a student has age-appropriate literacy and basic education in the native language and that she is ready to pass the GED in Spanish in preparation for the transition to higher education—it would still take at least 500 hours of instruction to acquire basic English skills. Therefore, a class which meets for 10 hours a week would require almost a year of English classes before enrolling in occupational classes! Even 6 months of instruction at 20 hours of class time per week is still a long time given that there would be few, if any, sources of income during this time. Additionally, the occupational portion of a workforce education program might take anywhere from six months to a year or more—depending on whether a student was enrolled in short-term training, for instance, or in an associates degree program. This, furthermore, is a best case scenario—the required time would be much longer if a student is not GED ready and had low levels of literacy in the native language. Thus the question is: "How can we accelerate learning in workforce education for immigrant workers that includes English language development?" The following presents an alternative model of workforce education that provides one possible answer to this question.

Integrated Workforce Education

An integrated model of workforce education as proposed herein differs from traditional models in that a) the various components of the model are taught simultaneously, b) the content is integrated, and c) the native language is used in the classroom. This model could include GED preparation, as needed; ESL or VESL (Vocational English as a second language); and occupational training with the aim of attaining a postsecondary credential. This model is also designed for groups of students who have a common native language or share proficiency in a single language regardless of whether it is a native language. Table 1 presents a general design of such a model, including an occupational skills component taught bilingually, an English language component, and an academic component which would include GED, if necessary. Transition to post secondary education would be integrated into the model, as would be support services—the latter being critical for student retention and completion. The model calls for partnerships with business and industry in order to provide opportunities for learners to apply the occupational and English language skills that they are learning and to obtain employment upon completion of a program. The development of English language skills would be an integral part of this model; it would require a strong collaboration between the occupational skills instructor and the English language instructor in order that ESL is taught within the context of the specific occupation being studied. For example, if learners are working towards an LVN degree (Licensed Vocational Nurse), the ESL language component would emphasize terminology, readings, and discussions focused around the area of health care that would be covered in the occupational skills component during the same time period. The program would be bilingual at the programmatic level and also at the instructional level, where some classes would be taught via English and the native language.

Theoretical Rationale

The theoretical rationale for the proposed bilingual instructional model for workforce education draws from the research literature in the areas of second language acquisition, second language teaching, cognition, adult learning theory, and bilingual education. The use of two languages as the medium for instruction is not a new idea. Bilingual models of education for students in public and private schools were present in the U.S. long before the European immigrants arrived to this country and in other countries long before that. However, changes in attitude toward bilingualism restricted bilingual education until it was formally restored in this country with the establishment of a dual language school in Florida in 1963 (Baker, 2001). Investigation on bilingual forms of schooling and bilingualism developed concomitantly with bilingual education programs, such that we have a strong body of research literature in this field.

TABLE I			
BILINGUAL PROGRAM MODEL FOR ACCELERATED LEARNING			
Intake: assessment of student interests, needs, biliteracy skills, orientation to program			
Occupational Component (bilingual)	**Basic Education and ESL Component**	**Academic Component (bilingual)**	**Support Services (Spanish and English)**
Phase I Significant use of native language			
Job skills training (English and Spanish)	Basic skills and ESL (some Spanish for early beginners); primarily English as students advance	GED study (Spanish)	Counseling, partnerships for employment (English and Spanish, as needed)
Phase II: English and the native language			
Part time employment	On the job ESL learning	Transition to post secondary education (English and Spanish)	Counseling, partnerships for employment (English and Spanish, as needed)
Phase III: Primarily English			
Full time employment	On the job ESL learning	Attainment of Associates Degree or other post secondary credential (English)	Counseling, partnerships for employment (English)

Two of the basic ideas which provide a theoretical foundation for bilingual instruction have to do with the notions of common underlying proficiencies and transfer. The idea of a common underlying proficiency, as developed by Cummins (1989) indicates that individuals speaking two or more languages have a central operating system for both languages. Although the two languages are different in outwardly conversation, they do not function as separate systems cognitively. One of the significant implications of this theory is that the common underlying cognitive system allows people to store and easily retrieve two or more languages. Another implication is that the development of speaking, listening, reading, and writing in the first language helps the entire cognitive system to develop—including the development of the same skills in the second language.   Learning, therefore, transfers from the first to the second language; and what is learned in one language (for instance, knowledge about safety on the job or soft skills for employment) does not have to be retaught in a second language—only the language and vocabulary for the expression of such knowledge needs to be taught. Thus, the implication for workforce learning is that information processing skills and educational attainment can be developed through two languages as well as one (Baker, 2001; Cook, 1992).

The work of the National Research Council (2000) has emphasized the importance of drawing on the individual's background knowledge and previous experiences in the learning process: "Even the initial learning phase involves transfer because it is based on the knowledge that people bring to any learning situation. . . . By helping activate this knowledge, teachers can build on students' strengths (p.168)." The authors add that "Prior knowledge also includes the kind of knowledge learners acquire because of their social roles . . . and their culture and ethnic affiliations" (p.72). The idea of background knowledge as integral to learning has important applications for bilingual instruction. Background knowledge includes not only

factual and experiential knowledge but also language; thus the learner's native language becomes a tool which can facilitate the acquisition of a second language and the learning of new knowledge. The implication of this research for workforce education is that native language use in the classroom can facilitate the learning of English and occupational knowledge.

Research in the area of second language teaching has stressed the importance of teaching language via content that is relevant and of interest to the learners. Contrary to traditional paradigms of language teaching which focused on grammar drills, new paradigms call for thematic teaching where learners discuss, read and write about topics of interest to them (Brown, 1994; Haley and Austin, 2003). This research is directly relevant to bilingual instruction for the workforce because it supports the idea of integrating occupational instruction with English language development. Thus, students may be learning about nursing, for instance, while also acquiring the language and vocabulary in English of the medical field relevant to patient care.

Another powerful notion in the research literature on learning and human development has been the role of the affect in learning—an idea that was in part fueled by the research on emotional intelligence by Goelman (1995) and others. The importance of the affect applies not only to K-12 schooling but to adult education as well.   Dirx (2001) writes that theories have posited the learning process as one that is largely rationale and cognitive, where emotions are seen only as impediments to learning or as motivators. However, he argues that:

> . . . personally significant and meaningful learning is fundamentally grounded in and is derived from the adult's emotional, imaginative connection with the self and with the broader social world. . . . This process of meaning making is

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essentially imaginative and extra-rational, rather than merely reflective and rational. (p.64)

His work affirms a tenet of second language teaching, which is the importance of providing a learning environment where the student does not experience feelings of anxiety, isolation, or alienation, but rather where the environment is conducive to learning and where students feel comfortable taking risks by using their new language in novel situations (Brown, 1994). The implication of this research on the affect and the learning environment for workforce education is the need to provide a nurturing environment for our adult learners—particularly because many of them have not taken on the role of the student in decades and thus feel somewhat alienated and anxious about returning to the classroom. This is particularly true for immigrant learners who are not as familiar with the systems of schooling in this country as native born learners and for whom the prospect of a post secondary credential appears to be all but impossible. The application of this research for bilingual instruction is that the use of the students' native language in instruction, therefore, is one way in which the affect can be positively impacted and learning enhanced. The theoretical rationale supporting bilingual instruction for adults is, thus, interdisciplinary and foundational for the development of sound models of workforce education. Let us now turn to the practical, to an example of a bilingual workforce education program.

Bilingual Integrated Model

An example of the implementation of the proposed model comes from El Paso, Texas. The garment manufacturing industry had a major presence in this community for several decades. However, during the 1990's and particularly since NAFTA, the community experienced massive unemployment as one company after another shut down. One such company was Levi Strauss. In response to the pressing need for retraining and employment, the local community college, in collaboration with the Levi Strauss Foundation Community Transition Fund, developed an integrated, bilingual model of instruction with the goal of providing GED, ESL, leadership skills, writing, and computer literacy. The instructional components included ESL classes which were contextualized around the concept of leadership; a class on leadership skills taught in Spanish and focused on developing student lifelong learning and career ladders which included topics ranging from planning and goal setting to financial literacy; a com-

puter literacy class taught in Spanish and English where students developed basic writing skills while also learning computer technology (e.g., Word, Excel, Powerpoint); and a Spanish GED component for those students lacking a high school diploma (see Table 2). The funding for this project did not provide for a long-term educational plan; however, the community college is currently developing, through additional resources, a pilot program which transitions students into post secondary education (Martinez, 2005).

