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LETTER FROM THE EDITORS

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

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

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Michael Shurden
and
Nancy Niles
Editors

PREDICTORS OF CRITICAL THINKING SKILLS OF INCOMING BUSINESS STUDENTS

**Donna Whitten, Purdue University North Central
Tantatape Brahmasrene, Purdue University North Central**

ABSTRACT

Educators recognize the importance of critical thinking. Students discover that studying topics such as business requires a strategy more extensive than rote memory. Using the California Critical Thinking Skills Test (CCTST), this research uses the hypothesis that the total critical thinking score and its components such as inductive reasoning, deductive reasoning, evaluation, analysis, and inference are affected by college classification, high school GPA, high school rank, SAT verbal scores, SAT mathematical scores, gender, race and major.

INTRODUCTION

The promotion of critical thinking ranks among the primary goals for educators today (Elder, 2004). As reported in a review of literature by the Office of Outcomes Assessment of the University of Maryland in 2006, critical thinking as an outcome of postsecondary education was made explicit by several recent national reports (Association of American Colleges and Universities, 1985; National Education Goals Panel, 1991; National Institute of Education Study Group, 1984). As such, the topic of critical thinking is of interest to educators. Various definitions of critical thinking have been offered. They all share a common set of meanings. Critical thinking refers to the use of cognitive skills or strategies and involves solving problems, formulating inferences, calculating likelihoods, and making decisions. According to the manual for the California Critical Thinking Skills Test (CCTST) developed by Peter and Noreen Facione, an important consensus with regard to the concept of critical thinking was announced in 1990 by a panel of theoreticians drawn from throughout the United States and Canada representing several academic fields. These experts characterized critical thinking as the process of purposeful, self-regulatory judgment (Facione, 1990). Critical thinking, so defined, is the cognitive engine which drives problem-solving and decision-making. At the core of critical thinking are the cognitive skills of reasoning, evaluation, analysis and inference.

RELATED LITERATURE

Previous studies have used the CCTST to measure critical thinking (Williams, 2003; Zettergren, 2004; Colucciello, 2005; Yang, 2008). Scores are included on the following skills:

inductive and deductive reasoning, evaluation, analysis and inference. Inductive reasoning and deductive reasoning were scored on the CCTST. Induction is usually described as moving from the specific to the general while deduction begins with the general and ends with the specific. In the case of a strong inductive argument it is unlikely or improbable that the conclusion would actually be false and all the premises true, but it is logically possible that it might. Arguments based on experience or observations are expressed inductively since inductive reasoning is based on making a conclusion based on a set of empirical data. If it is observed that something is true many times, concluding that it will be true in all instances is a use of inductive reasoning. Deductive reasoning allows proof the hypothesis is true. For valid deductive arguments, it is not logically possible for the conclusion to be false and all the premises true. For example, deductive reasoning begins with a general rule, which is known to be true. From that general rule a conclusion is made about something specific.

The evaluation score on the CCTST measures the results of an individual's reasoning. The justification of that reasoning in terms of the evidential, conceptual, methodological, criteriological and contextual considerations is also measured. Evaluation involves examining, appraising and judging something carefully. It is the process of examining a system or system component to determine the extent to which specified properties are present. Evaluation is the systematic determination of merit, worth, and significance of something or someone.

The CCTST score on Analysis measures the ability to identify the intended and actual inferential relationships intended to express beliefs, judgments, experiences, reasons, information or opinions. This includes the sub-skills of examining ideas, detecting arguments, and analyzing arguments into their component elements. Analysis is the process of breaking a complex topic or substance into smaller parts to gain a better understanding of it. Perhaps, in its broadest sense, it might be defined as a process of isolating or working back to what is more fundamental by means of which something, initially taken as given, can be explained or reconstructed. This process is a method of studying the nature of something or of determining its essential features and their relations. Analysis involves detailed examination of the elements to understand them, separation of those elements to examine the individual parts and assessment based on careful consideration of those elements.

Inference is the process of arriving at some conclusion that, though it is not logically derivable from the assumed premises, possesses some degree of probability relative to the premises. The CCTST score on Inference measures the ability to draw a conclusion or making a logical judgment based on circumstantial evidence and prior conclusions rather than on the basis of direct observation. In other words, inference is the act or process of deriving a conclusion based solely on what one already knows. It is the act of deriving one idea from another. Inferences can be valid or invalid and can proceed through either deductive reasoning or inductive reasoning.

Much research has been conducted on predictors of success in academia. Burton and Ramist published a report in 2001 on some of the studies predicting the success of students in

college. The conclusion was that scholastic aptitude test (SAT) scores and high school records of grade point average (GPA) and high school rank in class were the most common predictors (Burton & Ramist, 2001).

Previous studies included Class/Year in School (Kealey, Holland & Watson, 2005; Lampert, 2007). Kealey, Holland and Watson (2005) observed that class/year in school was not significant in predicting performance in a course while in Lampert (2007)'s research this variable was significant in predicting critical thinking scores.

Bridgeman, Burton and Pollack found in 2008 that High School GPA was significant as a predictor of college GPA. Ventura (2005) determined that High School Rank was significant as an academic predictor and Baron determined in 1992 that it was a significant predictor of college grades. Troutman (1978) indicated that high school rank was a predictor of performance in freshman mathematics. Math is logic based and therefore draws on various types of critical thinking.

SAT Scores were significant as academic predictors in studies by Ventura (2005), Bridgeman, Burton and Pollack (2008) and Baron (1992). Osana, Lacroix, Tucker, Idan and Jabbour (2007) indicated that verbal ability is strongly related to syllogistic reasoning, which is evaluating whether a conclusion necessarily follows from two premises. This is consistent with findings by Quinlin (1989) which discussed the relationship between mathematics and reflective thinking and inference. In addition, in 2007 Cavanagh discovered that students who scored high on the math portion of the SAT had greater career accomplishments in fields related to science, technology, engineering and mathematics. Finally, Stylianides and Stylianides (2008) discuss the link between deductive reasoning and mathematics. Fields like engineering rely heavily on the type of processes involved in critical thinking (Niewoehner, 2008; Ceylon & Lang, 2003).

Gender was included in studies by Ventura in 2005 and Kealey, Holland and Watson in 2005 and was not significant as an academic predictor. Race was included as a variable to contribute information not collected in previous studies. Major was significant as a predictor of performance in a course by Kealey, Holland and Watson (2005) however, Lampert ascertained it was not significant in predicting critical thinking scores.

The idea that critical thinking can and should be taught was not embraced by all initially, including Glaser (1984) and other skeptics, because many believed it was a misguided effort. They argued that thinking skills were context-bound and do not transfer across academic domains. However, a paper published by Halpern in 1999 noted studies of successful instruction in critical thinking that included work conducted by Rubinstein and Firstenberg (1987), Lochhead and Whimby (1987), and Wood (1987). Successful methods of teaching critical thinking include practice and teaching critical thinking for transfer from one situation to another (Van Gelder, 2005; Brahmasrene & Osisek, 2003; Willingham, 2007).

HYPOTHESIS

The above literature review leads to the hypothesis that the total critical thinking score and its components such as inductive reasoning, deductive reasoning, evaluation, analysis, and inference are affected by college classification (class/year in school), high school GPA, high school rank, SAT verbal scores, SAT mathematical scores (math), gender, race and major. These scores are directly proportional to all independent variables except gender and major. Gender is a dummy variable where 0 and 1 represent male and female, respectively. This means the likelihood of being male increases the critical thinking scores, and vice versa. Major is a dummy variable where 0 represents business major and 1 for non-business major.

For empirical analysis, the models have been constructed as shown below:

$$CT = CONSTANT + b_1 CLASS + b_2 HSGPA + b_3 HSRANK + b_4 VERBAL + b_5 MATH + b_6 GENDER + b_7 RACE + b_8 MAJOR + u_i$$

CT represents the total critical thinking, evaluation, analysis, inference, inductive reasoning and deductive reasoning scores. Description of the variables is summarized in Table 1. u_i is a stochastic error term or disturbance term.

Table 1: Description of Variables	
<i>Dependent variables</i>	
TOTALCT	Total score on all 34 questions. Total score on inductive and deductive reasoning questions. Total score on evaluation, analysis and inference questions.
INDUCT	Inductive Reasoning – Starting with a specific hypothesis and moving to a general rule by making a conclusion based on a set of empirical data. An example of inductive reasoning is scientific confirmation and experimental disconfirmation.
DEDUCT	Deductive Reasoning – Begins with a general rule, which we know to be true, and ends with the specific conclusion. An example of deductive reasoning is geometric proofs in mathematics.
EVAL	Evaluation – The systematic determination of merit, worth, and significance of something or someone.
ANALY	Analysis – Analysis involves detailed examination of the elements to understand them, separation of those elements to examine the individual parts and assessment based on careful consideration of those elements.
INFER	Inference – The process of deriving a conclusion based solely on what one already knows.
<i>Independent variables</i>	
CLASS	College classification, 1-4
HSGPA	High school GPA
HSRANK	High school rank
VERBAL	SAT verbal score

Table 1: Description of Variables	
MATH	SAT math score
GENDER	0 = male 1 = female
RACE	0 = other 1 = Anglo American, Caucasian
MAJOR	0 = business majors 1 = non-business majors

DATA

The California Critical Thinking Skills Test (CCTST) developed by Insight Assessment was administered to students during 2004-2006 academic years in an introductory accounting course. The dispersed target group helps eliminate selection bias. The test completion rate was about 77.5 percent or 483 forms completed out of 623 students, resulting in 300 usable forms after collecting high school and SAT data. Table 2 provides descriptive statistics of the total critical thinking, evaluation, analysis, inference, inductive reasoning and deductive reasoning scores. These are scale variables where differences between values are comparable. A mean total critical thinking of 15.24 out of 34 possible points or 44.82 percent suggests the respondents in this study are performing at a similar level as the group means of 15.89 provided by Insight Assessment Technical Report number 4, which makes the CCTST available (Facione, 1990). In addition, a previous study by Williams in 2003 reported means of 15.38 and 16.62. The mean scores of inductive and deductive reasoning are 8.42 or 49.53 percent and 6.82 or 40.12 percent, respectively. Evaluation, analysis and inference scores show the averages of 3.93 or 28.07 percent, 3.92 or 43.55 percent, and 7.39 or 67.18 percent, respectively. Most students in this study are freshmen and sophomore (averaged 1.8 out of 4 classifications). Their average high school GPA was 2.96 with 0.584 of high school ranked. This means participants were right above the upper half of their class. The SAT verbal scores were 468.96 compared with the 2006 Indiana average of 498 and national average of 503. The SAT mathematical scores were 492.96 compared with the 2006 Indiana average of 509 and national average of 518. Gender, race and major are nominal variables where the variable values do not have a natural ranking. Their frequencies are reported in Table 3. About 52.7 percent or 158 out of 300 participants are female while 47.3 percent (142/300) are male. When asked how they identify themselves, 82 percent or 246 out of 300 valid cases indicated Anglo American or Caucasian while 18 percent (54/300) are others. Regarding major, 56 percent or 168 out of 300 are business majors. The rest, 44 percent (132/300) are non-business majors.

	N	Minimum	Maximum	Mean	Std. Deviation
TOTALCT	300	5	28	15.24	4.399
INDUCT	300	2	15	8.42	2.457
DEDUCT	300	1	14	6.82	2.570
EVAL	300	0	10	3.93	1.957
ANALY	300	1	6	3.92	1.200
INFER	300	1	13	7.39	2.510
CLASS	300	0	4	1.80	.804
HSGPA	300	1.14	4.31	2.96	.800
HSRANK	292	.032	1.000	.584	.234
VERBAL	259	230	760	468.96	83.181
MATH	259	270	760	492.96	86.461
Valid (listwise)	252				

GENDER		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	142	47.3	47.3	47.3
	1	158	52.7	52.7	100.0
	Total	300	100.0	100.0	
RACE					
Valid	.00	54	18.0	18.0	18.0
	1.00	246	82.0	82.0	100.0
	Total	300	100.0	100.0	
MAJOR					
Valid	.00	168	56.0	56.0	56.0
	1.00	132	44.0	44.0	100.0
	Total	300	100.0	100.0	

METHODOLOGY

The ordinary least square (OLS) method was employed to test the above hypotheses. One of the tasks in performing regression analysis with several independent variables was to calculate a correlation matrix for all variables. Table 4 reports the Pearson Correlations for all about herein dependent variables. There were no particularly large intercorrelations among independent variables except for high school GPA and high school rank. High school GPA was

eliminated to avoid multicollinearity problem. However, a measure of multicollinearity among independent variables would be performed.

		CLASS	HSGPA	HSRANK	VERBAL	MATH	GENDER	RACE	MAJOR
CLASS	Pearson Correlation	1	-.089	-.086	.015	-.021	.067	.047	-.168(**)
	Sig. (2-tailed)		.123	.144	.806	.741	.246	.414	.004
	N	300	300	292	259	259	300	300	300
HSGPA	Pearson Correlation	-.089	1	.590(**)	.293(**)	.253(**)	-.167(**)	.092	.116(*)
	Sig. (2-tailed)	.123		.000	.000	.000	.004	.113	.045
	N	300	300	292	259	259	300	300	300
HSRANK	Pearson Correlation	-.086	.590(**)	1	.390(**)	.434(**)	-.192(**)	.132(*)	.271(**)
	Sig. (2-tailed)	.144	.000		.000	.000	.001	.024	.000
	N	292	292	292	252	252	292	292	292
VERBAL	Pearson Correlation	.015	.293(**)	.390(**)	1	.655(**)	.051	.088	.167(**)
	Sig. (2-tailed)	.806	.000	.000		.000	.413	.157	.007
	N	259	259	252	259	259	259	259	259
MATH	Pearson Correlation	-.021	.253(**)	.434(**)	.655(**)	1	.087	.012	.135(*)
	Sig. (2-tailed)	.741	.000	.000	.000		.162	.842	.029
	N	259	259	252	259	259	259	259	259
GENDER	Pearson Correlation	.067	-.167(**)	-.192(**)	.051	.087	1	.008	-.195(**)
	Sig. (2-tailed)	.246	.004	.001	.413	.162		.895	.001
	N	300	300	292	259	259	300	300	300
RACE	Pearson Correlation	.047	.092	.132(*)	.088	.012	.008	1	.031
	Sig. (2-tailed)	.414	.113	.024	.157	.842	.895		.596
	N	300	300	292	259	259	300	300	300
MAJOR	Pearson Correlation	-.168(**)	.116(*)	.271(**)	.167(**)	.135(*)	-.195(**)	.031	1
	Sig. (2-tailed)	.004	.045	.000	.007	.029	.001	.596	
	N	300	300	292	259	259	300	300	300
Note	** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).								