This project was highly successful, as based on an the large number of students served (115); the number of courses that were implemented (48); the overall retention rate of 88 percent with several classes having 100 percent retention (adult basic education programs generally have retention rates of approximately 50 percent); and the completion of the GED by 12 participants who were interested in post secondary education and/or in job advancement. This program was designed solely to meet the immediate needs of the community and to provide a learner-centered program; it was not designed to test the model. Still, this project demonstrates that it can be done; the implementation of this model is feasible. Other projects have, additionally, also confirmed high levels of success through the implementation of bilingual integrated models, as based on similar measures.[3] One of the outcomes of research on such a project would be a measure of the time it takes learners to attain goals using the dual language model as opposed to English only. It is estimated that learners with low levels of literacy in the native language take approximately five years to progress to the point where they would be ready to transition to post secondary studies in English; learners with higher levels of native language literacy (about 6th grade) can attain an associates degree within the same five year period of time (EPCC administrative staff, personal communication, April 2006). The argument, thus, is that a well-designed, bilingual workforce education model as proposed herein could considerably shorten this time and help learners attain a credential sooner.

Conclusion

In order to accelerate learning for our large and growing immigrant labor force, the author has argued for an integrated model of education that a) uses two languages rather than one for the medium of instruction; b) builds on the students' native language skills and other background knowledge; and c) provides services through the

| TABLE 2 ||||
| SAMPLE BILINGUAL INTEGRATED PROGRAM, LEVI STRAUSS FOUNDATION ||||
Occupational Component (Spanish and English)	Basic Education and ESL Component	Academic Component (in Spanish and English)	Support Services (Spanish and English)
Computer literacy and writing skills in Spanish and English	ESL taught via the content of leadership skills	GED study (optional and in Spanish)	Counseling provided informally in Spanish and English
Pilot program transitioning students to post secondary studies			

attainment of a post secondary credential. This departs from traditional models which offer sequential coursework and which delay student access to occupational studies for so long that their funding often runs out even before they can begin this coursework (Huerta-Macías, 2002). Finally, even though the proposed model is based on a sound theoretical foundation, there is a need to test it using empirical research. It is incumbent upon us to meet this challenge and provide the most effective learning trajectories for our immigrant labor force.

(Endnotes)

1 Note that immigrants can be either foreign born or native born; and native born can be first or second or later generations. The discussion in this paper will focus on the foreign born.

2 The Bureau of Labor Statistics defines the foreign born as persons residing in the United States who were not U.S. citizens at birth. The foreign-born population includes legally-admitted immigrants, refugees, temporary residents such as students and temporary workers, and undocumented immigrants. The native born are persons born in the United States or one of its outlying areas such as Puerto Rico or Guam or who were born abroad of at least one parent who was a U.S. citizen.

3 While a description of these projects is beyond the scope of this discussion, the reader is referred to Huerta-Macías (2002) for a description of three such programs and to Huerta-Macias (2002) for a more detailed description of the instructional design of such programs.

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A Hybrid Accounting Principles Course: The Best of Both Worlds

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ABSTRACT

This paper discusses the design, implementation and preliminary evaluation of a hybrid accounting principles course at an AACSB accredited public university. A hybrid course is one that utilizes both traditional face to face instructional techniques with one or more web based tools. Many obstacles face the adequate implementation of a pure on-line accounting course. Whether these obstacles are human or technological, many accounting academics have been slow to develop on-line courses. In addition, research has been inconclusive regarding the effectiveness of on-line courses. Thus, this course was developed with the objective of using the best of traditional, face to face, teaching techniques along with incorporating effective on-line computer based tools. This paper addresses the various components used in the hybrid course along with students' perceptions of their effectiveness. Results indicate that students overwhelmingly preferred the hybrid model over a traditional lecture based accounting principles course.

Introduction

It has often been stated that teaching is more an art than a science. In other words, there is no single best way to teach a given subject matter. The recent dramatic changes in accounting education along with changes in the ability to deliver course material via computers have created greater demands, and complications, on the accounting educator.

In recent years much has been written regarding the benefits and drawbacks to teaching in an on-line environment. In a recent study over 50 percent of both public and private universities indicated that on-line education is critical to their long-term strategy (Allen, et al., 2004). However, prior research has been inconclusive regarding the effectiveness of on-line courses (Bernard, et al., 2004). In addition to the disagreement regarding the effectiveness of on-line course, there are many obstacles that students, institutions and faculty members confront in developing an effective on-line course. Some obstacles that are confronted are time requirements, costs, instructor/student relationships, and training.

Even though there is an extensive body of research regarding on-line education (Bernard, et al., 2004) there has not been much written on hybrid courses (Young, 2002; Aycock, Garnham, and Kaleta, 2002; Waddoups and Howell, 2002). This paper will discuss the design, implementation and preliminary evaluation of a hybrid course that overcomes many of the obstacles found in on-line courses at a small AACSB accredited university. A hybrid course has been defined as one "...in which a significant portion of the learning activities have been moved online and time traditionally spent in the classroom is reduced but not eliminated." (Garnham, et al., 2002). A primary objective of this hybrid model is to maximize the inherent benefits of the face to face (f2f) time <u>and</u> effectively utilize on-line tools to ultimately result in higher student outcomes and satisfaction.

Design and Implementation

Initial design considerations involved some of the educational issues confronting on-line course delivery and processes. Some of the educational issues that were confronted were: reduction in personal contact, the role of the teacher/facilitator, the role of the student, student motivation and involvement and assessment.

Two of the most important design considerations were the ratio of f2f delivery (e.g. traditional classroom format) versus on-line delivery. In addition, much time was allocated during the design phase answering the question "...how do our students best learn accounting concepts and techniques?" The answer to this question helped to drive the pedagogical tools that would be delivered either on-line or in the classroom.

It was decided during the preliminary design that on-line tools would be most effectively used for: lecture on topical material, partial assessment of student learning, part of the communication to both the class as a whole and to individual students (including supplemental readings, lecture notes, check figures, etc.) Based on previous research the impact of using a variety of media styles was an important consideration at this stage (Janicki and Liegle, 2000) and it was concluded that the course would use a combination of slides, on-demand video, textual material and hands-on exercises in the on-line portion of the hybrid course.

Since higher level learning occurs by doing rather than just listening or reading, the traditional classroom portion of the course was utilized primarily in problem-solving exercises including peer and faculty interaction along with additional evaluation through major exams.

At this point the software and technological tools to deliver such a course had to be selected. During this phase consideration was given to various criteria, including: (1) technology features (e.g. RAM, speed of connection, server, clients, platform independence, supported web browsers, video/audio to users, assessment tools, communication tools, authentication), (2) friendliness and ease of use by both the student and faculty and (3) collaboration tools.

We opted to use as our primary platform WebCT© (see Appendix A) and for the on-demand lecture component of the on-line portion TEGRITY© (see Appendix A). WebCT serves as the portal for the on-line portion of the course and has been set up in a modular format based on the various student learning objectives. WebCT can be accessed by our students anywhere/anytime they are logged on to the Internet. Students have available to them (1) lecture notes, (2) supplemental handouts, (3) communication tools (chat, bulletin board and e-mail), (4) hands on tutorials, (5) links to additional learning resources, (6) chapter quizzes and (7) grades (8) course schedule and (9) links to the chapter lectures via on-demand video that have been recorded via TEGRITY.

By choosing WebCT it was determined that faculty training would be minimized. Most of the material placed on WebCT were created using software that faculty members were already comfortable with (MS Word, MS Excel, MS PowerPoint, and Adobe Acrobat) and then simply uploaded via WebCT. The chapter quiz module in WebCT was employed to provide both the student and faculty member with timely feedback regarding progress being made. Quizzes were constructed in a traditional manner then uploaded to WebCT. Once uploaded to WebCT the quiz could be administered on-line and graded electronically. The quizzes could be made available when the faculty member chose and had a variety of grading/administering options, including: (1) random question selection (2) time limits, (3) automated feedback to the student, (4) multiple attempts with various grading options (e.g. highest, lowest, average, etc.).

The selection of the lecture recording/capture tool for the on-demand video was the one of most concern to the faculty. Concerns were expressed regarding training time for both faculty and students, delivery to students without high speed Internet access nor state of the art hardware/software, and the fact that the software/hardware would interfere with the normal way a faculty member lectures. After an analysis of the available software was conducted, TEGRITY was chosen as the tool for capturing and disseminating lecture material. This tool required minimal training and preparation time, no post production editing/conversion, and allowed faculty to teach using their own style and technique. As the faculty member records a lecture they can use Power Point slides, documents (both electronic and hard copy), web-sites and, maybe most important to accounting faculty, a whiteboard that captures annotations. The faculty member can use their natural style of lecturing using anecdotes and voice inflection to emphasize particular material. This software has a simple browser based interface that allows students to view recordings without having to have high speed connections or special software. TEGRITY

also gives the option to create CD ROM content for additional viewing options and capturing a live classroom presentation.

The first class in accounting principles was designated to be the initial course to implement the hybrid model. This course is required for all business majors (including accounting majors) and is taught at the sophomore level. The course is a 3 semester credit hour course that traditionally met for 50 minutes per class 3 days per week. The final design called for the class to meet in a traditional f2f environment only 2 days per week with the on-line portion monitored on a weekly basis. The course covered introductory financial accounting topics using a traditional accounting textbook. Grades were based upon on-line quizzes (graded automatically via WebCT), participation (both on-line posting and in-class), problem solving (delivered via WebCT and in-class) and major exams (administered in-class).

Evaluation

At the end of the semester a survey was administered to the students to ascertain their perceptions of the hybrid course model. The survey was given using the survey module of WebCT which recorded if a student responded but maintained the anonymity of their responses. Out of a total enrollment of 73, 64 students completed the survey.

The survey was organized into three main sections. The first section dealt with the students' demographic profile, the second with their perceptions/uses of WebCT and the third their perceptions/uses of Tegrity. The following section will follow this same classification.

Demographics

It is often argued that the current generation of students responds to media (the so-called MTV generation) more than traditional lecture models. In order to determine the demographic profile of the students that completed the survey we asked a question regarding their age. We found that 73.3% of the students were age 25 or younger and that only 2.7% of the student was over the age of 35. The students also had a range of GPA's, with 48% with a 3.00 – 4.00 average, 46% in the 2.00 – 2.99 and the remainder below 2.00 (on a 4 point scale).

WebCT

WebCT was the course technology platform and portal used throughout the hybrid course. The results indicate that the students overall perception of WebCT was quite positive with 91.8% of the respondents very satisfied or fairly satisfied with WebCT (see Illustration 1). One concern often expressed in designing computer based tools is the ease of use by the students (Koohang and Du Plessis, 2004). An overwhelming majority of the students (94.6%) found WebCT to be either very easy to use or easy to use.

The general questions regarding WebCT were followed up with questions regarding specific tools used within WebCT; course content, quizzes, grades. In each of these cases a majority of the students

ILLUSTRATION 1 WEBCT SURVEY RESULTS TEGRITY				
1) Which of the following best describes your experience with WebCT?	Very easy to use 40.5%	Easy to use 54.1%	Somewhat easy to use 5.4%	Fairly difficult to use 0%	Very difficult to use 0%
2) How useful did you find WebCT as a place for your instructor to put the course syllabus, course content, or other similar information?	Very useful 70.3%	Fairly useful 16.2%	Useful 13.5%	Fairly Unuseful 0%	Unuseful 0%
3) How useful did you find the quizzes in WebCT?	Very useful 29.7%	Fairly useful 27.0%	Useful 37.8%	Fairly Unuseful 5.4%	Unuseful 0%
4) How useful did you find the WebCT feature that allows you to check your grades online?	Very useful 75.7%	Fairly useful 24.3%	Useful 0%	Fairly Unuseful 0%	Unuseful 0%
5) Compared to a course that does not use WebCT, did you enjoy this course more or less because it used WebCT?	Quite a bit more 51.4%	A little bit more 35.1%	The same 10.8%	A little bit less 2.7%	Quite a bit more 0%
6) What is your overall satisfaction with WebCT?	Extremely satisfied 45.9%	Fairly satisfied 45.9%	Indifferent 8.1%	Fairly dissatisfied 0%	Extremely dissatisfied 0%
7) Which of the following statements most closely matches your opinion	I wish every course I took used WebCT 37.8%	I wish more courses I took used WebCT 56.8%	I wish fewer courses I took used WebCT 5.4%	I do not want to use WebCT with any course 0%	
8) Please indicate how much you agree with the following statement: WebCT stimulated my intellectual efforts beyond that required by most courses?	Definitely agree 13.5%	Somewhat agree 48.6%	Neutral 35.1%	Somewhat disagree 2.7%	Definitely disagree 0%
9) Please indicate how much you agree with the following statement: WebCT helped me develop more professional responsibilities than most other courses	Definitely agree 24.3%	Somewhat agree 62.2%	Neutral 8.1%	Somewhat disagree 5.4%	Definitely disagree 0%

found them useful. The continuous availability of course content, syllabus and other information was useful to 100% of the students with 70.3% responding that it was very useful. The ability to check their grades was useful to 100% of the students whereas the quizzes were deemed to be useful by only 56.7% of the students (Illustration 1). All three of these tools enabled the student to receive information and feedback immediately, which has been shown to be an important in helping students achieve the learning objectives of a given course.

The students were asked to indicate how much they agreed with the following statement: "WebCT helped me develop more professional responsibilities than most other courses." The responses were quite interesting in that 86.5% of the students agreed or strongly agreed with this statement. This result perhaps supports the idea that online learning is more student focused and requires more self-motiva-tion and responsibility than a traditional class. Overall, the percep-tions of the students regarding the benefits of using WebCT were quite positive and confirmed our expectations derived during the implementation and design phase.

Tegrity

Tegrity was chosen as the software to record and disseminate the on-demand video lectures. This software had great promise, in that it allowed the faculty to record their lectures in a very natural style. While recording the lecture the faculty could use all of the typical classroom tools (e.g. whiteboard, PowerPoint, overheads...) and cre-ate annotations wherever they desired. Thus, the next section of the student survey centered on the students' perceptions of the effective-ness of Tegrity (see Illustration 2).

ILLUSTRATION 2 TEGRITY SURVEY RESULTS					
1) Which of the following best describes your experience with Tegrity?	Very easy to use	Easy to use	Somewhat easy to use	Fairly difficult to use	Very difficult to use
	37.8%	37.8%	18.9%	2.7%	2.7%%
2) Please indicate how much you agree with the following statement: I would select a course that uses Tegrity over the same course that does not use Tegrity	Definitely agree	Somewhat agree	Neutral	Somewhat disagree	Definitely disagree
	40.5%	24.3%	21.6%	10.8%	2.7%
3) Please indicate how much you agree with the following statement: The Tegrity lectures helped me understand the material	Definitely agree	Somewhat agree	Neutral	Somewhat disagree	Definitely disagree
	45.9%	37.8%	5.4%	10.8%	0%
4) Please indicate how much you agree with the following statement: I would prefer the class have more "web-days" during which I would use Tegrity	Definitely agree	Somewhat agree	Neutral	Somewhat disagree	Definitely disagree
	32.4%	27.0%	24.3%	10.8%	5.4%
5) On average, how many times did you view a Tegrity chapter lecture	More than 5 times	Between 3 and 4 times	Two times	One time	Rarely, if ever
	13.5%	10.8%	37.8%	32.4%	5.4%

Tegrity lectures were accessed via a link on the WebCT site and allowed the student to view a lecture as many times as they wanted, anywhere they had Internet access and anytime. The results indicate that the students found Tegrity easy to use with 75.6 % indicating it was easy or very easy to use; however 5.4% found it difficult to use. The difficulty of use was usually related to hardware downtime or the use of AOL or Netscape as the browser since Tegrity runs most consistently with the MS Internet Explorer browser.

The responses to question two were quite encouraging. Over 64% of the students would select a course that uses Tegrity over a course that does not, with 21.6% neutral on the selection. One may surmise from this result is that students found value in the Tegrity module of the hybrid course.

As discussed previously, the hybrid course was structured where 1 out of 3 days were a "web day" that utilized on-line tools and not a traditional f2f class. A majority of the students tended to want more "web days" (59.4%) than were currently in the class.

Since one of the benefits of the on-demand lectures available on line 24/7 was the ability of students to view a lecture multiple times; the final question regarding Tegrity centered on how many times they viewed a Tegrity lecture. Of the respondents, 62.1% indicated they viewed the lecture more than once with 13.5% of the total viewing chapter lectures more than 5 times on average. However, 32.4% viewed the lectures only once (obviously the same number of times they would have viewed an in-class lecture if they were in class that day) and 5.4% rarely viewed the lectures at all. Obviously the benefit of repeat viewings was not realized by all students, but those that chose to had the ability to do so.