RESULTS

The assumption of linear multiple regression and the fitness of the model was tested. According to the computed values of a multiple regression model, the null hypothesis was rejected at a significant level of less than 0.01 (F test) in all models as shown in Table 5 and 6. This means that among these estimated equations, there existed a relationship between critical thinking scores (total, inductive reasoning, deductive reasoning, evaluation, analysis and inference) and the explanatory variables: years in college (classification), high school GPA, high school rank, SAT verbal scores, SAT mathematical scores, gender, race and major. The coefficient of multiple determination (R Square) of models in Table 5 varied from 0.22 to 0.41 which are comparable to similar studies. Kealey, Holland and Watson studied the association between critical thinking and performance in principles of accounting and reported an adjusted R Square of .31 (Kealey, Holland & Watson, 2005). Lampert used analysis of variance in a study of critical thinking dispositions as an outcome of undergraduate education and reported an adjusted R Squared of .05 (Lampert, 2007).

Table 5: Coefficients of Preliminary Models						
	TOTALCT	INDUCT	DEDUCT	EVAL	ANALY	INFER
Constant	-2.978*** (-1.953)	.198 (.207)	-3.177 (-3.464)	-1.856 (-2.351)	.375 (.794)	-1.498 (-1.585)
CLASS	.594** (2.115)	.280 (1.586)	.315* (1.861)	.188 (1.289)	.044 (.509)	.362** (2.080)
HSRANK	3.278*** (2.978)	1.639** (2.373)	1.639*** (2.475)	1.325** (2.324)	.701** (2.055)	1.252* (1.836)
VERBAL	.012*** (3.360)	.007*** (3.204)	.005** (2.242)	.006*** (3.008)	.004*** (3.865)	.002*** (.975)
MATH	.018*** (5.050)	.006*** (2.800)	.012*** (5.475)	.004** (1.977)	.002** (2.036)	.012 (5.479)
GENDER	.203 (.436)	-.253 (-.867)	.456 (1.629)	-.017 (-.071)	-.005 (-.033)	.225 (.779)
RACE	.981* (1.738)	.716** (2.021)	.265 (.781)	.440 (1.505)	-.121 (-.692)	.662* (1.893)
MAJOR	-.402 (-.860)	-.416 (-1.420)	.014 (.051)	-.192 (-.795)	.075 (.521)	-.285 (-.984)
R Square	0.409	0.271	0.372	0.215	0.250	0.301
F Statistics	24.140***	12.987***	20.637***	9.528***	11.581***	14.976***
Notes	t statistics are in parentheses. Significant level : * 0.10, ** 0.05, ***0.01					

Table 6: Coefficients of Final Models						
	TOTALCT	INDUCT	DEDUCT	EVAL	ANALY	INFER
Constant	-2.978** (-1.960)	.122 (.127)	-2.904*** (-3.280)	-1.177 (-1.652)	.366 (.864)	.922 (1.029)
CLASS	.639** (2.303) 1.012	.304* (1.744) 1.012	.338** (2.019) 1.012			.372** (2.033) 1.010
HSRANK	2.949*** (2.829) 1.287	1.614** (2.461) 1.287	1.394** (2.232) 1.271	1.267** (2.364) 1.260	.703** (2.208) 1.260	1.995*** (3.011) 1.192
VERBAL	.012*** (3.313) 1.867	.007*** (3.081) 1.867	.005** (2.335) 1.860	.006*** (3.130) 1.854	.004*** (3.943) 1.854	.010*** (5.184) 1.182
MATH	.018*** (5.214) 1.948	.006*** (2.725) 1.948	.012*** (5.760) 1.939	.003* (1.859) 1.937	.002** (2.096) 1.937	
RACE	.982* (1.745) 1.020	.700** (1.977) 1.020				
R Square	0.406	0.264	0.363	0.200	0.250	0.200
F Statistics	33.688***	17.684***	35.198***	20.494***	27.043***	20.046***
Notes	t statistics are in parentheses. Significant level : * 0.10, ** 0.05, ***0.01 Number underneath parentheses is variance inflation factor, a measure of collinearity.					

Note that R Square is a measure of goodness of fit. R Square of zero does not mean that there is no association among the variables. Two variables, gender and major, had no significant influence on all six critical thinking models. Therefore, gender and major were omitted. Only significant variables were included in the final models. The final results are shown in Table 6. The F test shows significant level of less than 0.01 in all six models. The variance inflation factor (VIF) is also presented to detect multicollinearity among independent variables. A value of VIF less than 10 generally indicates no presence of multicollinearity. It appears that the observed dependencies did not affect their coefficients.

Furthermore, significant test (t-test) for all critical thinking models show the coefficients of independent variables with varying degrees of significant t-value ($\alpha < 0.01$, 0.05 and 0.10), all with expected positive signs. Therefore, the null hypothesis of years in college (class), high school rank, SAT verbal, mathematical scores, and race was rejected as shown in Table 6. Class variable was significant ($\alpha < 0.05$) for total scores, deductive reasoning and inference, but marginally significant ($\alpha < 0.10$) for inductive reasoning. Class had no significant impact on evaluation and analysis scores. High school rank highly and significantly ($\alpha < 0.01$) affected

total and inference scores while significantly ($\alpha < 0.05$) affected inductive, deductive reasoning, evaluation and analysis scores. SAT verbal scores had a highly significant t-value ($\alpha < 0.01$) on all models except deductive reasoning where it was significant with t-value ($\alpha < 0.05$). However, SAT mathematical scores had highly significant t-value ($\alpha < 0.01$) on the total critical thinking score, inductive reasoning, deductive reasoning while having significant t-value ($\alpha < 0.05$) on analysis and marginally significant t-value ($\alpha < 0.10$) on evaluation. It had no effect on inference scores. With respect to the race variable, race had a significant t-value ($\alpha < 0.05$) only on the total critical thinking score while a marginally significant t-value ($\alpha < 0.10$) on inductive reasoning.

CONTRIBUTIONS

This paper makes three important contributions and supports previous studies. First, since Class/Year in School was significant for all measures of critical thinking except Evaluative and Analytical, different measures of critical thinking may develop over a student's academic career. It may be that these measures of critical thinking develop later in students academic experiences. Therefore studies of students further in their academic careers may be of interest. High school rank was significant for all measures of critical thinking. This is consistent with previous studies by Ventura (2005) and Baron (1992). They included high school rank and determined that it is positively significant as an academic predictor.

The second important contribution was a result of examining the SAT math and verbal scores separately. In doing so it revealed that inferential thinking was predicted by verbal scores but not math scores. Verbal score on the SAT were significant for all measures of critical thinking. Students that have high verbal skills may be able to perform better on critical thinking skills test due to their high verbal ability. The math score on the SAT was significant for total score, inductive, deductive, evaluative and analytical reasoning. It would be interesting to do further research on why math skills are significant for only these measures of critical thinking and not inferential thinking.

The third important contribution was the inclusion of race which was significant for total score and inductive thinking but not for other measure of critical thinking. It may be due to Caucasian students have greater access to academic resources such as home computers and the internet. This may influence performance in terms of total score. However, further research may need to be conducted to determine reasons for the significance in terms of inductive reasoning versus other measures of critical thinking.

PRACTICAL IMPLICATIONS

Measures of critical thinking skills are used for assessment purposes, including self-assessment for accreditation. In addition, information on critical thinking skills is useful to

designers of curriculum. While critical thinking is difficult to teach, there is a need to teach thinking skills at all levels of education. As Carr (1990) and Willingham (2007) state in their articles on teaching critical thinking, it should not be taught on its own or by relying on special courses and text. Instead, every teacher should create an atmosphere where students are encouraged to read deeply, question, engage in divergent thinking, look for relationships among ideas, and grapple with real life issues (Carr, 1990).

A study by Yazici (2004) indicated that collaborative learning enhances critical thinking skills. Therefore studies that include group work as a teaching strategy for critical thinking may be valuable. Ishiyama, McClure, Hart and Amico in 1999 found no significant difference in critical thinking disposition and evaluation of teaching strategy lending support to utilizing methods of instruction the enhance critical thinking skills. Williams (2003) indicated that critical thinking was the strongest indicator of multiple-choice examination performance. This has implications for educators as they develop curriculum and measurement instruments, especially for assessment purposes. As Peach, Mukherjee, and Hornyak (2007) noted, critical thinking is recognized as important but difficult to assess. However, it is an essential component for assessment and institutions must participate in assessing and developing it.

CONCLUSION

This article provides identification of several important directions for future research. A focus on different evaluation methods may reveal of interest. In addition, measuring infusion of critical thinking would be valuable. Demonstrating critical thinking skills in the classroom and then observing the effectiveness would be of interest to educators since it is understood that teaching critical thinking it is difficult. Finally, research that focuses on conveying the importance and power of critical thinking to students may determine whether it generates interest. This may provide information educators can use to improve their ability to teach critical thinking skills.

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THE EFFECTS OF LEARNING STYLES ON COURSE PERFORMANCE: A QUANTILE REGRESSION ANALYSIS

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ABSTRACT

In this study, we investigated the relationship between learning styles and student performance for students enrolled in a basic business statistics course. We performed this study in order to assess our success in creating a course that facilitated learning for students regardless of learning style.

To accomplish this analysis, we utilized quantile regression, a statistical technique from the economics literature developed by Koenker and Bassett (1978) that supplements the classical ordinary least squares regression. Quantile regression allowed investigation of a more complete picture of student performance over the entire population as opposed to the mean effect from least squares regression.

Learning style was not significant in determining a student's overall course score for the entire group of students. For small cohorts of students, learning styles were significant for exam average. That is, some students experienced either a disadvantage or advantage by their learning style for the course's exam component. However, for the overall course performance, a student with a particular learning style was neither advantaged nor disadvantaged.

INTRODUCTION

As faculty, one of our goals is to provide the best possible learning environment for our students. In order to create an ideal learning environment, it is important to understand our students' different learning styles (Coffield, Moseley, Hall, & Ecclestone, 2004; Dunn, Griggs, Gorman, & Beasley, 1995). Students "preferentially focus on different types of information, tend to operate on perceived information in different ways, and achieve understanding at different rates" (Felder, 1993, p. 286). Acknowledging that students have different learning styles then behooves the instructor to utilize a variety of teaching strategies in order to engage students of all learning styles (Buxeda & Moore, 1999). All students will then have opportunities to use their preferred learning style and opportunities to improve their less-preferred learning style (Hawk & Shah, 2007). Having incorporated a variety of learner-centered and integrative teaching

strategies into a business statistics course, we wanted to know if a student's learning-style had an effect on their course performance.

It is important to design a course that allows students of all learning styles to succeed. As noted by Felder, "Students whose learning styles are compatible with the teaching style of a course instructor tend to retain information longer, apply it more effectively, and have more positive post-course attitudes toward the subject than do their counterparts who experience learning/teaching style mismatches," (Felder, 1993, p. 286). If the results of our study had shown a relationship between the overall course score and a student's learning style, then additional components could have been designed into the course or students could have been appropriately advised about how best to adapt to the teaching style that does not match their preferred learning style (Campbell, 1991; Coffield, et al. 2004).

To accomplish this analysis, we collected student performance data on the various components of the course (quizzes, exams and projects), attributes of student learning styles, achievement on pre- and post-assessment, and attendance in the course. We analyzed the data using ordinary least squares regression analysis and *quantile regression* (Koenker & Bassett, 1978). Quantile regression allowed investigation of a more complete picture of student performance over the entire student population distribution. For example, a least squares regression analysis for course score with learning styles as the independent variables estimated the *mean* effect of learning styles on course performance. Quantile regression, however, provided information about the performance of, for example, the lower performing 25% of the class. The significant factors that affected performance for the lower 25% could have been different from the significant factors that affected the performance for the top performing 25% and this difference could only be discovered using quantile regression. Thus, quantile regression provided information about the entire distribution of course performance that the ordinary least squares regression did not provide.

We found that learning style was insignificant in determining a student's overall course score for the entire group of students. This provided some evidence that the design of the course did not favor students with any particular learning style. For small cohorts of students, learning styles were statistically significant in determining exam average. That is, some students experienced either a disadvantage or advantage by their learning style for the exam course component, as elaborated in more detail in the Results section. However, for the overall course performance, a student with a particular learning style was neither advantaged nor disadvantaged.

The next section provides, in brief, a survey of existing literature on learning styles, a description of our interpretative learner-centered business statistic course and an introduction to quantile regression. Following that is a description of the methodology used in the study and an interpretation of the results.

LEARNING STYLES

Researchers have developed a vast array of models and instruments in an attempt to understand and develop a framework that explains how students learn. In 1991, Campbell reviewed 32 instruments for measuring learning style preferences (Campbell, 1991). Some can be self-administered, but trained personnel must administer some. Some of these instruments are free and some are not. Coffield et al. (2004) have extensively reviewed the learning styles literature, evaluated the major learning styles models and discussed the implications for practice. They identified 71 learning models and instruments and categorized 13 of these as major models. Clearly, a plethora of models and instruments could have been selected for this study.

Hawk and Shah (2007) reviewed and compared five of the more commonly and recently used learning style models and instruments: Kolb Learning Styles Indicator, Gregorc Style Delineator, Felder-Silverman Index of Learning Styles, VARK Questionnaire, and Dunn & Dunn Productivity Environment Preference Survey. Of these five models, Coffield et al. (2004) had identified four as major models. Hawk and Shah described each learning style model, reported on instrument validity, reliability, and student performance, and compared the five models to find commonalities and differences.

For this study, we elected to use the Felder-Silverman (FS) model and Index of Learning Styles (ILS) (Felder & Silverman, 1988), because it is an instrument with a significant amount of study and use. Felder and Silverman developed this model in an engineering education environment that was relevant to our business statistics environment. We could numerically code the four learning style dimensions, which allowed the results to be easily quantified and analyzed using OLS and quantile regression. In addition, the ILS has been validated (Zwyno, 2003; Felder & Spurlin, 2005; Litzinger, Lee, Wise, & Felder, 2005). Finally, students could self-administer this questionnaire at no cost.

Since researchers and educators do not agree even on the definition of learning style (Campbell, 1991), in this study, we used the definitions and terminology put forth by Felder and Silverman. Learning style is the way a student prefers to “receive and process information” (Felder & Silverman, 1988, p. 674). Felder and Silverman (1988) classified preferred learning styles into four dimensions based on (1) the type of information that people preferentially perceive, (2) the sensory channel by which people most effectively perceive information, (3) the mental process by which perceived information is converted to knowledge, (4) the manner in which people understand and master the material.

Table 1 lists the bi-polar preferences defined for each dimension. Similarly, Felder also classifies teaching style into four dimensions: (1) content can be concrete/abstract, (2) presentation can be visual/verbal, (3) student participation can be active/passive and (4) perspective can be sequential/global.

Table 1 Felder-Silverman Learning Style Dimensions

Dimension	Bi-polar preferences	Abbreviation
Perception	sensory/intuitive	SEN/INT
Input	visual/verbal	VIS/VER
Information processing	active/reflective	ACT/REF
Understanding	sequential/global.	SEQ/GLO

Table 2 lists typical characteristics of students with strong preferences in each dimension direction (Felder & Silverman, 1988; Felder & Spurlin, 2005). It is important to note that these are just preferences and students can frequently switch learning styles. The weaker the preference the more likely a student will switch based on the context and demands of the learning task.

AN INTERPRETATIVE BUSINESS STATISTICS COURSE

Our business statistics course used an interpretive and learner-centered approach (Lockwood, Ng & Pinto, 2007). It focused on how business students would actually use statistics in other higher-level business courses and in the business world. Many of the teaching methods suggested by Felder (1993), designed to address all learning styles, were adopted in the course. The major aspects of the course were:

Emphasis was on interpretation and applications of results. The use of equations was only for understanding of concepts and was reduced to a minimum. Hand calculations via formulae were not required of students. Students used PHStat[®], an Excel add-in, for all statistical computations. This concrete teaching style on content was expected to help learners who prefer a SENSory perception process.

The use of pre-lecture, post-lecture, and lab quizzes was to encourage student responsibility through mastery. Students could take the quizzes an unlimited number of times in WebCT[®]. This self-paced, self-guided mastery approach to learning was incorporated to enable students who were SENSing, ACTive and SEQuential learners to learn more effectively through drill exercises. The more challenging questions on abstract concepts and fundamental statistical understanding found in post-lecture quizzes was designed to stimulate and challenge INTuitive, REFlective and GLOBal learners.

Table 2 Characteristics of students with strong learning style preferences

	<i>Sensing</i>	<i>Intuiting</i>
Perception	like facts, data, experimentation	like principles and theories
	like solving problems by standard methods	like innovation
	are patient with detail	like complications
	are careful and maybe slow	good at grasping new concepts
	good at memorizing facts	are quick and maybe careless
	are slow at translating symbols including words	more comfortable with symbols
	dislike complications	bored by detail
	dislike surprises	dislike repetition
	<i>Visual</i>	<i>Verbal</i>
Input	learn from seeing diagrams, pictures, etc	like discussion
	most college-age and older people are visual	learn from hearing and saying, explaining to others
	<i>Active</i>	<i>Reflective</i>
Information processing	work with information in physical world	work with information introspectively
	need to be active (as opposed to passive)	need time to think
	work well in groups	work well by themselves or at most one other person
	tend to be experimentalists	tend to be theoreticians
	<i>Sequential</i>	<i>Global</i>
Understanding	learns material in sequence – step by step	make intuitive leaps
	linear learning process	frequently unable to explain how they came up with an answer
	can work with partially understood material	can't work until totally understand
	good at convergent thinking and analysis	good at divergent thinking and synthesis
	want a steady progression of complexity	

Teams facilitated learning both inside and outside the classroom and fostered cooperative learning. This active mode of student participation was expected to benefit both ACTIVE and VERbal learners. Student teams worked on team projects that utilized real data from real problems, and they were required to present their findings in the form of a formal business report. The use of real data was incorporated to entice the SENSing learners while the complicated and creative organization of the reports was expected to challenge the INTuitive

learners. The business reports allowed students with different learning styles to work together and contribute their respective comparative advantage to the team.

The use of concrete, real business data and problems in the lectures, labs, quizzes, exams and projects was expected to help students with SENSing and ACTive disposition.

In-class lectures that shifted from the traditional instructor-to-students interaction to incorporate student-to-student interactions provided VERbal learners opportunities to verbalize their learning in discussions. Student-to-student interaction was expected to help ACTive learners, since they work well in groups.

Heavy utilization of e-mail and discussion areas fostered student-to-student and instructor-to-student interaction outside the classroom.

The use of web technology allowed instructors to provide many of the materials traditionally delivered through lectures. This enabled instructors to better use the contact time in lectures to emphasize concepts, illustrate interpretation of numerical results and demonstrate applications to business problems. In addition, multi-media learning resources with animations were delivered to students 24 hours a day, 7 days a week via WebCT. This multi-modal delivery system was aimed to facilitate different modes of learning for students with varied learning styles.

QUANTILE REGRESSION

Regression analysis is among the most popular and powerful techniques in statistical analysis. The traditional least squares regression provides estimates of the conditional *mean* effects of the independent variables on the dependent variable by choosing the regression coefficients that minimize the sum of the squared residuals. However, the technique is limited. Unless one is willing to make strong distributional assumptions on the distribution of the dependent variable given the independent variables, least squares method does not provide any information beyond the conditionals mean. Koenker and Bassett (1978) invented quantile regression that enables investigators to examine the effect of covariates on any chosen quantiles of the dependent variable and, hence, obtain a more complete picture of the relationship across the whole distribution of the dependent variable.

Quantile regression has gained wide popularity in all disciplines in the last decade. Ng, Yu and Feng (2008) surveyed the articles that involved quantile regression analyses that were written over the last 26 years using data obtained from the SciSearch database. Some examples that were related to students learning that used quantile regression analysis were Eide, Showalter & Sims (2002) and Martins & Pereira (2004) who studied the rate of returns on education, and Eide & Showalter (1998), Bassett, Tam and Knight (2002), Tam, Bassett & Sukhatme (2002), Kremer & Levy (2003) and Birch & Miller (2006) who studied students' scholastic achievements.

Like classical least-squares regression analysis, quantile regression minimizes a variant of the differences between the actual and predicted values. For n data points, the regression quantile coefficients β are computed by minimizing the following objective function:

$$\min_{\beta} \sum_{i: y_i - x_i \beta \geq 0} \tau |y_i - x_i \beta| + \sum_{i: y_i - x_i \beta < 0} (1 - \tau) |y_i - x_i \beta|$$

where y_i denotes the dependent variable, x_i represents the vector of independent variables, and $0 < \tau < 1$ determines the desired conditional quantile of interest. Notice that the objective function assigns a weight of τ to the positive residuals and a weight of $(1 - \tau)$ to the negative ones. Hence, there will be $100\tau\%$ of the observations that will fall above the τ -th quantile regression hyperplane and $100(1 - \tau)\%$ below. For $\tau = 0.5$, the quantile regression hyperplane bisects the data into two halves such that half of the observations fall above while the other half below the regression hyperplane and yielding the *median* regression estimates as a special case. Hence, a particular component of the regression quantile coefficients β_j provides an estimate of the marginal effect of the associated independent variable x_j on the dependent variable for the τ -th quantile of the cohort holding the effects of the remaining independent variables fixed. Koenker and Hallock (2001) provided an excellent non-technical introduction to quantile regression. We performed quantile regression analysis using algorithms based on Koenker and D'Orey (1987), and Portnoy and Koenker (1997) written for the *R* package *quantreg* available at <http://www.r-project.org/> (Koenker, 2008).

DATA

Data were collected from eight sections of the course taught by the first two authors. The data included grades for the course, exams, project, and quizzes. In addition, data were also recorded for attendance, pre/post-assessment scores, and learning style preference score on each of the four dimensions of Feldman Index of Learning Styles (Felder & Soloman, 2001).

All students were requested to access the free Feldman Index of Learning Styles assessment tool at the beginning of the semester that would count as one of their quizzes. We recorded the results from the ILS instrument for each student as a score on each of the four indices: sensing/intuitive (SEN/INT), active/reflective (ACT/REF), visual/verbal (VIS/VER), and sequential/global (SEQ/GLO). The raw scores range from -11 to 11 indicating the propensity towards one of the two polarized learning styles in each of the four dimensions. The learning style data were re-coded based on recommendations by Felder and Spurlin (2005) so that in each dimension there were three possible levels. For example, in the SEN/INT

dimension, a student can be sensing (SEN), intuitive (INT), or sensing/intuitive neutral (SEN/INT Neutral) meaning that they showed no strong preference for either. If a student does not strongly prefer a learning style, according to Felder & Spurlin, the student will use the learning style that is to their advantage under the particular circumstances. We also used the raw scores from the four learning styles dimensions in our study and the results and conclusions were similar qualitatively.

The course average was a weighted average of 50% exam average, 30% quiz average, 20% project average with an attendance score added in as extra credit. The grade components were:

Exam average was the weighted average of 2 mid-terms and one final with weights 15%, 15%, and 20% respectively. The exam average was normalized to the 95th percentile. Thus, a grade of more than 100 on the exam average was possible.

Quiz average was the average of 13 pre-lecture, 13 post-lecture and 11 lab quizzes.

Project average was the individual average score of two team projects, which included the team report scores, individual quiz scores based on the project, and individual self-peer evaluation scores.

Extra credit for attendance was part of the students' grade added directly to the course average. Scores ranged by increments of 0.25% from 1.5% for perfect attendance to 0.25% for seven missed classes.

Since exam average could exceed 100, and the attendance was added as an addition to the average of the 3 major components, a course average of more than 100 was possible.

In order to assess learning gain, instructors administered an assessment on the first day (pre-assessment) and the same assessment again on the last day (post-assessment) of the semester. The difference between these scores was the learning gain. The pre/post assessment scores were not part of the course average.

After deleting missing data, the analysis included 289 observations.

RESULTS

Descriptive Statistics

Descriptive statistics are reported in Table 3 for the various performance components of the course. Students typically attended all or almost all classes reflecting the effectiveness of the incentive system. An average improvement on the learning gain assessment (difference between the pre and post assessments) was 16.8 points out of 100. Thus, the results of the study have demonstrated that students have learned during the course. Quiz and project averages were high. For the quizzes, this was due to students taking the quizzes multiple times to improve scores. We also expected the high project averages since the project was primarily a team effort.

Table 3 Descriptive statistics for course component grades (289 students)

	Attendance	Pre- Assessment	Post- Assessment	Exam Average	Quiz Average	Project Average	Course Average
Min	0.0	5.0	20.0	34.1	38.6	42.8	41.7
Max	1.5	85.0	100.0	109.5	100.0	98.2	109.8
Median	1.5	50.0	70.0	74.1	94.4	89.1	81.7
Average	1.3	50.5	67.3	73.6	90.5	88.0	81.6

Table 4 contains learning style descriptive statistics. The median student learning style was neutral on three of the four dimensions. For the fourth, VISual/VERbal, dimension, the median preference was moderately VISual.

Table 4 Learning styles descriptive statistics for 289 students

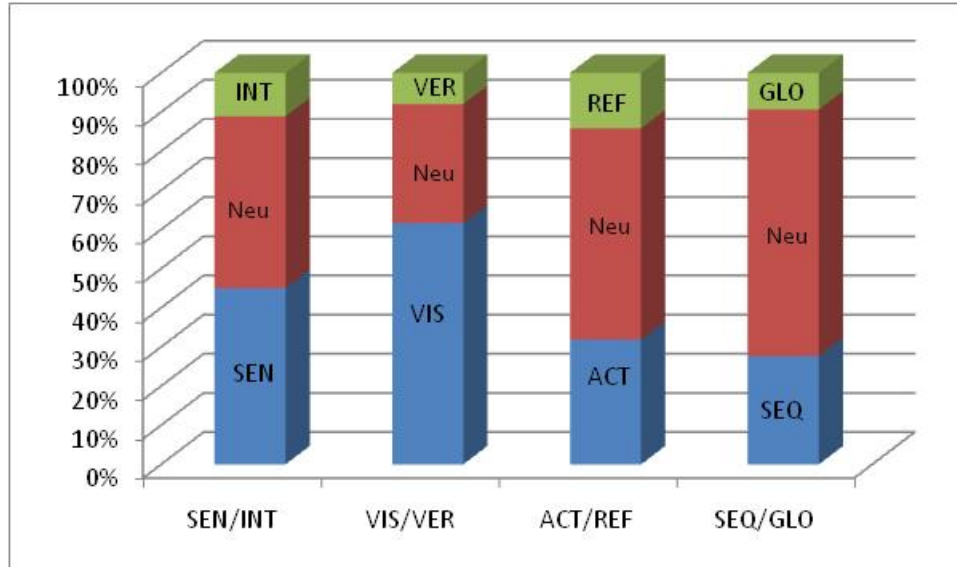
	SEN/INT (+/-)	VIS/VER (+/-)	ACT/REF (+/-)	SEQ/GL O (+/-)
Min	-11.0	-9.0	-9.0	-11.0
Max	11.0	11.0	9.0	11.0
Median	3.0	5.0	1.0	1.0
Average	2.7	4.6	1.2	1.5

The profile of learning styles (

Figure 1) was similar to those in other published works (Buxeda & Moore, 1999; Felder & Spurlin, 2005). More than half of the students were neutral in the ACTIVE/REFlective dimension. SENSing was the most frequently occurring preference in the SENSing/INTuitive

dimension. Over 60% of the students were VISual in the VISual/VERbal dimension. In the GLObal/SEQuential dimension, most students were neutral.

Figure 1 Profile of learning styles



In this group of students, only 54 of the 81 possible dimension combinations were present. Listed in Table 5 are the 10 most frequently occurring combinations that account for 57% of the students.

Table 5 Most frequently occurring learning style combinations

Rank	SEN/INT	VIS/VER	ACT/REF	SEQ/GLO	Frequency	Percent	Cumulative percent
1	N	VIS	N	N	39	13.5%	13.5%
2	SEN	VIS	N	N	24	8.3%	21.8%
3	SEN	VIS	N	SEQ	19	6.6%	28.4%
4	SEN	N	N	N	14	4.8%	33.2%
5	N	N	ACT	N	14	4.8%	38.1%
6	SEN	VIS	ACT	N	13	4.5%	42.6%
7	N	N	N	N	11	3.8%	46.4%
8	N	VIS	ACT	N	11	3.8%	50.2%
9	SEN	VIS	ACT	SEQ	11	3.8%	54.0%
10	N	VIS	N	SEQ	10	3.5%	57.4%

LEAST SQUARES REGRESSIONS

Each of the five dependent variables (course average, exam average, quiz average, project average, and the average difference between pre/post assessment scores) were regressed on the independent variables attendance, pre-assessment score, post-assessment score and learning style. The three classifications of each of the four learning style dimension were represented using two dummy variables. The base levels for the four learning style dimensions were ACTIVE, INTuitive, VERbal/VISual NEUtral, and GLObal.

Table 6 lists the results for the five OLS regressions and the significant independent variables at the 5% significance level. The appendix contains the detailed statistical results for each dependent variable. Significant results were:

Attendance was a significant factor for four (of the five) dependent variables.

None of the learning styles was significant for course average; thus, there was no significant difference in mean student performance due to learning style.

Exam average did show some performance differences based on learning styles. An average REFlective learner had a positive advantage on exams. These REFlective learners process information introspectively, and they tend to do better on the exams in comparison to their ACTIVE learner classmates.