The survey also solicited students' comments regarding their attitudes/experiences with Tegrity. Most of the positive comments centered around the anytime/anywhere benefits of the Tegrity lectures. Typical of the positive comments, one student wrote: "The ability to review and complete work per my own schedule. There were definitely nights I listened to an Acct A lecture at midnight. This really helps me b/c I do have a full time job outside of class."

The few negative comments that were received primarily related to hardware and access problems. Some of these problems were on the university's side (e.g. server down) and others were on the students' side (web browser down or dial-up Internet connection access).

Conclusion

This paper has discussed a hybrid approach to teaching accounting principles. On-line tools along with traditional face-to-face classes strive to bring the best of both worlds to accounting education. Students generally perceived the hybrid class as an excellent model for the accounting principles course and would prefer that more, if not most, courses followed this model. Some of the benefits mentioned by students were: ability to review material at their convenience, ability to "catch-up" on course material when they cannot/did not attend class, less time spent commuting and more time spent learning, and more effective communication of grades and course requirements, and that material may be learned at their pace and is not constrained by class times.

Some of the benefits that faculty have seen are: once recorded a lecture need not be repeated in multiple sections, no dramatic change in the way one teaches, the automatic grading of WebCT quizzes, effective communication to students, frees up time in class for problem solv-

ing exercises and group interaction, and less commuting time. Some of the negative aspects are the reduction in face to face interaction and occasional system downtime and additional upfront preparation time for construction of the WebCT site.

The university perceives benefits deriving from freeing up classroom space and the ability to attract more non-traditional and distant learners. Overall the results have been quite promising and the intention is to expand the hybrid on-line model to many more accounting courses.

The question that still remains to be answered (and perhaps the most important one of all) is the effectiveness of such a hybrid approach on actual student learning and success. This is an area of future research that will be undertaken to ascertain the true effectiveness of this hybrid mode.

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APPENDIX A

EXAMPLE OF A TEGRITY PRESENTATION SCREEN

WEBCT HOMEPAGE

Integrating "Live Cases" into an Evening MBA Curriculum

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ABSTRACT

Historically, MBA education has been attacked for being too detached from the business world. Many MBA programs have responded with a variety of curricular initiatives to overcome this perceived shortcoming. This paper outlines one promising method, the "Live Case", and its adoption into an MBA program. Student teams are placed in actual consulting situations with real clients as part of a larger course. Specific implementation issues, procedures and recommendations are discussed in this paper.

Introduction

MBA programs are under increasing pressures from both constituencies and aggressive competitive expansions. It is difficult to read an article on MBA education in business publications without seeing references to the poor state of current MBA curriculum and the missing skill sets of its graduates (Eberhardt and Moser, 1997; Richards-Wilson, 2002, The Economist, 2004). At the heart of the attack is the assertion that programs are too detached from the "real world" and, therefore, the students being produced are often lacking the ability to apply the concepts learned in the classroom (Barker and Stowers, 2005, Pinard and Allio, 2005). This paper outlines an approach, imbedding a "Live Case" within the capstone course, that one MBA program adopted to address this shortcoming. It is hoped that this approach might serve as a model for other programs looking to bridge the gap between academics and application, or perhaps spur on additional initiatives and innovations that will improve MBA education at other schools.

Calls for curriculum reform are being trumpeted from all corners – recruiters, faculty, the press, and even AACSB (Gosling and Mintzberg, 2004; Pearce, 1999). This is not the first time MBA programs have been accused of being out of step with the realities of the marketplace (Pfeffer and Fong, 2002). In the 1950's MBA programs were deemed to be lacking in analytical skills and needed academic rigor to underpin the education. Business schools responded by establishing disciplines and requiring a research focus for tenure and prestige. In the 1980's the accusation shifted 180 degrees, citing that programs were too research-based and had created little silos in each discipline which were sometimes irrelevant to the issues business face day-to-day. In the critics' minds, the focus on functional disciplines resulted in business schools losing their ability to assist the student in integrating the critical aspects of an organization during their MBA education process (Porter and McKibbin, 1988). Many articles asserted that MBA programs became detached and pointed to the slow recognition of key trends such as TQM, supply chain, and globalization in many business school curriculums as supporting evidence for this claim (Mangan, 2003; Merritt, 2001).

At the heart of today's reform movement is the need for MBA programs to recognize the incredible changes undergoing in most, if not all, industries. The accusations of today echo many of the complaints of the past. It is generally accepted by industry leaders that the modern MBA needs to be more than just analytically skilled. She/he needs to be globally oriented, innovative, a willing and capable leader, intensely project-focused, and a collaborator across both traditional organizational barriers and geographic borders (Dyrud and Worley, 2005). A constant recommendation is for MBA students to be more actively engaged in real projects involving real situations where they can gain experiences not only in analyzing the problem and creating recommendations, but also dealing with the uncertainty and anxiety of real decisions. Equally important is the need to develop teamwork skills by working with other professionals to achieve a common goal. The course initiative outlined below is attempts to take a positive step in this direction by utilizing a team-based approach.

At the same time that the curriculum is being attacked by industry leaders, a seemingly ever-increasing competition for students dominates the MBA education landscape. Many traditional players are utilizing technology to expand their geographic reach, for-profit programs are sprouting up nationally, and many programs are developing more student-friendly initiatives to attract students during the recent slippage in demand for MBA education. As a result of this intensifying competition, individual programs need not only to revise and update its curriculum to match the current business environment, they also must develop flagship initiatives that establish their brand and enhance its profile with prospective students and employers.

The course initiative outlined below in this paper addresses both the concern for a curriculum design that encourages functional discipline integration and teamwork while also potentially providing the program with an important branding vehicle.

MBA Program Setting

The Elon University MBA Program is an evening-only program in central North Carolina. The university is located between the Research Triangle (Raleigh, Durham, and Chapel Hill) and the Triad region (Winston-Salem, Greensboro, High Point) in a town of 50,000 residents. Because the town is not large enough to support an

evening MBA program by itself, the program must attract students from the adjacent regions.

The area is not lacking for MBA options. In fact, there may not be a more competitive region for MBA programs in the nation. The area consists of three very high profile programs (Duke, UNC-Chapel Hill, and Wake Forest), an up-and-coming program (NC State), a solid regional program (UNC-Greensboro), a number of non-AACSB accredited programs offered by small private universities, the online Phoenix University program, and a recent online program offered by the AACSB accredited, in-state (East Carolina). To attend our program, most of our students must literally drive past many of these other programs. Therefore, it is crucial that prospective students perceive a unique value associated with attending our MBA program or else they will, quite rationally, select one of the many alterative programs. The "Live Case" experience described in detail below has become a strong marketing attraction for overcoming our disadvantaged location.

Course Description

The course initiative is an outgrowth of a voluntary activity offered to the students roughly eight years ago. The Small Business Technology and Development Center (SBTDC), an economic outreach program under the umbrella of the University of North Carolina System, organizes a novel MBA Case Competition for the MBA programs throughout the our state. The NC SBTDC has sponsored this competition since the mid-1980's and claims to be the first MBA competition to involve actual companies instead of traditional paper cases. Individual MBA programs can involve as many internal clients as they wish, but only two teams per university can represent an MBA program in the actual competition. The competing MBA teams are judged on four criteria: a written report; a formal presentation before a panel of judges drawn from the SBTDC and the private sector; a formal evaluation by the client organization; and a detailed "billing log" report. Teams are expected to work at least 300 hours for their clients, although most teams far exceed that expectation. An awards ceremony is held during a luncheon where teams are awarded 1st, 2nd, or 3rd place. (Note: There are SBTDC in all 50 states but not all host an MBA case competition.)

In the late 1990's, we offered our students the opportunity to receive independent study credit if they were willing to enter the Case Competition as a member of a team. Although our teams had success in the competition, the most interesting sidelight of the process was the universally positive comments by the participating students on their experience. For many, working with a real company was not only a highly valuable experience but it was also the highlight of their MBA program. These comments were made regardless if the students were on a team that represented the program at the statewide competition or whether they received one of the top three places at the statewide competition. It was the experience of working with a real company, with the top management team, and having the responsibility to help these people that proved to be the most worthwhile. In almost every case, a bonding experience occurred between the MBA student team and the management team of the client. It should also be noted that our average student is a 33 year old working professional with approximately 10 years of experience. The fact that this type of student received so much from this experience made a strong impression on our faculty and administration.