Pre/post assessment difference showed that GLObal learners on average scored better than SEQuential/GLObal Neutral or SEQuential learners. This was interesting, because Felder (1993) has pointed out that at least in engineering courses, material tends to be taught sequentially, and Zwynow and Waalen (2001) showed that GLObal learners were over represented in the lower half of the class that is GLObal learners were at a disadvantage. However, perhaps, due to the design of this course – quizzes taken multiple times on the same material and project work, the GLObal learners had improved their assessment scores more. The exams also contained questions that addressed the more general concepts of statistics, which required a global understanding of the subject matter, instead of the specific mechanics of statistics. This aspect may have also favored the GLObal learners. These learners tend to take in information randomly, synthesizing information intuitively.

Quantile regression results, described in the next section, provided additional insights.

Quantile Regressions

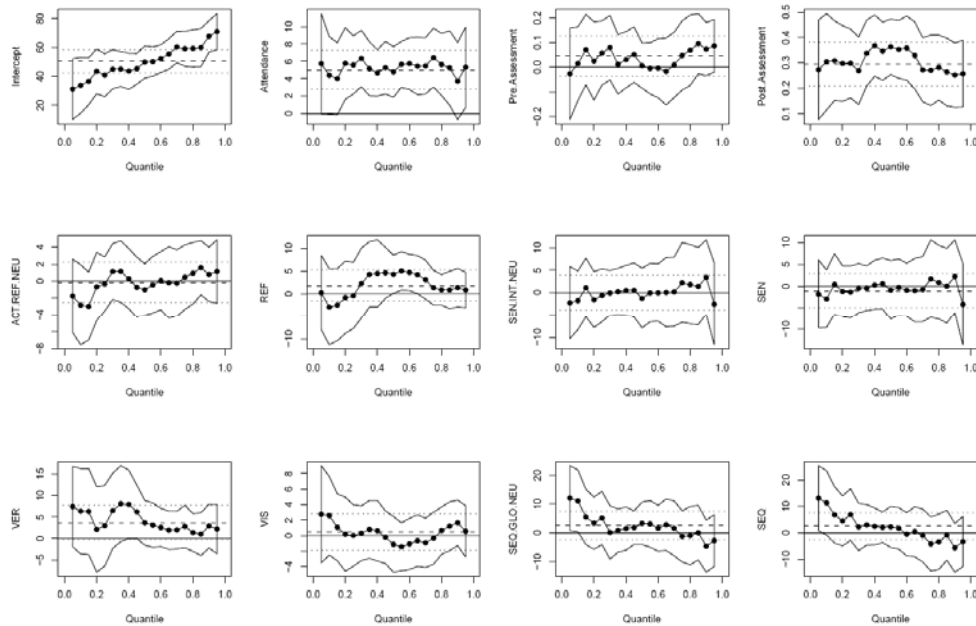
First, we explain the how to interpret the quantile regression results given in Figures 2-6. Then we will discuss the quantile regression results for each dependent variable. Results from the quantile regression analysis of the dependent variable course average are in Figure 2. Each panel represents an independent variable and its relationship to course average, while the effects of the other independent variables were held constant. In each panel, there are three curves and three horizontal lines:

Table 6 OLS Regression Summary

+ Significant at p = 0.05 Positive Coefficient
 - Significant at p = 0.05 Negative Coefficient
 ~ Not Significant at p = 0.05

	Course average	Exam average	Quiz Average	Project Average	Pre/post Difference Average
Intercept	+	+	+	+	+
Attendance	+	+	+	+	~
Pre-assessment	~	+	~	~	N/A
Post-assessment	+	+	+	~	N/A
Learning style	~	REF (+)	~	~	SEQ/GLO Neutral (-)
	~	~	~	~	SEQ (-)

Figure 2 Course Average Quantile Regression Results



The curve with filled circles represents the quantile regression coefficients. There are 19 distinct quantiles (5% to 95% at intervals of 5%) with the coefficient of each quantile plotted by a filled circle. Each of these 19 point-estimates can be interpreted as the impact of a one-unit change of the independent variable on course average for that quantile while the effect of the other independent variables were fixed.

The two solid bands around the curve with filled circles are the 95% point-wise confidence bands for the estimated quantile regression effects.

The horizontal dashed line represents the least squares estimate of the conditional mean effect.

The two dotted horizontal lines depict the 95% confidence interval for the least squares estimated coefficient.

To interpret the panels, quantiles where the confidence band around the quantile regression coefficients do not contain zero were examined. These quantiles represented statistically significant effects of the independent variables at the 5% level of significance. For example, the quantile regression coefficient for attendance is 4.78 for the *median* ($\tau = 0.5$) quantile with a 95% confidence interval that does not include zero according to the second panel. That was interpreted as: “Each additional % point earned on attendance improved the courses average for a student in the *median* quantile by 4.78 % points.”

COURSE AVERAGE QUANTILE REGRESSION RESULTS

For course average, note the following:

Attendance had a positive and uniform effect on course average across all quantiles except the bottom and top 10%. For these quantiles ($\tau = 0.15-0.85$), approximately 4.8% was added to the course average for each additional % point increase in attendance score. This was particularly interesting since the attendance score contribution to the course average was a maximum of 1.5% as defined by the grade composition. Thus, there was an attendance benefit to the course average in addition to the extra credit points. This confirmed our expectation that attending class would be beneficial for course grades. This attendance benefit did not occur in the top 10% of the students nor in the bottom 10% of the students.

Post assessment exhibited a positive relationship with course average though not large – at most 0.4 points for a one point increase in post-assessment score.

None of the learning styles had a significant effect at any of the quantiles. This was consistent with the message obtained from the OLS results. That learning style not only does not affect course performance of an *average* student, but also does not affect any cohort of students over all quantiles of the population. Hence, there was no evidence that the course was biased against any student with a particular learning style.

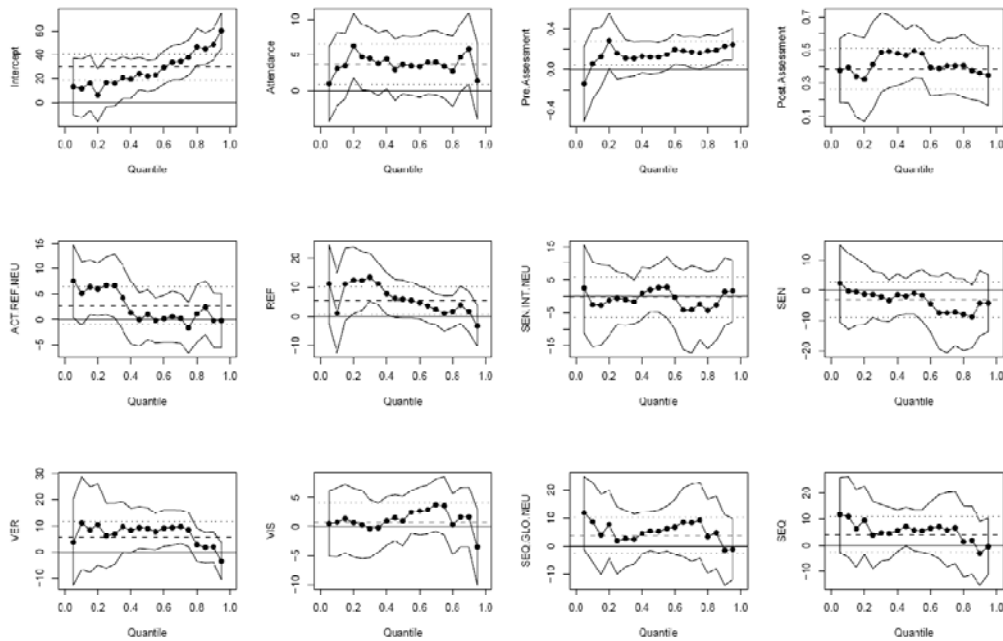
Exam Average

Figure 3 illustrates the quantile regression results for exam average. Attendance had significant positive effect at only a limited number of quantiles: $\tau = 0.2-0.3$ and 0.9 .

Pre-assessment had a small positive effect at the upper quantiles. For one point higher on the pre-assessment, the upper quantile students scored 0.2 points higher on exams. Thus, a slight advantage on exam average was found for those students that come into the course better prepared.

Post-assessment had a positive and uniform relationship with exam score. For each additional post-assessment point, the exam score was 0.35 – 0.5 points higher. This positive relationship between performance on post-assessment and exam scores was expected.

Figure 3 Exam Average Quantile Regression Results



A subset of ACTIVE learners did not perform as well as other learners on the exams. For the 0.15-0.30 quantiles, ACTIVE/REFlective NEUtral learners scored 5 points higher than the ACTIVE learners did. For the 0.2-0.4 quantiles, REFlective learners scored about 10 points higher than ACTIVE learners did. This is not surprising as exams typically do not allow for

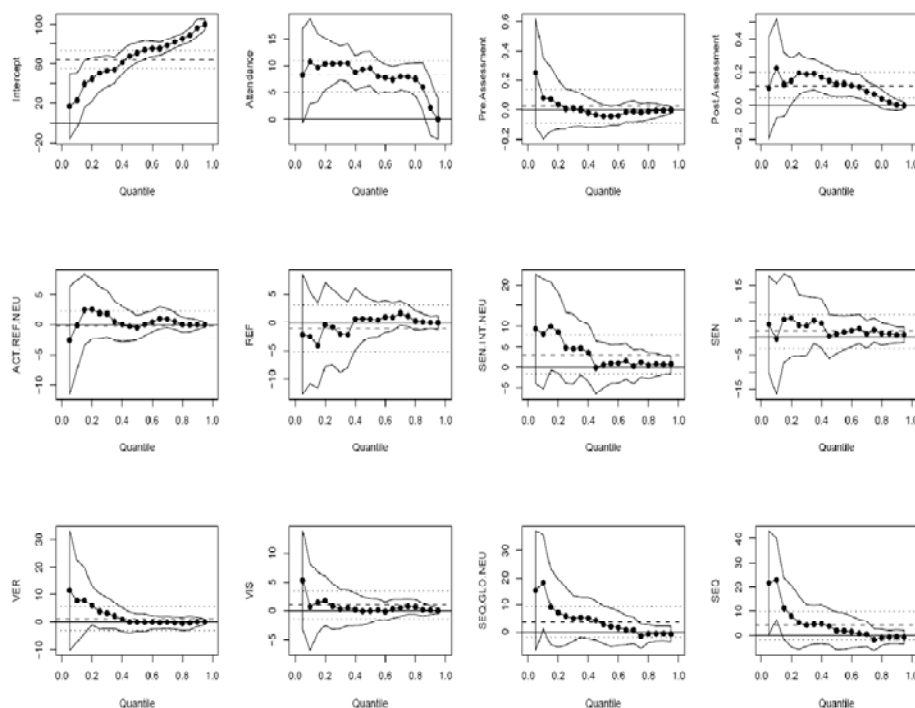
active information processing like experimenting. However, these two learning style dimensions did not affect the exam performance of the top 50% of students.

For the 0.40-0.75 quantiles, VERbal learners scored about 8 points higher than VISual/VERbal Neutral learners did. One possible explanation was that the 40-75 percentile VERbal learners benefited more from learning the material outside classroom via discussion with their teammates and from discussion during class time. Hence, they may have indirectly benefited more on the exam than other types of learners. Only 11% of the students were VERbal learners

Quiz Average

Figure 4 displays the quantile regression results for quiz average.

Figure 4 Quiz Average Quantile Regression Results



Attendance had a significant positive effect of 8-10 points for the lower 80% of the students. However, upper quantiles ($\tau = 0.8-0.9$) did not benefit significantly. Those students who attended class regularly throughout the semester were evidently able to keep up with the activities that took place in the course and, hence, completed the quizzes on time.

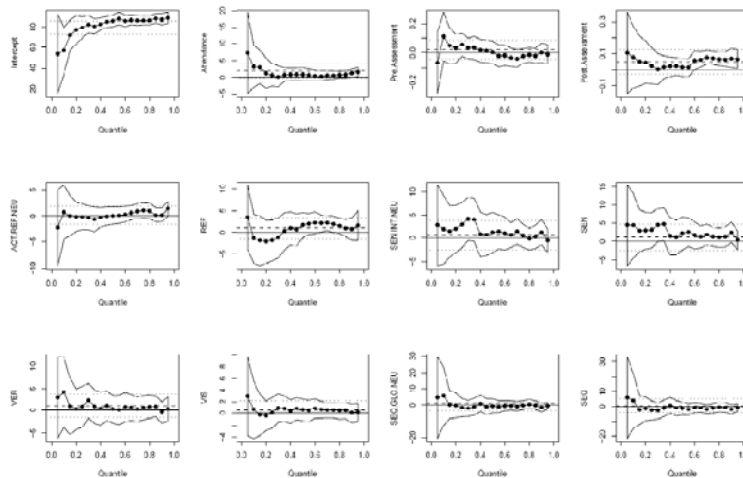
Post assessment exhibited a positive relationship with quiz average for the 0.20-0.75 quantiles. The relationship tapered off for the higher quantiles.

SEquential learners at the lower quantiles ($\tau = 0.05-0.15$) scored 10 to 20 points higher than GLObal learners did. This suggested that the very weak SEquential learners appeared to benefit more than their SEquential/GLObal NEUtral and GLObal counterparts did because quizzes were completed sequentially throughout the semester and, hence, cover the material in sequential manner.

Project Average

Figure 5 contains the quantile regression results for project average.

Figure 5 Project Average Quantile Regression Results



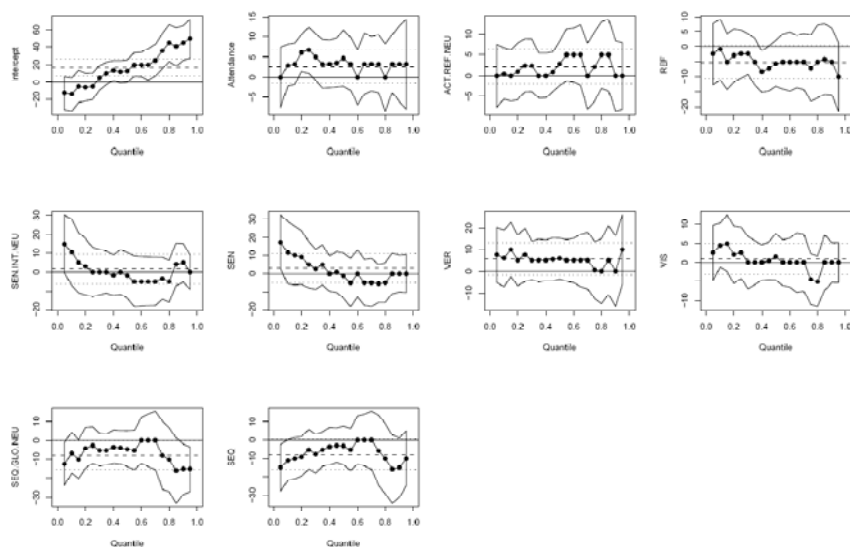
Post assessment was significant for the top 40% of the student population on project average. There is a positive relationship between post assessment performance and project average.