After hearing this consistent refrain for a couple of years, we realized we had to find a way to incorporate the experience into the MBA program for all students. We also realized this experience mirrored the recommendations by those clamoring for integration and pragmatic experiences within MBA education. Thus, we developed the "Live Case" experience for our capstone course. It became a staple of our program for the past 5 years and truly become one of our "signature" courses.

The "Live Case" experience has evolved incrementally over the past few years. We added components to strengthen it as well as a few structural elements to minimize the possibility of a poor client/student team match. The "Live Case" definitely assists in attracting quality students to our MBA program. As far as we know, we are the only part-time program in our state where every one of our students has a full semester consulting engagement with an actual company. Over the past seven years our MBA teams have placed among the winners (1st, 2nd, or 3rd) each year. During that timeframe, no other program has a consecutive streak of more than two years and no other program has placed more than four times. As you probably suspect, the tradition built up by these successes is an important component for the overall culture of our program. However, the benefit of adopting the "Live Case" experience is certainly not limited to only cultural aspects. It aids in recruiting, morale, faculty involvement, networking for students and the MBA program, assessment, and multiple other ways.

The key question is not whether involving students in an intensive "real-world" application experience is worthwhile, but rather how to do it. The next section outlines the key elements of the "Live Case" initiative and highlights key factors that help the course succeed. In addition, potential pitfalls are identified along with suggestions on how to avoid those pitfalls.

Course Elements

This section covers some of the major elements of an embedded "Live Case" within a course. Figure 1 depicts the process flow chart of the major elements for the "Live Case" component of the capstone course. The discussion is divided into four phases: Course Administration (course design and faculty selection); Pre-Consulting Set-up (student team formation, the "pipeline" for clients, and client selection); Consulting (expectations, confidentiality, the first meeting, consulting skills, intervention process, and monitoring); and Reporting/Reflecting (client report, course report, competition report, and AACSB concerns).

Figure 1: "Live Case" Process
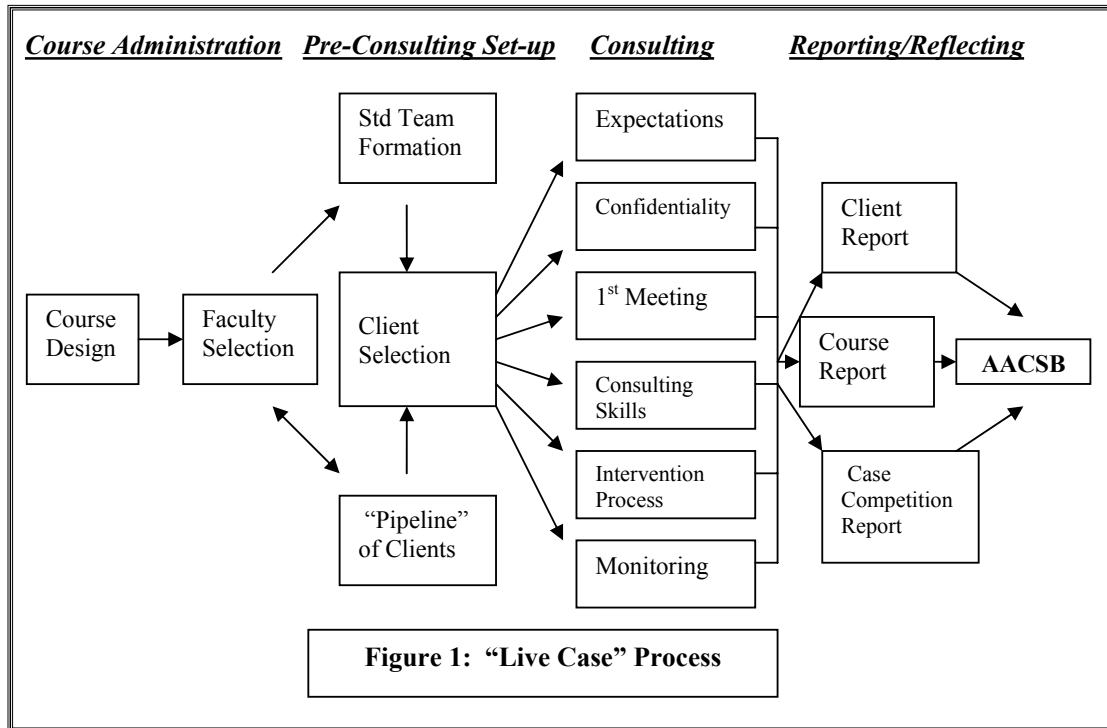
Phase 1: Course Administation

Course Design

Upon reflection, the decision to imbed the "Live Case" within an existing capstone course was a wise decision. Initially, the idea was to design a course exclusively for "Live Cases". While a legitimate argument can certainly be made for this approach, the decision was made to have additional material covered in the course. We did not want the experience limited to just a consulting project. A very important component of the "Live Case" involves the relationship among the team members and between the team and its client. The process of dealing with a sometimes reluctant or strong-willed client often provides the greatest learning for the team members.

While others may disagree, we feel that a project-only course opens the entire experience up to failure. Not all client engagements are perfect or as interesting as they may seem at first blush. There also may be a tendency for teams to detach from the other students in the class if the entire course is based around their project. By having our "Live Cases" experience within the context of a regular course the potential negative impact of a poor client/team match is minimized, without sacrificing the potential highs from a terrific client/team match. In each semester, there is a tremendous exchange of knowledge among the student teams due, in large part, to the design of the course. In our experience, a project-only course needlessly limits the educational opportunity for the students.

Faculty Selection.

As with most courses, the faculty member is a crucial element to its success. This fact is even more pronounced in a course with an embedded "Live Case". The faculty member needs to be capable of juggling many competing issues at once. It is helpful, but not a requirement by any means, if the faculty member is an experienced consultant or has significant work experience. More importantly, the faculty member should be someone who enjoys being involved in the complexities of organizations, competition, and possesses a strategic focus. Without a doubt, the key attribute is having the passion for the experience. Running a course with "Live Cases" is much more challenging than a typical course, so it is important that your administration is aware of and recognizes this fact.

Fortunately we have on our faculty an individual with extensive corporate experience including serving as an executive with the Center for Creative Leadership. Obviously, it would be difficult to expect all programs to have someone with these qualifications lead the course. However, his qualifications are not nearly as important as his passion for the "Live Case" experience and his ability to facilitate the projects along. He would be among the first to point out that many of the skills required to make this course successful can be learned and applied by most passionate, experienced teachers.

Phase 2. Pre-consulting Set-up

Student Team Formation

It seems that all group projects eventually evolve into a discussion over whether it is better to put people in groups or to allow the groups to form voluntarily. Issues arise regarding team dynamics, how to ensure a complete skill set within the group, the proverbial "free rider" problem, and logistical considerations such as geography need to be considered. We allow the groups to form voluntarily due primarily to the geography issue since our evening students might live up to 80 miles apart. However, we do not allow them to form groups until after the first class session. During this first session a team dynamics exercise is undertaken where backgrounds, expectations, and other factors are shared among the entire class. In reality, many of the groups are preordained coming into the course, but we have found the exercise also results in groups that never anticipate working together. In addition, this exercise offers an opportunity to establish the tone for the entire consulting experience.

We typically try to limit the groups to 3 or perhaps 4 students per team. Each student is made fully aware that they are to give 100 consulting hours to the project. This translates into the equivalent to a single full-time employee working 7-8 weeks on a significant project. However, it is our experience that most motivated teams far exceed the 100 consulting hours per member requirement and many are quite disappointed to have to conclude the consulting engagement.

The "Pipeline" for Clients

Finding enough organizations each semester for as many as 6 or 7 teams can be a challenge. Therefore, it is important to view this challenge in a systematic way that produces a pipeline of companies so you are not collecting them one at a time. There are at least three good sources for client companies:

1. MBA Students and Alumni—Current and past students are a great networking source. They have friends, neighbors, and maybe their own businesses that might need 300 hours of free consulting.
2. The Chamber of Commerce or the Business School Advisory Board—Most chambers have a newsletter that goes out monthly. Asking to have an article in it 2-4 times a year announcing the MBA program is looking for clients can reap a number of clients. Obviously, not all ultimately sign up but many of the "tire kickers" eventually sign up, especially if they hear testimonials from fellow chamber members. Therefore, a reputation for quality work is important.
3. An Alliance with an Economic Public Agency—There are any number of agencies, organizations, or outlets that might be a source for clients. Be creative and think about developing a Win/Win alliance. If you can help them make their goals, then they will want to work with your program. Most states have multiple agencies involved in various economic development, commerce, or international trade programs.

We have been very fortunate to align with the SBTDC state agency mentioned above. Every state has an SBTDC and it is worth exploring a relationship with them. The NC SBTDC is widely recognized as one of the leading SBTDCs in the nation and our program certainly benefits from their abilities. In addition, our regional branch is among the best in the state and is led by a very energetic director with a strong staff. SBTDC has thousands of clients around the state which allows them to assist in finding clients that might most benefit from a consulting engagement with our MBA students.

Regardless of how a prospective client comes to us, we require that they sign up as a client for SBTDC. Not only is it something SBTDC can claim for their records but the mere formality of signing up signals a level of commitment that separates the serious clients from the "tire kickers." It is a one-page document committing the client to only acting in good faith and making their financials available to the students. There have been occasions where this document has come in rather handy. Also, having another external agency associated with the "Live Case" adds to the professional credibility for the potential client. The last thing anyone wants is a client to back out once the semester is underway. If necessary, having the client linked with the SBTDC helps us re-motivate a client.

You cannot underscore enough the need to develop a "pipeline" of clients before undertaking a "Live Case" component for a course. Semesters arrive very quickly and teams need clients each semester. It is very advisable to systematically archive potential clients if at all possible.

Client Selection

Before the semester begins, we send out to our students two-page bios on the potential client companies. During the second class, we set aside class time for the clients to address the students. Each prospective client is allocated 15-20 minutes to explain their company, the project, and answer questions from the students. This process is more than an introductory session. It actually serves many important purposes. First, it further commits the client to the project. At this point in the process, they have contacted us, signed up with the SBTDC, and now devoted part of an evening to address our students. In addition, the students can now put a face and a personality to the project description presented on paper. This interaction is absolutely crucial for a fast start. By the end of the evening the students are typically energized and leave class with an air of anticipation.

Bringing in potential clients is time-consuming and requires a bit of organization but it is highly recommended. We try to have 3-4 more prospective clients than teams to improve the chances that each team will be working with a client they find interesting. Of course, there are downsides of this ratio. You have to arrange additional teams for each semester which means more administrative time devoted to securing potential clients. By default you have disappointed clients. The potential client gives their time, and maybe their hopes, only to find out they are not selected. To soften the blow, we try to make

their time on campus as pleasant as possible by only asking them for a 30 minute window of time, having food and beverages available, having a staff person available, and giving them a gift as a token of our thanks.

Phase 3. Consulting

Specific Course Elements

Once the student team selects their client we try to maximize the experience by putting in place a few course elements that should smooth the process. These elements include clear expectations, confidentiality agreements, a facilitated first meeting, guided consulting skill development, team/client conflict resolution, and periodic progress monitoring. The next few paragraphs briefly elaborate on how these elements are implemented into the "Live Case".

Clear Expectations.   Perhaps the most important factor leading to a good "Live Case" experience is the establishment of clear expectations for the students and for the client. If the expectations are clearly delineated at the outset, many potential pitfalls can be avoided. As you might imagine, the faculty member addresses issues such as the seriousness of the commitment in terms of effort and hours devoted. However, he also stresses the role of the student teams is not to be "another set of hands" to work on a project of particular interest to the client. Rather, their role is to analyze the entire organization, discover its underlying needs, fully investigate possible alternatives, make specific recommendation, and provide avenues for the implementation of these recommendations.

The driving goal of all student teams is to have an *impact* on the organization. We loosely define *impact* as the adoption of the recommendation by the client. We are not satisfied with a completed, quality report destined for a file cabinet. We want our students to not only do quality work but also convince the client of the value of their work. This concept of making an *impact* cannot be overestimated since it not only focuses the students in their work but it also adds a whole new dynamic (persuasion) to the engagement.

Confidentiality Issues. As you might expect, the issue of confidentiality is paramount for the clients. They are uncomfortable opening up their businesses and books to complete strangers, strangers who may also live in their town. Therefore, we stress to the clients that not only do the students sign confidentiality agreements, but it is administered by the SBTDC as part of the arrangement between the MBA program and the SBTDC. The formal, signed documents under the guidance of a state agency, and not the university alone, tend to reassure the clients. It is another benefit from building alliances with reputable agencies and associations in your area.

Facilitated First Meeting   As part of our working agreement with the SBTDC, they have a representative assigned to each client. One of the duties of the SBTDC representative is to attend the first sit-

down meeting between the MBA student team and the client. It is at this meeting that the scope of work is agreed upon. It is helpful to have the SBTDC representative present at this point in the event a future misunderstanding regarding what the client expects and what the team promised to deliver. Typically, the SBTDC representative has an existing relationship with the client and has some familiarity with the business, so they can foresee if either party is either expecting or promising too much given the limited timeframe of the consulting engagement.

Team/Client Conflict Resolution. As the semester progresses, there may be occasions where the client is not as forthcoming with their data or their time as anticipated. In most cases, this problem is worked out rather quickly via a phone call, email, or a meeting. However, sometimes the resistance becomes more significant and begins to compromise the entire engagement. While the faculty member hesitates to inject himself into conflicts with the client, he will if the SBTDC representative is unsuccessful in mediating the dispute. If the conflict rises to the stage where the faculty member needs to be involved, a meeting of all parties is called to iron out the problem and get the project back on track. In anticipation of possible disagreements, our faculty member has designed conflict resolution as a component in the course.

While you need a plan and policy in place for conflict resolution, you should also know this problem is very rare in our experience. The typical problem involves resistance by the client to release financial information. It is here where the relationship between the SBTDC representative and the client comes in quite handy, as well as the signed confidentiality agreement. Once the client gains reassurance that the data will not be misused, they normally comply with the MBA team's request.

Guided Consulting Skill Development. Incorporated within the course are modules on the consulting process. One of the required books in the course is a book on consulting. These modules not only inform the students but they also serve as a catalyst for discussions on the challenges currently facing the teams. These discussions often are the source of the most significant individual learning in the program for the student.

Periodic Progress Monitoring. As with all semester-long projects, it is crucial to often monitor the progress of the students so they do not put off the work until it is too late to recover or develop a growing sense of frustration. We would like to defuse either or both of these circumstances at the earliest point. The student teams are kept on track through two mechanisms: the consulting logs for SBTDC and classroom updates.

As part of our agreement with SBTDC, our students are required to submit monthly logs indicating the hours that were worked and what was done during those hours. SBTDC needs this information for their record keeping. The form is quite simple and easily filled out,

but it does serve as an important mechanism to spur on teams that may be procrastinating a bit.

In addition to the monthly work logs, the teams present brief overviews to the rest of the class at various intervals during the semesters. These short updates not only keep everyone on track but they also provide a forum for specific discussions that may be troubling or challenging the teams. The key point to stress is the monitoring process is not overly time-consuming for the students or the faculty member. However, it is a crucial element leading to a successful "Live Case".

Phase 4. Reporting And Reflecting

Post-Consulting Reports

At the conclusion of the course, each team submits two reports: one for the faculty member and one for the client. While both reports overlap substantially there are crucial areas of differences. The Client Report, as you would anticipate, is sent to the client addressing the work that was done and the recommendations of the team. Typically, this report is personally delivered to the client during a final debriefing meeting. At this meeting, the team presents their finding from the consulting engagement and fields questions from the client.

The Course Report contains much of the same analytical information that is in the Client Report. However, the Course Report requires a second section pertaining to the consulting process experience. In this section, the team has the opportunity to explain additional issues associated with their case that can not be placed in the Client Report for various reasons (e.g., the client refuses to provide complete financials even after multiple intervention attempts; the client is mixing personal and company funds; the family dynamics of the organization are quite sensitive; information from employees cannot be shared easily, etc.). We view this second section as equally important to the learning process and the students readily agree with that assessment.

If the student team decides to enter the MBA Case Competition, then they have to write a third report for the competition. The competition has a specific format that must be followed by all entrants so our students make the necessary adjustments to comply with these requirements. Since we anticipate that many teams will pursue the MBA Case Competition, our Client Report and Course Report follow a similar format as required by Case Competition.