None of the learning style dimensions was significant across the whole spectrum of the student population. This could be due to the fact that students work in teams and, hence, students with different learning styles have complemented each other's strengths and weaknesses.

Pre/Post-Assessment Difference

Figure 6 displays the quantile regression results for pre/post-assessment difference. The difference in pre/post-assessment measured the learning gain from the course. Here, we learned something more about the significance of the factors SEQUential/GLObal NEUtral and SEQUential on the learning gain for an average student in the OLS regression. Figure 6 shows that GLObal learners had a higher learning gain than SEQUential/GLObal NEUtral learners but only for the top 10% students. Likewise, only for the bottom 10% quantile, GLObal learners have a more than 10-point advantage over the SEQUential learners. Clearly, this advantage/disadvantage was for a small number of students and disappeared for the remaining 90% of the students. None of the other independent variables had a significant relationship with the pre/post-assessment difference. The fact that none of the learning style dimensions had a significant effect on learning gain for most of the population reinforced our finding that the course had been designed in a way that did not favor students with particular learning preferences.

Figure 6 Pre/post-assessment Difference Quantile Regression Results



EPILOGUE

We have demonstrated that in the learning environment of our course design, a student's learning style did not significantly affect the student's course grade. This could be the result of

the multi-modal teaching strategies used in the course or it could be that the students are flexible enough in their learning styles to utilize a variety of learning styles. In addition, by using quantile regression, we captured a more complete picture. Instead of a picture of the ‘average’ student, the entire distribution of student performance was examined. We found that learning style did not affect the performance of an average student; it did not affect the performance of the whole spectrum of the student population, from the top-performing students to the lowest performing students.

A few course components were affected by learning style. Specifically, we learned that for the students in the 0.15-0.30 quantiles, ACTive/REFlective NEUtral and REFlective learners scored higher on the exam than the ACTive learners. This led to the not surprising conclusion that at least some ACTive learners did not perform as well as other learners on the exams. Since our exams do not allow for active information processing like experimentation in multiple trials, this particular aspect of the finding is not at all surprising. Also, a good portion of our exam questions expect students to have a deeper understanding of the fundamental concepts akin to the higher levels of learning in the Bloom’s (1956) taxonomy and may, therefore, favor the REFlective learners. To reduce the impact of ACT/REF learning dimension on students’ exam performance, we can include fewer questions that address the “Applying”, “Analyzing”, “Evaluating” and “Creating” domains in Bloom’s taxonomy, which is undesirable from our perspective, or we can help the ACTive learners to better process information introspectively. Felder and Soloman (2001) provide some useful suggestions for ACTive learners: “If you are an active learner in a class that allows little or no class time for discussion or problem-solving activities, you should try to compensate for these lacks when you study. Study in a group in which the members take turns explaining different topics to each other. Work with others to guess what you will be asked on the next test and figure out how you will answer. You will always retain information better if you find ways to do something with it.”

Our course grade was curved using an absolute scale of 90%, 80%, 70%, and 60% as thresholds for “A”, “B”, “C”, “D” and “F”, respectively. As a result, even though a small group (0.15 to 0.30 quantile) of 15% of students’ exam performance is influenced by the ACT/REF attribute, the learning style neutral team project and web quiz components help push students to a higher threshold so that the effect of learning style on course grade is substantially moderated. Therefore, our multi-facet course design does not appear to have favored students of any particular learning style for the final course grade.

We also learned that for the top 10% of the student cohort on the difference in pre/post assessments, which measured learning gain, GLObal learners had a slight advantage over their SEQUential/GLObal Neutral counterparts. They also had a slight advantage over the SEQUential learners at the bottom 10% end. However, these advantages/disadvantages disappeared for the remaining 90% of the student populations.

In addition, there was no effect of attendance on course score for the top and bottom 10%, though it was significant for all other students. Interestingly, this might indicate that class

time was designed for the center 80% students – neither teaching to the lowest quantile nor the highest quantile of students.

We would like to emphasize that due to the nature of the null hypotheses, we have not shown that learning styles do not affect students' performance in our design. We have merely demonstrated that there is no strong evidence that students were either advantaged or disadvantaged by their learning styles in the current design. This is similar to the finding by Karakaya, Ainscough and Chopoorian (2001) in which no significant difference in test scores was found between students with different learning styles using analysis of covariance.

The results in this study were drawn from eight sections of roughly forty students. Whether similar conclusions can be extrapolated to larger class sizes remained to be studied. In addition, the basic statistic course in this study was a survey course. Additional research will need to be conducted before drawing inferential conclusions on the effect of learning styles on students' performance in non-survey classes.

Nevertheless, our study can show others that a course can be designed that can moderate if not completely eliminate the effect of learning styles on students' performance in the class so that students with particular learning styles will not be advantaged nor disadvantaged by the design of a course. In addition, quantile regression was demonstrated to be a good tool since it examines results for the entire population and not just the average of the population.

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OLS Regression Results for Project Average

	Estimate	Standard Error	t Stat	P-value
Intercept	79.1115	2.8491	27.7670	<2e-16 ***
Attendance	1.8944	0.8484	2.2330	0.0263 *
Pre.Assessment	0.0216	0.0333	0.6480	0.5175
Post.Assessment	0.0514	0.0303	1.6990	0.0904
ACT/REF Neutral	0.0724	0.9251	0.0780	0.9377
REF	0.9296	1.3197	0.7040	0.4817
SEN/INT Neutral	0.6132	1.4844	0.4130	0.6799
SEN	1.1608	1.5144	0.7670	0.4440
VER	1.1090	1.6461	0.6740	0.5011
VIS	0.4508	0.9055	0.4980	0.6190
SEQ/GLO Neutral	0.7296	1.5573	0.4680	0.6398
SEQ	0.3628	1.7153	0.2120	0.8326

Residual standard error: 6.825 on 277 degrees of freedom *** significant at 0.001
 Multiple R-Squared: 0.05004, Adjusted R-squared: 0.01231 ** significant at 0.01
 F-statistic: 1.326 on 11 and 277 DF, p-value: 0.2092 * significant at 0.05
 . significant at 0.1

OLS Regression Results for Pre/Post Difference Average

	Estimate	Standard Error	t Stat	P-value
Intercept	16.9245	4.7245	3.5820	0.0004 ***
Attendance	2.5727	1.9352	1.3290	1.85E-01
ACT/REF Neutral	2.2006	2.1121	1.0420	0.2984
REF	-5.1636	3.0026	-1.7200	0.0866
SEN/INT Neutral	1.6639	3.4326	0.4850	0.6282
SEN	2.9563	3.4987	0.8450	0.3988
VER	5.7940	3.7857	1.5300	0.1270
VIS	0.9348	2.0920	0.4470	0.6553
SEQ/GLO Neutral	-7.6886	3.5732	-2.1520	0.0323 *
SEQ	-7.7918	3.9250	-1.9850	0.0481 *

Residual standard error: 15.79 on 279 degrees of freedom *** significant at 0.001
 Multiple R-Squared: 0.05298, Adjusted R-squared: 0.02243 ** significant at 0.01
 F-statistic: 1.734 on 9 and 279 DF, p-value: 0.0811 * significant at 0.05
 . significant at 0.1

OLS Regression Results for Post-Assessment Average

	Estimate	Standard Error	t Stat	P-value
Intercept	62.5373	4.2929	14.5680	<2.00E-16 ***
Attendance	4.884	1.7584	2.7770	0.0059 **
ACT/REF Neutral	5.0427	1.9191	2.6280	0.0091 **
REF	2.4542	2.7283	0.9000	0.3691
SEN/INT Neutral	0.4779	3.1190	0.1530	0.8784
SEN	1.0083	3.1791	0.3170	0.7514
VER	5.9835	3.4398	1.7390	0.0831 .
VIS	-0.5686	1.9009	-0.2990	0.7651
SEQ/GLO Neutral	-4.8026	3.2468	-1.4790	0.1402
SEQ	-8.6425	3.5665	-2.4230	0.0160 *

Residual standard error: 14.35 on 279 degrees of freedom *** significant at 0.001
 Multiple R-Squared: 0.0823, Adjusted R-squared: 0.0527 ** significant at 0.01
 F-statistic: 2.78 on 9 and 279 DF, p-value: 0.003908 * significant at 0.05
 . significant at 0.1

TEACHING WITH METAPHOR: THE CASE OF ALICE IN GAAP LAND

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ABSTRACT

This paper describes the application of metaphor in a writing assignment given to both graduate and undergraduate accounting students at Weber State University. As one method of teaching critical thinking skills, metaphor generates an image which is based on partial truth, requiring students to focus on one aspect of a topic in a novel way. After discussing metaphor, students were asked to write a short paper using metaphor to describe a self-selected accounting topic. Students were assigned metaphors based on the familiar stories in Alice in Wonderland. A rubric was developed for assessment of the written assignment.

INTRODUCTION

The global economy is constantly reshaped by changing technology and new work environments. To meet the needs of business and industry, accounting educators must continually reassess the effectiveness of curricula and pedagogy. One consistent recommendation of special studies and reports is the need to move accounting students beyond technical training to higher-order thinking skills that look beyond the numbers (Bonk and Smith, 1998). The Accounting Education Change Commission, for example, identified “capacities for inquiry, abstract logical thinking, and critical analysis” as objectives of accounting education (AECC 1990, 308).

Jackson and Durkee (2008) discuss a cross-disciplinary approach to incorporating information literacy into the accounting curriculum. Information literacy is one of the objectives of a paradigm shift in teaching from the teacher presenting facts to facilitating active learning. Information literacy is key to critical thinking since the information literate person “must be able to recognize when information is needed and have the ability to locate, evaluate, and use effective the needed information” (ALA, 1989, 1).

In their search for a thinking skill framework, Bonk and Smith (1998) merge creative and critical thinking. Creative thinking is used during the early stages of problem solving where the “right” question is chosen and options selected. Critical thinking is used to select a solution where the assessment of options using information technology, sound judgment and the examination of evidence are important. Essentially, creative thinking is subsumed as a component of critical thinking as applied in this study, which examines the use of metaphor to teach critical thinking skills in an action learning assignment for accounting students.

CRITICAL THINKING SKILLS

Critical thinking is a common element in the set of competencies and skills prescribed for today's accountants, but it has been difficult to agree on the definition of critical thinking or on which specific skills are involved (Baril et al., 1998). However, an underlying cause for the failure to teach critical thinking skills was identified by Green (1979, 472) in his description of bad students and bad teachers:

They omit the step that requires the exercise of imagination and forge on to what is to be understood as literally true. What both leave out of the process is thinking. Truth passes from the professor's notes to the student's notes without going through the head of either.

Ennis (1987, 10) used the following definition of critical thinking which will be used in this paper: "Critical thinking is reasonable reflective thinking that is focused on deciding what to believe or do." According to Ivie (2001, 18),

we think reflectively whenever we 'turn back' upon or call into question the assumptions, premises, or presuppositions underlying our ideas. The purpose of such thinking is to establish clear and logical connections between beginning premises, relevant facts, and warranted conclusions.

Ivey believes students are better able to think reflectively if they understand the root metaphors which underlie all complex systems of thinking. The idea of root metaphors originated with Pepper (1942). Just as methods and practice of any discipline are shaped by theory, theory in turn is shaped by world views, or root metaphors, which provide context for theories associated with a particular discipline. They shape the "experience of professionals, subtly molding their outlooks and activities" (Steenbarger 1991, 69). O'Hara (2007) even suggests that in a time of profound change, the root metaphors that shape discourse and concepts of reality also change, and educators must adapt to these changes to avoid a mismatch between education delivery and the needs of a global community.

Accounting is no stranger to metaphor. According to Walters-York et al. (1996), the historical prejudice against figurative language like metaphor is based on the notion that accounting requires literal language that is unambiguous, verifiable, and technical. She challenges the distinction between literal and figurative language; i.e., that accounting operates exclusive of metaphorical terms. Expressions like sunk costs, bulging inventories, and accounting magic are examples of accounting metaphors. In fact, metaphors are found throughout accounting, in textbooks, official pronouncements, and scholarly discourse (Davis et al., 1982; McGoun et al., 2004; Young, 2001; Walters-York, 1996).

METAPHOR

Whenever we speak of one thing as if it were another, we are using metaphor (Karathanos and Pettypool, 1998). Lakoff and Johnson (1980) have written extensively on the power of metaphor in everyday language. For example, one of the powers of metaphor they discuss is that metaphor hides aspects of a concept that are not “coherent with the metaphor,” allowing us to focus on one aspect in a novel way. In their summary, Lakoff and Johnson (1980, 486) make this startling claim:

. . . no account of meaning and truth can be adequate unless it recognizes and deals with the way in which conventional metaphors structure our conceptual system. Of course, this is no modest claim, for, if we are correct, it calls into question the assumption of many that a complete account of literal meaning can be given without reference to metaphor.

In his discussion of innovation and how to foster creativity, Herrmann (1991) believes that by using metaphor, we have a clearer understanding of the question and are more able to arrive at an optimal answer. Metaphors force a translation (making connections) that breaks down walls, forcing us to use the whole brain and facilitating problem solving capabilities thereby.

The use of metaphor generates an image which is based on partial truth, a one-sided abstraction “in which certain features are emphasized and others suppressed in a selective comparison” (Morgan, 1980, 611). If the two subjects compared in the metaphor are too different or too much alike, the metaphorical process produces nonsense. According to Morgan, the most powerful use of metaphor is where the relationship between the two objects of comparison is significant but not total. Morgan (1980, 612) makes the interesting observation that “effective metaphor is a form of creative expression which relies upon constructive falsehood as a means of liberating the imagination.”

INCORPORATING METAPHOR INTO AN ACCOUNTING CURRICULUM

The emphasis of this study is to examine a curricular emphasis on lifelong learning skills where students are required to exhibit individual competence in analyzing an issue in financial accounting by demonstrating proficiency in applying information technology and critical thinking skills. Metaphor is used specifically in student analysis of relevant issues.

The research discussed in this paper took place during spring semester 2009 in two sections of International Accounting (ACTG 3500), a required 3-semester-hour undergraduate course, and one section of Financial Statement Analysis (MACC 6160), a required 3-semester-

hour graduate accounting course, both courses offered over a 15-week period. Both courses are taught by the author.