AACSB

While the idea of imbedding a "Live Case" within the course was not done with AACSB in mind, we believe it can certainly contribute to our AACSB reporting materials. Our mission contains goals for "engaged" and "experiential" learning. It is difficult to fathom a more experiential or engaged approach to learning than a "Live Case".

Most importantly, if you incorporate a "Live Case" experience in a course, then every student in the program participates in this experience – not just a handful of volunteers.

Competing in an external competition demonstrates to AACSB a willingness to allow outside experts judge the work of your students in comparison to students from other MBA programs. The fact that we have been successful in the competition should add to the validity of our quality claim. Activities such as the case competition appear t fit well with the AACSB goals of engaging students in meaningful, realistic experiences as part of their curriculum.

Brand Marketing Component

As more and more opinion leaders within the MBA world advocate program integration and a focus on usable skill sets, MBA programs must be prepared to actively respond to these views. A program with a vanilla curriculum based around a traditional curriculum without engaging components will likely be subject to recruiting difficulties. Fortunately, many programs around the country are adopting a variety of interesting approaches to the MBA education. A "Live Case" experience is one approach for programs to consider.

In an increasingly competitive market of full-time programs, part-time programs, internet programs, weekend programs and the like, it is crucial to find ways to differentiate your program (Kyle and Festervand, 2005; Whittmer, 2004). A prestigious brand is certainly one way to differentiate but, unfortunately, you cannot just add a "prestigious brand" component to your program. It has to be earned over time. More realistically, programs often try to differentiate themselves on course offering or concentrations in a particularly attractive area (Gloeckler, 2005). Today, some of these "hot" areas seem to be electronic commerce, entrepreneurship, innovation, and ethics (MacDonald, 2005). However, it is hard to sustain a differentiated position if everyone has similar courses and concentrations.

In the strategic management literature, it is argued that a strategy has the potential for success and sustainability if it possesses three attributes: 1) it is of *value* to the customer; 2) it is *rare* or *unique* in the marketplace; and 3) it is *inimitable* or *difficult to copy* by competitors (Barney, 1991). An embedded "Live Case" experience has a better chance of attaining all three attributes than most other differentiating approaches. A new course or concentration may be of value to prospective students and even unique at the time of launch, but unfortunately it is not terribly difficult for another MBA program to copy. MBA programs add courses and concentrations all the time. However, a well-designed "Live Case" component it is more difficult to imitate since it is more complicated to manage than adding a course or concentration. There are significant administrative processes that someone has to manage (e.g., the "pipeline" of prospective clients, the relationship with external agencies, the interactions with the client). If a competition is added as a complement, it becomes even more complicated to manage and, therefore, more difficult to copy. And if you can couple this administrative hurdle with a level of

success at the competition, then the bar is raised for any program trying to offset your ability to differentiate on this component. While a "Live Case" is not a panacea, it offers educational value to the student undertaking the experience and, potentially strategic value to the program adopting it.

One final benefit to note is the effect of an excellent consulting experience has on student's perception of the value of his MBA education and the school itself. Since the "Live Case" is part of the capstone course, it is the last program experience for many students. If done well, a "Live Case" can shape the exiting impressions of a program's graduates. It is very likely that the successful adoption and implementation of our "Live Case" component contributed substantially to our top ranking in the "Best Administrated Programs" category by the Princeton Review's Best 237 Business School publication.

Conclusion

A significant revision in MBA education is called for by various interested parties. One consistently identified shortcoming is the limited exposure most MBA students have with real problems in actual settings. MBA students need the opportunity to apply their knowledge and skills. Too often, it is claimed, MBA students study academic concepts and theories in a vacuum void of the tangible realities associated with real business situations. The traditional pedagogy of choice, the written case study, is useful for improving the analytical ability of students but is limited by it sterile packaged nature. Case studies cannot place the student within the complex context of real organizational decision making. This paper outlined an approach to offset the shortcomings of the case study method by involving students with real companies and real decisions. This "Live Case" approach has been used for more than five years within structure of an established course. While perhaps not an optimal arrangement, the "Live Case" has proven to be quite successful along many dimensions and may be fruitful for other MBA programs to explore.

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Determinants Influencing Small Group Performance Effectivness on a Management Accounting Simulation Project

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ABSTRACT

With increasing emphasis in recent years to include group work in accounting courses, instructors often question how to comprise the groups. In forming groups, they have questions as to whether group performance is affected by items such as students' GPA, gender, and major.

At a regional university in the southeastern United States, a management accounting simulation has been used for over five years in an introductory managerial accounting course, which consists of non-accounting majors. The simulation is a computer-assisted "game" in which student teams make decisions for a hypothetical manufacturing company. Grades are assigned based on the cumulative net income for three months of game play. Instructors allow students to form their own groups to the extent that they are able. Most groups are comprised of three students; however, some groups consist of two or four students. When necessary, instructors will assign students to groups. Generally, the assignment is based on where students live in order to facilitate group meetings outside of class. Consequently, the groups are formed with no consideration as to major, gender, or GPA.

This study examined the results of 133 groups (381 students) that fully participated in the simulation in the spring 2004 and spring 2005 semesters. An ANOVA model was used to determine if major, gender, or GPA was a factor of success, which was measured by the number of points earned by the group. Results show that students' majors were not associated with the success of the group. Results also show that groups comprised mostly of males (e.g., two males and one female), performed better than groups comprised mostly of females. Finally, results show that groups that had at least one member with a high GPA performed better than other groups.

Introduction

With increasing emphasis in recent years to include group work applications in accounting courses, instructors often question how to comprise the groups. That is, in forming groups, they have questions as to whether they should consider items such as students' GPA, gender, and major. Questions arise as to whether such student characteristics have an affect on group (team) performance. Naturally, major would not be applicable in an accounting course of only accounting majors. But in lower-level courses that include all majors, is major a factor?

At a regional university in the southeastern United States a management accounting simulation has been used for over five years in the managerial accounting course. The simulation is a computer-assisted "game" in which student teams make decisions for a hypothetical manufacturing company. A team (group) generally consist of three students. In some cases the total number of students in a class is not divisible by three so the "extra" students will form a team of two. Occasionally an instructor may allow a team of four. Their goal is to maximize net income over three (game) months of play. Grades are assigned based on the cumulative net income for the three months of game play. Assuming a team has participated and turned in the decisions on a computer disk for each month, the minimum grade a team can earn is 30 points out of a maximum of 50 points. Teams that do not participate receive a grade of zero.

Although students spend a considerable amount of class time on the game, some time outside of class is necessary. Because a large number of students commute within a radius of 60 miles, many students prefer teams in which their team members live in the same geographic area. Consequently, instructors allow students to form their own teams to the extent that they are able. Instructors add students to those student-formed teams that are less than three persons. To the extent possible, an instructor will add a student who lives in the same general area as the other members in the partially-formed teams. Therefore, the teams are formed with no consideration by the instructor as to major, gender, or GPA.

Purpose of the Study

Since teams are formed primarily on the basis of geography, this study attempts to determine whether the factors of major, gender, or GPA are determinants of successful groups. With geography as the basis for group formation, these other factors occur randomly throughout the teams. For example, a team may consist of all males or all females, or two of one and one of the other. Similarly, a team may have two or more members with the same major or all the members may have a different major.

The results of this study are important, not just in accounting courses, but in any course in which teams are used. Instructors need to know if any of these factors are determinants of success because it may influence how they form the teams for their courses.

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Previous Studies

More emphasis is placed today on working as a team or group in order to improve performance outcomes. Ciccotello and D'Amico (1997) reported that students who participated in group problem solving workshops demonstrated better exam performance. On a similar note, a study by Hwang, Lui, and Tong (2005) compared test scores of students in a regular lecture class with those of students participating in cooperative learning groups. Students who were in the cooperative learning group had significantly higher test scores than the students in the regular class. Holter (1994) assigned members to groups using gender, ethnicity, GPA and other factors. Although she reported no empirical results, the students in the study agreed that using the team learning approach was a positive learning experience. Butterfield and Bailey (1996) allowed upper-level business students to either select their own four-person team or be assigned to a team. The assigned teams were socially engineered to be diverse. The authors used sex, origin, race, and academic background in the assignments. They found that the socially engineered groups' answers were of a higher quality than those of the self-selected groups.