Weber State University (WSU) offers a bachelor's degree in accounting. Majors typically take four years to complete the degree, which requires the completion of eleven three-semester-hour accounting courses. The research discussed in this paper took place in two sections of International Accounting (ACTG 3500). The course is required of accounting majors. The only accounting prerequisite is the first financial accounting course, although eighty percent of students have completed both Intermediate Accounting courses before taking the course. Between twenty and thirty-five students are enrolled in each section. Four sections are offered each academic year: one or two sections each semester and a section in the summer. The course was originally a master's level-course but was redesigned as an undergraduate course as part of the college of business and economics' international business certificate program. .

The course covers topics that affect financial accounting internationally, specifically international accounting standards relating to foreign currency transactions, translation of foreign currency financial statements, hedging foreign currency exposures, cross-border transfer pricing, international taxation, and so on. The course also discusses individual country differences in customs, regulation, business environment, and accounting. Various theoretical topics are examined that are relevant to an understanding of current issues affecting accounting and business globally such as agency, measurement, and efficient markets theories. A textbook is recommended but not required. The course does require extensive reading from online library databases and web sources. Students also have extensive resources available through WebCT including detailed Powerpoint presentations on every topic. Websites are made available on every topic and country assigned. The course is designed to provide students with the opportunity to consult a wide variety of sources on the topics assigned. In meeting course objectives, students must prepare four four-page research papers on assigned topics using at least six references (Jackson and Durkee 2008).

WSU also offers a master of accounting (MACC) degree which requires a minimum of 30 semester hours beyond a bachelor's degree in accounting. The professional accounting track of the MACC program includes 18-credit hours of required accounting courses, 3-credit hours of tax, and 9-credit hours of electives, selected from MACC and MBA courses. MACC 6160 is required of all MACC students in the professional accounting track (it is an elective for MACC students in the tax track). There are no MACC prerequisites for the course. Nineteen MACC students participated in the study. All were in the professional accounting track, fifteen of which were completing their MACC course work that semester.

MACC 6160 is designed to acquaint students with the theoretical and analytical skills necessary to understand and interpret financial disclosure. The focus is on equity valuation using accounting data. Students study the complications posed by distortions, biases, and under-disclosure or omissions of data; e.g., from capital structure, derivatives, inter-corporate investments, accounting restatements, corporate reorganizations etc. There is extensive

application of group work, class participation, oral presentations, and written assignments involving research and case studies. The final term project requires each student to select a company for analysis and valuation at the beginning of the course.

WRITTEN ASSIGNMENT

In both courses, students are assigned readings throughout the semester. The metaphor paper was assigned to be handed in at the end of the thirteenth week of the semester in both courses. Students were assigned two papers related to the metaphor assignment: “Accounting for Rituals” by Gambling (1980) and “America Online” by Briloff (1996). Gambling (1980) relates accounting to witchcraft, a rich metaphor in itself, and discusses the functions of accounting in a societal context. Briloff (1996) uses the Alice in Wonderland metaphor to excoriate AOL’s use of pooling and purchase accounting for acquisitions. In class, students discuss the Gambling and Briloff papers and the authors’ unique approaches to critical analysis of accounting issues, paying particular attention to the role of metaphor. Since students are exposed to critical analysis of a wide array of specific accounting principles and corporate disclosure throughout the two courses, they are well equipped when this assignment is given to use metaphor to analyze an accounting issue of their choice. One difference in student preparation for the metaphor assignment is that this was the third short research paper for ACTG 3500 students and, although MACC 6160 students have assignments throughout the course, this was their first research paper. As a caveat, fifty-eight percent of MACC 6160 students had taken ACTG 3500 at WSU prior to their master’s program.

Each student was given a copy of *Alice in GAAP Land* written by the author .

FIGURE 1 ALICE IN GAAP LAND

Lewis Carroll described a parallel universe of sorts for Alice, a world that made no sense only when it was compared to her own. Perhaps it was not so much a parallel universe as it was a dream world, a wonderland where Alice could interact with her fantasies. The fact of the matter, of course, is that there is no such place as Wonderland, yet at the time Alice’s dreams *seemed* real enough. Perhaps fantasy has more to do with the everyday than we care to admit. Could it be that accountants’ reality is as relative as our laws of physics seem to be? I am struck by the similarities between Alice’s Wonderland and accountants’ GAAP Land.

FANTASY NUMBER ONE: SENTENCE FIRST—VERDICT AFTERWARDS

“Let the jury consider their verdict,” the King said, for about the twentieth time that day.
“No, no!” said the Queen. “Sentence first—verdict afterwards.”

The public is the major client of the auditor, yet the public does not pay for audit services. Oh, some say, they really do because the investor public elects the board of directors who pick outside members to be on an audit committee who hire the auditors who are paid by managers whose activities are overseen by the board of directors and reviewed by the auditors. There you have it: a missing chapter for Carroll’s book.

Yet, I contend that underneath every well-mannered fantasy is a layer of truth, at times so delicate that it is like gossamer. The truth may be that the public is happy to believe in a thing, even if it is quite outrageous, as long as all goes well. It is troublesome but true that when fantasy motivates action, and things go awry, the sentence will always precedes the verdict. It may not work quite like that in the real world, but the logic makes perfect sense in GAAP Land.

FANTASY NUMBER TWO: REFRESHMENTS ARE ALWAYS SERVED AFTER THE FUNERAL

In the very middle of the court was a table, with a large dish of tarts upon it: they looked so good, that it made Alice quite hungry to look at them—“I wish they’d get the trial done,” she thought, “and hand round the refreshments!”

To change the metaphor: after the funeral, two events always occur in a specific order: (1) refreshments are served, and (2) the estate of the dearly departed is distributed to the Undead. Truth, it seems, is defined by the living. It is, therefore, survival that defines truth and truth is, after all, reality. Isn’t it?

The problem with this fantasy is that it is not quite so easy as it seems to distinguish the Dead from the Undead, which makes things quite complicated when one plans a funeral.

FANTASY NUMBER THREE: HALF FULL IS BETTER THAN HALF EMPTY, BUT EMPTY MAY BE MORE EXPENSIVE THAN BOTH

“Have some wine,” the March Hare said in an encouraging tone.
Alice looked all round the table, but there was nothing on it but tea. “I don’t see any wine,” she remarked. “There isn’t any,” said the March Hare.
“Then it wasn’t very civil of you to offer it,” said Alice angrily.

The polite thing for Alice to have done was *not* to ask her question in the first place. It is implied, but made obvious by the story, that no denizen of Wonderland would have asked it. In Wonderland, a young guest would have continued to look for the wine, in silence. The old and wise ones would not have asked, and not have looked, knowing full well that there was no wine to be had when it was offered. That way, the host is spared embarrassment. It seems, however, in Wonderland, the host was not the least bit embarrassed by Alice's rude question. That is the puzzle we should all stop to ponder.

In GAAP Land, we spend years and years going round and round and often end up with an offer of wine when there is none. Even when we have no wine on our table, we happily extend an offer to all to come and have a drink. The March Hare was willing to give the wine he did not have to Alice for free. In GAAP Land, we make people pay for the wine we do not have. All seem to agree it is worth every penny.

Alice might ask how a thing can be generally accepted if it is not generally accessible. Oh, it is, we would answer, as long as you have the money to buy it.

FANTASY NUMBER FOUR: MORE OF A GOOD THING IS BETTER THAN LESS

"I quite agree with you," said the Duchess, "and the moral of that is—'Be what you would seem to be'—or, if you'd like it put more simply—'Never imagine yourself not to be otherwise than what it might appear to others that what you were or might have been was not otherwise than what you had been would have appeared to them to be otherwise.'"

An example from GAAP Land will suffice to make my point. "All non-cancellable obligations must be capitalized" is not quite so grand as the thousands of pages of rules and interpretations that say the same thing. The former is common sense but the latter, far more precious, leads to a master's degree and professional certification!

It also seems to be true that the bigger a thing is, the easier it is to go around it. That's not true, of course, in the real world, but it makes perfect sense in GAAP Land.

FANTASY NUMBER FIVE: PIGS OUT NOT TO FLY

"Thinking again?" the Duchess asked, with another dig of her sharp little chin. "I've a right to think," said Alice sharply, for she was beginning to feel a little worried. "Just about as much right," said the Duchess, "as pigs have to fly...."

A Duchess in Wonderland is a regal person, all would agree. Alice was an entry-level newcomer, one of thousands who will always be new, no matter how long they tarry in Wonderland. Alice can expect her compensation to increase dramatically over time if she stays in Wonderland and stops asking impertinent questions (which seems to be her major problem). If she is a quick study, we will see her attitude brighten.

It is the Duchess herself who bears the risk, who manages her estates, who defends others of lesser rank, who, it seems, makes everything *work*. In a society where it is the rules that create social harmony, it makes sense, to me, that pigs ought not to fly, if the Duchess says so. But, if we take a step or two back and look at it, we would quickly come to the realization that *if* we gave pigs the right to fly, they would fly no better or worse than the Duchess herself.

Who decides what is what in GAAP Land? It is the Duchess and certainly not Alice and certainly not the pig.

FANTASY NUMBER SIX: NOBODY IS ON THE ROAD

“I see nobody on the road,” said Alice

“I only wish *I* had such eyes,” the King remarked in a fretful tone. “To be able to see Nobody! And at that distance too! Why, it’s as much as *I* can do to see real people, by this light!”

Alice never quite got it, I’m afraid. The King assumed nobody was somebody. In fact, nobody *is* somebody in Wonderland. A strange and difficult place, you say. GAAP Land is stranger still. We take an “unidentifiable intangible” and give it a name, goodwill—it is something, to be sure, but no one knows exactly what. I believe most reasonable people would say it is nothing that we have made into something, or perhaps it goes the other way around. We make the unknown nothing (or something) an asset: it is our “nobody” on the road. But wait. My tale becomes stranger still. We check our nobody to see if he’s *STILL* not there at the end of every year. And *IF* he is not there, we have to determine how much of him is still not there. If we determine he is less not there than a year ago, we write that much of him off. We call that impairment but it is much too complicated to discuss here.

FANTASY NUMBER SEVEN: BACKWARDS, MARCH!

“I don’t understand you,” said Alice. “It’s dreadfully confusing!”
“That’s the effect of living backwards,” the Queen said kindly: “it always makes one a little giddy at first—” “Living backwards!” Alice repeated in great astonishment. “I never heard of such a thing!”
“—but there’s one great advantage in it, that one’s memory works both ways.”
“I’m sure *mine* only works one way,” Alice remarked. “I ca’n’t remember things before they happen.”
“It’s a poor sort of memory that only works backwards,” the Queen remarked.

There is a clever trick to this one. The point is not that it is a bad thing to go backwards. That’s just the way things are in Wonderland. No reason to be glum. The Queen compensates. You see, there is little to be criticized for your *body* going backwards as long as your *face* is looking in the *right* direction, which is forward. If you look backwards, you merely see where you have already been, which is redundant. If you look forward far enough while going backwards, you will see where you have not been and never will be, which is visionary. And, that is a good thing in the short run. In the long run, however, if you march too far backwards while facing forward, you can have no hope that you will see where you never will be. That’s the danger, you see.

My only caution, here, is to say that the road changes with time whether one marches forwards or backwards. At some point in the future, someone not from GAAP Land will declare the obvious, that we have become irrelevant, in spite of the amount of our donations to his/her favorite charity.

FANTASY NUMBER EIGHT: TO AVOID AN ISSUE, CONTROL THE AGENDA

“Have you guessed the riddle yet?” the Hatter said, turning to Alice again.
“No, I give it up,” Alice replied: “what’s the answer?”
“I haven’t the slightest idea,” said the Hatter.
“Nor I,” said the March Hare.
Alice sighed wearily. “I think you might do something better with the time,” she said, “than wasting it in asking riddles that have no answers.”

The Hatter had asked Alice why a raven is like a writing-desk. We will never know the answer because the record is silent on the subject. But, let us probe more deeply. We assume the Hatter did not know because he said he did not. Can we trust the Hatter’s word on the matter? The question is, of course, irrelevant. My criticism is that there *is* an answer and we do not require the Hatter

to come up with it. I propose we form a committee of academics to study the subject. Perhaps market theory or agency theory has an answer for us.

The fact is, the Hatter and the March Hare were quite right and Alice was quite wrong. There is no waste in asking questions that have no answers. The waste is in not asking questions because your major constituents do not wish you to ask. The awful truth is that, by cutting off discussion, Alice assured that there would never be an answer. She, in effect, took control of the agenda. The Hatter and March Hare went along. It seems they decided that further discussion was pointless.

In GAAP Land, who determines the riddles we discuss and do not discuss? Is it the generals, the Duchess, Alice, the pig, who? The answer may be in who determines that time is or is not right for a question.

FANTASY NUMBER NINE: BELIEVE THE IMPOSSIBLE

Alice laughed. "There's no use trying," she said: "one *ca'n't* believe impossible things."

"I daresay you haven't had much practice," said the Queen. "When I was your age, I always did it for half-an-hour a day. Why, sometimes I've believed as many as six impossible things before breakfast...."

Alice was at least seven and a half when she decided that believing the impossible was a waste of time. I assume from the Queen's comment that she began thinking impossible things as a young girl and never stopped. Even though Alice does not seem to like her much, I believe the Queen was an able monarch. Alice wanted to play it safe. She had given up on the impossible; the Queen hadn't. Nevertheless, the Queen's days were numbered. Even in Wonderland, there are shifting paradigms. That is a point Alice should also ponder.

The moral: Alice, even as an outsider, could have become a successful reformer in Wonderland, but she needed a serious change in her attitude. I urge potential reformers of GAAP Land to sort fantasy from reality before they decide which is which. Oh, dear, I think that's impossible!

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RATING WRITTEN ASSIGNMENT

A rubric was developed for assessment of the written assignment. Instructional rubrics list the criteria used in grading a written assignment along with various levels of quality for each criterion (Andrade 2002). Students seem to prefer the rubric method of assessment because of its simplicity and perceived fairness (Smith 2008). By identifying specific criteria, expectations are identified and students have no choice but to use criteria listed in the rubric in completing the assignment in order to be successful (Harris 2008).

The rubric used here was adapted principally from examples of the Center for Teaching, Learning & Technology (2006) and the Foundation for Critical Thinking (2009) and includes the following factors based on emerging, developing, and mastering levels of quality for each:

- * Purpose: Demonstrates a clear understanding of the assignment's purpose.
- * Metaphorical reasoning: Defines the question, problem, or issue in terms of core issues using the metaphor assigned.
- * Conceptual reasoning: Identifies and considers the context of the issue or problem in terms of the information needs of capital providers.
- * Information collection: Gathers sufficient, credible, relevant information.
- * Interpretations and Inferences: Follows where evidence and reason lead in order to obtain defensible, thoughtful, logical conclusions or solutions.
- * Implications and Consequences: Identifies the most significant implications and consequences of the reasoning (whether positive or negative).
- * Effective communication: communicates effectively.

Figure 2
Rubric for Rating Critical Thinking Using Metaphor

Name: _____

Metaphor No. _____

A. Demonstrates a clear understanding of the assignment's purpose

Emerging		Developing		Mastering	
1	2	3	4	5	6
Does not attempt or fails to demonstrate understanding		Demonstrates understanding but some aspects are incorrect or confused. Nuances and key details are missing or glossed over.		Clear understanding of the purpose. Identifies integral relationships essential to analyzing the issue.	

B. Defines the question, problem or issue in terms of core issues using the metaphor assigned

Emerging		Developing		Mastering	
1	2	3	4	5	6
Does not relate the topic to the metaphor assigned.		Presents and explores relevant contexts and assumptions, in a limited way.		Analyzes with a clear sense of metaphorical context.	

C. Identifies and considers the context of the issue or problem in terms of the information needs of capital providers.

Emerging		Developing		Mastering	
1	2	3	4	5	6
Fails to evaluate significant points in terms of user needs		Presents understanding of user needs although inconsistently and superficially. Gaps may exist in logic.		Position demonstrates clear understanding of user needs related to the issue.	

D. Gathers sufficient, credible, relevant information

Emerging		Developing		Mastering	
1	2	3	4	5	6
No evidence of search, selection or evaluation of research		Demonstrates adequate skill in searching, selecting, and evaluating sources to meet information needs.		Evidence of search, selection and source evaluation skills; notable identification of salient resources.	

E. Follows where evidence and reason lead in order to obtain defensible, thoughtful, logical conclusions or solutions

Emerging		Developing		Mastering	
1	2	3	4	5	6
Uses superficial, simplistic, or irrelevant reasons and unjustifiable claims; Makes illogical, inconsistent inferences; Exhibits closed-mindedness or hostility to reason; regardless of the evidence, maintains or defends views based on self-interest		Follows some evidence to conclusions, but inferences are often unclear, illogical, inconsistent or superficial		Follows where evidence and reason lead and develops defensible, thoughtful, logical conclusions or solutions.	

F. Identifies the most significant implications and consequences of the reasoning (whether positive or negative).

Emerging		Developing		Mastering	
1	2	3	4	5	6
Fails to identify implications and consequences of reasoning		Conclusions consider or provide evidence loosely related to consequences of reasoning		Identifies, discusses and extends conclusions and consequences of reasoning in the context of data, evidence and logic.	

G. Communicates effectively

Emerging		Developing		Mastering	
1	2	3	4	5	6
In many cases, language obscures meaning; grammar, syntax, or other errors are distracting. Style is inconsistent.		In general, language does not interfere with communication. Errors are not distracting or frequent, although there may be some problems with more difficult aspects of style and voice. Format is appropriate although at times inconsistent.		Language clearly and effectively communicates ideas. Errors are minimal. Organization is clear; transitions between ideas enhance presentation. Consistent use of appropriate format.	

RESULTS

Sixty students completed the assignment, 43 students in ACTG 3500 and 17 in MACC 6160. Using the grading rubric, students in both MACC 6160 and ACTG 3500 generally did well, the only exception item 4, “Gathers sufficient, credible, relevant information” where ACTG 3500 students outperformed MACC students. Means for rubric items (using a six point scale, 6 being the highest) are found in Table 1.

Factors	Means MACC 6160	Means ACTG 3500
A	4.94	5.17
B	4.61	4.29
C	4.56	5.63
D	2.89	5.17
E	4.11	4.75
F	4.39	4.96

ACTG 3500 students had an advantage with research (item 4) because this was their third research paper, and they adhered to the specific requirements of prior papers. Even so, ambiguity regarding research expectations can be resolved by more specific guidelines on reference materials, sources, format, and quantity. Qualitatively, I saw no difference between the performance of master's students and undergraduate students on the assignment. Since the majority of ACTG 3500 students are seniors, this result was expected.

Topics selected by the students, found in Table 2, generally included topics covered in the course or suggestions included with the assignment.

Metaphor Number	Topics MACC 6160	Topics ACTG 3500
1	Auditing/Auditing profession	Auditing/Auditing profession Corporate governance Rules v. principles
2	Auditing/Audit failure	Accounting profession Valuation Governance/Disclosure Arthur Andersen Intangibles
3	Rules v. Principles Other Comprehensive Income	Earnings management Consolidated Financials Financial reporting/Cash flow Corporate Governance
4	Rules v. Principles	Leasing Rules v. principles Accounting regulation
5	Auditing Transparency	Rules v. principles Auditing /Audit failure Public accounting profession

Metaphor Number	Topics MACC 6160	Topics ACTG 3500
6	Intangibles	Efficient market hypothesis Intangibles
7	Mergers and acquisitions Valuation	Valuation Transparency
8	GAAP: leases, R&D Standard setting	Valuation Transparency
9	Standard setting	GAAP convergence Rules v. principles Goodwill impairment Valuation

DISCUSSION

The metaphor assignment accomplished a number of teaching objectives:

- * Critical thinking: students use reflective thinking and imagination to describe an accounting topic. By requiring them to think “outside the box,” students achieve a clearer basis for what they believe.
- * Metaphor: students use metaphor to describe an accounting topic in an unfamiliar context. By eliminating everything that does not fit the metaphor, students focus on one aspect of their topic in a novel way.
- * Research: students use research skills to link their conclusions to professional dialogue in the literature. This linkage back to the professional world helps them better understand the dynamics of professional criticism; i.e., owning their ideas within the professional world.
- * Communication/writing: students express their ideas in a logical and coherent way. The process of formulating opinions is not complete unless a student can justify and communicate effectively with others.

The metaphors in “Alice in GAAP Land” are a novel way of presenting points of view that are generally unfamiliar to students; they are, however, representative of common themes in accounting criticism. The metaphor approach requires students to analyze an accounting issue using an unfamiliar context, essentially thinking “outside the box.” Their analysis through Alice’s eyes also requires the application of critical thinking skills of imagination and reflective

thinking since their analysis must be within the context of the metaphor; i.e., seeing a topic through someone else's eyes, someone who may not be "seeing" in a traditional academic way. Walters-York (1996, 57) describe this process as metaphoric defamiliarization, "making the routine or ordinary seem strange or different by presenting it in a novel light, by placing it in an unexpected context, or by articulating it in an unusual manner." An example of this approach is Gambling (1987) comparing accountants to witch doctors or Page (2005) analyzing the process of formulating an accounting conceptual framework in terms of searching for the holy grail or hunting a snark, two familiar metaphors in literature. The addition of a research requirement disciplines students' arguments and involves them in accounting criticism in the literature. In searching for support for the view derived from the metaphor, students discover professional views that are coherent with those that Alice might also share.

CONCLUSION

The addition of metaphor in the accounting curriculum is one method that can take the curriculum beyond the mere learning of rules. By acquainting students with the energy of debate, teachers can reenergize traditional accounting pedagogy. When students are engaged in the creative side of the accounting profession, that side that considers public interest, transparency and critical thinking, they are more likely to understand the needs of the professional. In a changing world, students should develop skills early in their studies that take them beyond the mastery of rules. The application of metaphor is one addition to a teacher's palette of possibilities.

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USING THE BLACKBOARD CMS TO DEVELOP TEAM WORK SKILLS IN UNDERGRADUATE MARKETING PRINCIPLES CLASS

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ABSTRACT

Businesses increasingly seek graduates from business schools who can demonstrate strong communication and collaborative skills. Further, accrediting agencies such as the AACSB now require that member and candidate schools document how such skill development is delivered and documented. This paper details the use of one course management system (CMS), Blackboard, in helping faculty organize, manage, and document student work groups. Key advantages of the Blackboard CMS include asynchronous collaboration, tracking features for monitoring individual contributions to group work, and a permanent record of participation to aid faculty in assessing individual and group grades as well as providing illustrative data to accrediting agencies on how the school measures the development of team building skills.

INTRODUCTION

Speaking in a recent interview at the Columbia School of Business, financier Warren Buffet was asked about the single most important business skill MBA students could acquire. Without hesitation, Buffet named communication skills as the most important, especially in relation to getting teams to work together towards a common goal. Of the prospects of the Columbia graduates, Buffet said all of them had bright futures, offering to give any of them \$100,000 today for 10% of their lifetime gross earnings. If they developed team building communication skills, Buffet continued, he would offer them \$150,000 (Buffet, 2009).

If business leaders such as Warren Buffet recognize the value of communication and team building skills in particular, reformers from both outside and inside academia have focused on the problem of workforce preparation more generally (Hartley, Mantle-Bromley, & Cobb, 1996). Managers had complained that schools failed to teach graduates the team approach to problem solving (Porter & McKibbin, 1988), and the Government-University-Industry Research Roundtable (1990) reported that graduates lacked knowledge in a team approach to problem solving. Usluata (1997) reported that students spend much time in school learning to be

competitive and earning the highest scores but lack the teamwork skills necessary for the competitive world of business.

Within the business curriculum, some courses are designed to foster the development of team work skills. For example, Business Communication courses utilize several techniques to encourage the development of teamwork such as cooperative learning, collaborative learning, group techniques, and active learning (Chalupa, Sormunen, & Charles, 1999; Hershey and Wood, 2006). According to Johnson, Johnson, and Holubec (1994), students maximize their own as well as other's learning through cooperative learning. For example, Simendinger (2008) notes the use of dyadic exercises to develop team skills in advance of grouping students into term project work groups. Similarly, after using team learning projects for over eight years, Metheny and Metheny (1997) reported that their students attained higher levels of learning than with the traditional lecture format. What we suggest here is that these same techniques can, and should be, extended beyond the entry-level communications course into other courses in business. In this paper, we propose extending these techniques for developing team work skills in the marketing principles course.

Team projects can utilize face-to-face or computer-mediated activities (Warkentin, Sayeed, & Hightower, 1997), and e-mail is a popular computer-mediated tool to help students communicate (Extejt, 1998). A Gallup poll found that 90 percent of all businesses use e-mail (Dichter & Burkhardt, 1996), and Ku (1996) found younger employees more likely to use e-mail. Dillon (2004) reported that managers stress the importance of teaching e-mail clarity as our correspondence becomes more electronic and global.

Since managers often work in geographically dispersed teams, Kaiser, Tullar, and McKowen, (2000) chose a human resources project to prepare their students for future management roles. Students from two schools in North Carolina and one in Worms, Germany, formed search committees and watched digitized videos of job interviews. Teams then participated in electronic meetings that led to group consensus.

Another mock job interview activity for a business course at the Chinese University in Hong Kong was developed from criteria gathered from interviews with more than 30 recruiters from different companies. The student interviewers formed panels of three students and interviewed three candidates. The panels then had to come to consensus on the evaluation as well as an appropriate grade for the candidates (Lundelius & Poon, 1997).

Both oral and written communication, are also emphasized by the Association to Advance Collegiate Schools of Business guidelines (AACSB, 2009). Previously, such emphasis often focused on standardizing input measures of learning. For example, noting the difficulties in developing cross-functional and team-skills, Rollag (2008) cites the practice at Babson College of requiring students to take 3 basic classes as a cohort, with an emphasis on learning and practicing team-skills in different functional areas. Extending this input focus with the extension of IT, Garska (2008) reports that MBA faculty at Yale University use web-based

templates to teach students case analysis writing. Such “best practices” can provide business faculty across disciplines with AACSB sanctioned approaches to learning inputs.

However, the AACSB is increasingly looking to schools of business to provide output measures of learning, referred to as “assessments of learning,” or AoL (AACSB White Paper, 2007). Of these, the most often used are course-embedded measures, in which the assessment measure is inherently part of the course. As such, these measures are transparent to the students as they do not involve something external to the course, such as stand-alone testing after the class is over.

A distinction of AoL measures is that they have a permanent record of performance because they are used both to assess student performance and to assess program effectiveness:

“Course-embedded” measures relate to specific course assignments in a class where the students’ work on that assignment may also be used for outcomes assessment purposes. In the course embedded method, course assignments or other student demonstrations from a course are evaluated for the purposes of AoL through a separate, distinct process that is driven by criteria established by the faculty (plural). For example, if a case from a marketing class is used to assess students’ writing skills for AoL purposes, it will be evaluated twice: once according to the professor’s criteria for a case grade for the course, and a second time according to the faculty’s (plural) criteria for effective written communications. [AACSB White Paper, 2009, p.9]

This dual nature of assessment suggests that IT can play an effective role in the accreditation AoL process. The current paper expands upon this interest in developing effective collaboration skills and the use of IT in the workplace by detailing the use of the Blackboard Course Management System (CMS) software in helping students in a required Marketing Principles course develop planning, collaboration, and group communication skills.

TEAM-BUILDING FEATURES OF BLACKBOARD

Interest in using IT solutions to provide innovate approaches for delivering marketing content are not new. For example, an entire issue of the *Marketing Education Review* is dedicated to the topic of technology integration in the teaching of marketing (Malhotra, 2002). Consistent with this trend, Albers-Miller, Straughan, and Prenshaw (2001) identify 21 teaching activities that can be considered innovations in marketing education, including, developments utilizing an “untried teaching method,” interdisciplinary integration, and “emerging tools and technology” (252). Even more, emerging trends suggest the inevitability of increasing commingling of teaching methods based upon rapidly developing interface technologies that will challenge instructors of marketing principles courses to more radically embrace the use of

internet and IT-based CMS interfaces (e.g., Arbaugh, 2005; Close, Dixit and Malhotra, 2005; Evans, 2001; Hernandez, 2002).

The Blackboard Course Management System (CMS) software is a popular distance education course delivery system in use at many US universities. The typical user interface consists of nine default course buttons along the left column with an announcements page showing. The default buttons are, in order, announcements, course information, staff information, course documents, assignments, communication, discussion board, external links, and tools. Each button accesses additional course management tools relative to that button's overall heading. While this paper discusses use of these default options, it is important to note that professors can customize the layout and presentation of the Blackboard CMS to create additional buttons, rearrange their presentation, or show fewer or more buttons as desired.

The buttons allow professors to place information students need throughout the course in an easy to access digital storehouse. For example, the course syllabus and PowerPoint slides for lecture can be placed under course documents. Similarly, examinations can be placed in the assignments button. Additionally, the professor can choose to have any or all such documents accessible on demand, throughout the course, or for specific time periods of limited availability, such as a timed mid-term exam.

However, the Blackboard CMS provides more than a convenient online storehouse for course documents. It also provides a flexible infrastructure that can be used by the professor to design a more robust learning environment tailored to meet course-specific goals than is possible with traditional chalk and talk lecture formats alone. For example, most business courses require some portion of the course to be based upon group collaboration in order to help students apply the concepts of business in group setting in the workplace. This is especially true of the marketing principles course.