Several studies have looked at determinants or predictors of student performance. Grade point average has been reported on in several studies. Yang and Lu (2001) found undergraduate GPA to be a significant predictor of performance in the MBA program. In a study of students in an education course, Hughes and Douzenis (1986) used stepwise discriminant analysis to show the significance of college GPA as a predictor of student grade. On the other hand, Orlitsky and Benjamin (2003) concluded in their study of results from a business school case competition that the average team GPA was not significantly related to team performance.

Another finding in the study by Butterfield and Bailey (1996) cited earlier was that the socially-engineered teams felt that they operated in a less democratic manner. An individual or coalition whose opinion was more respected seemed to dominate the group decisions. These findings mirror those from the field of psychology. Einhorn, Hogarth, and Klempner (1977) presented a "best member model" of group dynamics. They argue that the members of the group recognize expertise and defer to that member's judgment. This theory was supported by Yetton and Bottger (1982), who found that groups identified their best member with sufficient accuracy to weight that member's inputs proportionately. These results were further verified by Libby, Trotman, and Zimmer (1987) who presented statistical evidence of a groups' capability to select its best member. For the purposes of this study, the "best member" would be that individual in the group who has the highest GPA.

The studies by Holter (1994) and Butterfield and Bailey (1996) created teams with "diverse" members by using, among other things, GPA, academic background, and gender. The significance of these factors however was not examined. Persons (1998) did look at these factors in a study of peer evaluation in groups using students in an introductory financial accounting course. Each group had a member who had scored either high, middle, or low on an accounting pre-test. The students with the higher GPA and accounting majors got the highest peer evaluations while gender had no significant effect. As stated above, the higher GPA would suggest the "best member". In an accounting class, however, an accounting major would also be seen as more expert than a non-accounting major.

Gender was not a significant factor in the study by Persons (1998) but has led to mixed results in other studies. Mutchler, Turner, and Williams (1987) conducted a longitudinal study that showed that females consistently outperformed males in upper-division accounting courses. There was also a significant effect between the sex of the instructor and that of the student, mostly attributed to female teachers assigning higher grades than male teachers. In a managerial accounting course, Lipe (1989) found an interaction between instructor gender and student gender in that male students did better than females in classes instructed by a male. Instructors in a study by Buckless, Lipe, and Ravenscroft (1991) perceived females to be better accounting students although there was great variation across universities for gender effect. As for the effect of gender on group performance, Orlitzky and Benjamin (2003) found a positive effect of diversity on team structure. Teams with no dominant gender (i.e. 2 males and 2 females) performed better in a business school case competition.

Method

This study examined the results of 133 groups, which consisted of 381 students, that fully participated in a managerial accounting simulation in the Spring 2004 and Spring 2005 semesters. The courses were taught by two male instructors. An ANOVA model was used on the collected data to determine if major, gender, or GPA was a determinant of success. Success was measured by the number of points earned by a group (i.e., team score) for three hypothetical months of play.

Since the data spans two semesters and is from two instructors, an ANOVA was run to eliminate the question of differences in simulation scores caused either by instructor or by semester. Table 1 shows the results of this test. The significance levels for instructor (INST), semester (TERM), and the interaction between the two (TERM*INST) were conventional levels of significance (i.e., .01, .05, and .10). Thus, we can conclude that there are no differences in scores due to these factors.

TABLE 1 ANOVA RESULTS		
Dependant Variable: Team Score		
Team Variables:	F Value	Sig.
Semester (TERM)	1.333	.250
Instructor (INST)	.034	.854
TERM*INST	.500	.481

In the data collected, the team scores ranged from 30 to 50 points out of a total of 50 points possible. Approximately 96% of the team scores were 35 and higher and the distribution of these scores was roughly

uniform, so the team scores were not clustered around any particular score or scores. Other descriptive statistics are shown in Table 2.

TABLE 2 DESCRIPTIVE STATISTICS		
Team Count	Frequency	Percent of Teams
One	3	2.2
Two	29	21.8
Three	80	60.2
Four	21	15.8
	133	100.0
Predominant Team Gender		
Male	65	48.9
Female	52	39.1
No Predominant Gender	16	12.0
	133	100.0
Predominant Team Major		
General Business	36	27.1
Management	26	19.5
Marketing	18	13.5
Other	6	4.6
Finance	3	2.2
No Predominant Major	44	33.1
	133	100.0
Highest GPA in Team		
1.50 – 1.99	2	1.5
2.00 – 2.49	17	12.8
2.50 – 2.99	44	33.1
3.00 – 3.49	44	33.1
3.50 – 4.00	26	19.5
	133	100.0

First, these results show that the overwhelming majority of the teams were composed of two members or more, thus enabling potential synergies to be developed in the team. Second, the majority of the teams had a gender that was predominant (i.e., predominant team gender) and only a few teams had a composition that had an equal amount of male and female members or was a one person team. Third, approximately two thirds of teams did have a majority of members which were associated with a common major (i.e., predominant major) with General Business being the most common followed by Management and Marketing. The low number of teams with Finance as a predominant major is a reflection of a small Finance program at the university where the simulations were administered. Approximately one third of the teams had no predominant major.

Finally, the highest GPA from each team (i.e., highest GPA in team) was categorized into one of eight possible GPA ranges, each representing a .50 spread in the GPA starting with 0.0 and ending with 4.0. This resulted in high GPA's falling into five of the eight categories (i.e., none of the high GPAs were less than 1.50) with about two-thirds of the teams having a member with a GPA between 2.50 and 3.49. The highest GPA for the team was used because it was thought that a student with a high GPA would want to maintain a high grade and would be willing to carry more weight on the team

or act as a motivating influence on other team members to achieve a higher score.

Results

To test the effects of selected team characteristics on the team score, an ANOVA model was developed with the following independent variables: predominant major (PM), predominant gender (PG), and the highest GPA of a team member (HGPA). The results from the model are shown in Table 3. These results reveal that PG, HGPA, and the interaction between PG and HGPA were all statistically significant while the effect of PM was not significant.

TABLE 3 ANOVA RESULTS		
Dependant Variable: Team Score		
Team Variables:	F Value	Sig.
Predominant Major (PM)	.878	.514
Predominant Gender (PG)	3.530	.033
Highest GPA within Team (HGPA)	4.657	.002
PG * HGPA	2.645	.014

Additional multiple comparison analyses reveal that within PG, teams that were predominantly male had statistically higher scores (2.13 points on average) than teams that were predominately female or teams that had no predominant gender. These findings support those of Lipe (1989) cited earlier in the paper. Since both instructors in this study were males and e have no data from a female instructed class for comparison, there may be an effect due to instructor gender.

Within HGPA, teams who had a member with a GPA greater than 3.50 had statistically higher scores than any of the other teams. The mean difference in score between this HGPA category and HGPA categories of 2.00 to 2.49, 2.50 to 2.99, and 3.00 to 3.49 was 5.76, 3.28, and 3.32, respectively. There was no significant difference between the scores of the other HGPA categories in the study. Since only weo groups had a HGPA of less than 2, no inferences can be made concerning them.

Conclusion

Previous studies have shown the advantage of using groups to develop synergies for learning. The composition of such groups has been a challenge for those assigning the members. Should each group have maximum diversity of disciplines, genders, education, background, geographic area, etc? This study examined three possible determinants for group performance.

First, having members of the group from the same major field of study (predominant major or PM) was considered. The results showed no advantage or disadvantage associated with having members of a group have the same major. No particular PM performed better that any other PM or of groups with no PM. Assigning business students to a team based on their major does not seem to help performance of

the team. Since accounting majors were not included in this study and there were very few finance majors, no conclusions are drawn for them.

Second, teams predominated by male students outperformed those predominated by female students. Studies in this area have generated mixed results. In accounting courses, females were shown as better students in one study and were perceived as better students in another, but this varied with university. Females have also been shown to perform better in classes instructed by females than in classes instructed by males. Because no female instructors were involved in this study, we don't know if the better performance exhibited by the male dominated teams is a result of having only male instructors involved.

Lastly, having a member of a team with a high GPA (HGPA) was significant. The teams with **a** HGPA greater than 3.5 outperformed all other categories. The other HGPA categories showed no advantage over each other. These findings are consistent with the "best member" theory found in other studies. The teams with a member who had a high GPA recognized, and deferred to, that member. If members are assigned to teams for group assignments, in order to equalize the abilities of each team, ideally we would want each team having a member with a GPA greater than 3.5.

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