The marketing principles course often entails the need for student groups to work together outside of class on assignments ranging from small group dynamics exercises, to decision-making assignments, to group presentations of business concepts such as seminar selling and team selling. For these types of assignments, the Blackboard CMS can be utilized to improve student learning by creating an infrastructure for each group not available in traditional lecture formats.

Under the Communication button, the Blackboard CMS offers a number of default features for facilitating group meeting and group work. The seven default folders under Communication include announcements, collaboration, discussion board, group pages, messages, and roster. For the professor, the Blackboard CMS can be "populated" with specific groups for specific assignments. For example, within the group pages folder, the professor can create as many groups for an assignment as are needed for the class. Thus, if the class has 25 students, each student assigned to one of five groups, then the professor creates five different group pages of five students each. Inside these group pages, the professor can enable a number of default collaboration tools including topic-specific discussion boards, chat rooms, file exchange, and

email functions that are available ONLY to those in the group. This feature allows group members to have their own “conference room” available on demand and in whose digital space they can share and develop their projects without interference from the work of other groups.

In addition to meeting the needs of the marketing principles course, the Blackboard CMS also offers some unique advantages over traditional group meeting formats including asynchronous collaboration, tracking features, a permanent record of group member’s contributions, and a mechanism for helping faculty and administrators collect data for accrediting agency reports. Each of these features is discussed in turn:

Asynchronous Collaboration

Among the most valuable features of the Blackboard CMS is the ability of students to work in asynchronous collaboration. Students in today’s business schools are increasingly non-traditional. Compared to traditional 18-22 year old full time resident students, many business students today are older, married, divorced, working full or part time away from campus, have children or family obligations that make scheduling out of class, face to face group meetings difficult. But the Blackboard CMS creates meeting rooms that are always available and in which students can “meet” and “converse” at their individual convenience, making much of the logistics of traditional meetings less time intensive.

Tracking Features

Another feature of the Blackboard CMS is the ability to track how many times each feature is used and for how long. For example, if a group assignment requires a group meeting of 30 minutes to set an agenda for a problem-solving exercise, then a discussion board can be set up to log the amount of time each person is present. A chat room can accomplish the same thing, though the chat room used this way necessarily requires synchronous participation. To make use of the asynchronous feature within a time requirement, the professor should convert the amount of time discussion should take into some number of words or paragraphs. A bonus feature for faculty is that the data generated by this feature can be used to develop research for publication comparing variables of interest across sections.

Permanent Objective Record of Group Member Contribution

Flowing from these first two features is the creation of a permanent objective record of each group member’s contribution. Tracking features can be enabled for all Blackboard tools, so a professor so inclined can verify whether a student has visited tools placed in other buttons, logged in to required chat rooms, provided contributions to a discussion board, and of course, taken online examinations when required. By making such a record of course participation

objective, the professor can take much of the guess work out of determining the value of a student's actual work in the class. Likewise, as with the tracking feature above, this record can be used for analysis of student outcomes for pedagogical research.

Meeting Accrediting Agencies Needs for Data

Finally, because all the record keeping functions of the Blackboard CMS are digital, it is relatively easy to access those records across courses to provide evidence of effectiveness for reports to accrediting agencies. Time pressed faculty especially should benefit from such requirements as the course design and implementation, as recorded in the Blackboard CMS, allow quick summarizing of effectiveness linked to specific features of the course. Such features are consistent with AoL practices for course-embedded measures (AACSB 2007).

CONCLUSION

The Blackboard CMS can enhance group learning by providing new and more flexible means for students to pool their collaborative efforts for group assignments. By providing a forum for asynchronous collaboration, the Blackboard CMS can help alleviate time constraints, allowing students to participate in meeting within a given time period, such as a day, while not requiring the coordination of individual schedules. The tracking feature of the Blackboard CMS also provides an incentive to students to log in their "time on task" that can be verified for credit by the professor. This particular feature may stimulate a larger context of group marketing principles skill development if students who are normally shy about speaking up during an in-class group exercise find that the online format allows them to show their communication skills without the imagined risks that public speaking seems to bring. The permanent record of all meetings allows professors to judge group member "participation" rather than relying on self-reports by students. Finally, as professors and administrators prepare data in support of how they fulfill their mission to accrediting agencies, the record keeping function of the Blackboard CMS easily converts to tabulation in school reports (Dubas and Hershey, 2005; 2006).

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INDIVIDUAL DIFFERENCES IN MANAGEMENT EDUCATION: THE EFFECT OF SOCIAL SUPPORT AND ATTACHMENT STYLE

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ABSTRACT

Recent research in management education has focused on the use of technology, innovative instructional methods, and other techniques to enhance the effectiveness of management education. However, management education may be impacted, not only by the use of technology and instructional methods, but also by the individual differences of the students receiving instruction. This paper investigates the relationship of two understudied individual characteristics, perceptions of social support and attachment style. Do students perform better academically when they receive social support and have a particular attachment style? Contrary to expectations, results indicate social support is not related to a student's academic performance. There was also no relationship between the interdependent or overdependent attachment styles and student academic performance. There was however a negative relationship between the counterdependent attachment style and GPA. Additionally, there was a negative relationship between the counterdependent attachment style and social support. Findings are discussed with implications for retention and graduation as well as recommendations for student mentoring programs and supportive team projects.

INTRODUCTION

It is essential to learn and apply effective management education techniques in order to prepare today's students to become impactful organizational leaders. The field of management education involves successfully transferring explicit and useful knowledge about an organization to students. Some keys to being an effective manager include continuously assessing the external environment, staying abreast of the current trends in the world, and engaging in lifelong learning. There have been a number of changes in management education to enhance effectiveness such as a focus on globalization, technology, demographics, and competition (Rothwell and Ghelipter, 2003). Management education has focused on the use of technology, innovative instructional methods, and other techniques to enhance the effectiveness of management education (Campbell, 2000), but these factors alone may not tell the whole story.

Some research has investigated factors such as course curriculum and instructional techniques as determinants for successful managers. Parnell and Lester (2007) discussed the merits of the traditional scientific approach to management education versus an entrepreneurial education that emphasizes experience in business. Their discourse ends with the recommendation that all business students should complete both traditional core courses that provide scientific knowledge and also entrepreneurial courses that allow artistic creativity in uncertain environments (Parnell and Lester, 2007). They suggest that this combination will provide the tools necessary to train students to become successful as managers or entrepreneurs. Umbach and Wawrzynski (2005) utilized archival data to study the relationship between student learning and the educational and cultural context created in the classroom by faculty. They concluded that learning techniques emphasized in the classroom had a significant impact for student engagement and learning (Umbach and Wawrzynski, 2005).

While this research has merit there is an important shortcoming that may have been overlooked in management education. Management education may be impacted, not only by the use of curriculum and instructional methods, but also by the individual differences of the students receiving instruction. Individual characteristics such as personality, beliefs, values and perceptions may affect academic performance and therefore influence the effectiveness of the education process. Westerman, Nowicki, and Plante (2002) conducted a study on the relationship between learning environments and student outcomes and found that congruence in personality between the teacher and student was a predictor of student performance. In a more recent study, Backhaus and Liff (2007) investigated the relationship between the cognitive styles of undergraduate business students and their grade point average, hypothesizing and finding a significant correlation. Cognitive style was discussed as an individual difference variable that is a stable mental characteristic not unlike one's personality. These results indicate the importance of individual differences in academic performance and ultimately classroom effectiveness.

Two individual differences that have been underutilized in management education but should be relevant for success are attachment styles and perceptions of social support. Attachment style indicates one's propensity for seeking and receiving help or assistance, while perceptions of social support describe one's belief that help is available when needed. Attachment styles have been used to help understand individual differences in the formation of interpersonal relationships and emotional attachments. The attachment style developed in an individual's early life span is systematically related to behaviors in early adulthood and later life (Diehl, Elnick, Bourbeau, & Labouvie-Vief, 1998). Social support has been associated in the literature primarily with positive health outcomes such as stress buffering, and protection against both morbidity and mortality (Quick, Nelson, Matuszek, Whittington, & Quick, 1996). Individuals who possess good social support systems become ill less frequently and live longer, while those who are socially isolated experience adverse health outcomes. An interesting conclusion from the Umbach and Wawrzynski study (2005) was students do not seek support

from faculty. Given this finding, we asked the question did students believe help was not available to them or were they going to another source for assistance?

In this paper, we investigate the relationship between attachment style, social support and the performance of students. We begin with a description of social support and its link with academic performance followed by a discussion of attachment style and its relationship with academic performance. We then suggest a link between social support and attachment style. Finally, the results are presented and the potential impact of these findings on management education is discussed.

SOCIAL SUPPORT

Social support has been defined as an exchange of resources by two individuals, a giver and a receiver, to improve the well being of the receiver (Shumaker & Brownell, 1984). Early research focused upon the types of social support individuals received from others. House (1981) classified social support as four types of supportive behaviors or acts: emotional, instrumental, informational, and appraisal support. Emotional support is defined as behaviors that show care for the person, which includes such behaviors as concern, empathy, trust and willingness to listen. When individuals think of people being "supportive" towards them, many think mainly of emotional support. Instrumental support involves behaviors that provide assistance, such as doing someone's work, giving them money, spending time assisting them, and modifying the environment for their needs (House, 1981). Thus, while emotional support involves expressions of concern, instrumental support involves direct aid or assistance.

Informational support means providing a person with information that can be used in coping with personal and environmental problems (House, 1981). Informational support, unlike instrumental support, involves providing persons with information that they can use to help themselves. Examples of informational support include advice, suggestions, directives and information. Appraisal support, like informational support, is characterized by giving information; however, the information is given for self-evaluation (House, 1981). Appraisal support is given as feedback, an affirmation, or for social comparison, in contrast to the affect involved in emotional support or the aid involved in instrumental support. When other people provide feedback they become sources of information that individuals use in evaluating themselves.

In summary, individuals can receive four kinds of social support: emotional, instrumental, informational, and appraisal. In order to have a well-developed network of support, individuals need not only multiple forms of support; they need multiple sources of support. Well-being is facilitated by a variety of support providers, including family members, peers and friends.

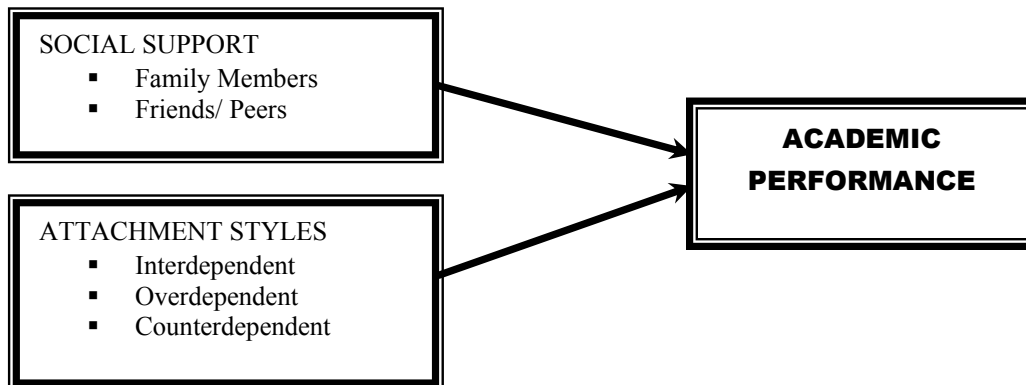
Previous research has shown perception of social support is related to individual differences. For example, Chay (1993), in a sample of entrepreneurs, investigated the

relationship of social support, personality, and stress. The personality dimensions assessed were extraversion, neuroticism, interpersonal locus of control, personal efficacy, and need for achievement. Results of this study indicated that all personality factors predicted perceived social support. Extraversion, interpersonal locus of control, personal efficacy, and need for achievement (hopes for success) were positively associated with social support, while neuroticism and need achievement (fears of failure) were negatively associated with social support. In addition, social support enhanced employee well being by buffering the effects of stress.

SOCIAL SUPPORT AND PERFORMANCE

Hupcey (1998), in a review of 200 studies, discussed the multidisciplinary role of social support in such areas as medicine and psychology. Social support has been studied mainly in relationship to health outcomes and personality factors although a limited number of studies have found a link to academic performance. Richman, Rosenfeld and Bowen (1998) investigated the relationship of social support to grades, self-efficacy and prosocial behavior with middle and high school students. In a longitudinal study of Chinese university students, social support from parents and peers had a significant positive relationship on academic adjustment (Tao, Dong, Pratt, & Hunsberger, 2000). These studies suggest the following as shown in Figure 1:

FIGURE 1



Hypothesis 1: Social support from all sources (family members, friends and peers) will be positively related to academic performance.

ATTACHMENT STYLES

Attachment theory was developed by Bowlby (1982; 1988) who proposed that adults relate to others based on the interactions they had with their mothers or primary caregiver during infancy. The availability and responsiveness of the caregiver lead to the development of internal working models of relationships with others. Ainsworth, Blehar, Waters, and Wall (1978) extended Bowlby's work on infant/parent relations to propose three primary attachment styles: secure, avoidant, and anxious-ambivalent. Further, Hazan and Shaver (1987; 1990) demonstrated that these attachment orientations extended into adult years and refined the dimensions of secure, avoidant and anxious-ambivalent attachment styles to interdependence, counterdependence, and overdependence, respectively.

According to Hazan and Shaver (1987; 1990), interdependents have functional and supportive relationships with mutual and cooperative interchange. Counterdependents shy away from any support from others and have few relationships with others because they believe they can only depend on themselves. In contrast, overdependents act helpless and are preoccupied with seeking support from others. Diehl, et al. (1998) investigated attachment styles and their relationship to family context and personality variables. They concluded that attachment styles are important not only for early personality development, but also are related to individual differences in adulthood.

ATTACHMENT STYLES AND PERFORMANCE

Attachment theory has been historically utilized in developmental psychology research, but is currently being investigated in the management literature. Attachment theory has mainly been investigated in the context of personal relationships. It has only recently migrated into the management literature and has not been studied in relationship to academic performance. Other studies however have supported the relationship between attachment style and performance outcomes. Hazan and Shaver (1990) found that interdependents adjusted better to work situations and had fewer worries about performance and their peers than counterdependents or overdependents. Counterdependents preferred to work alone and avoid interpersonal relationships and although overdependents preferred to work with others, they had a tendency to feel underappreciated and suffer from a loss of self-esteem. Hardy and Barkham (1994) supported these findings with a study of clinically depressed white-collar workers. They found significant relationships between both overdependents and counterdependents and dysfunctional outcomes such as anxiety and arguing with peers. The following hypothesis is posited as shown in Figure 1:

Hypothesis 2: An interdependent attachment style will be positively related to academic performance, while an overdependent or counterdependent attachment style will be negatively related to academic performance.

ATTACHMENT STYLES AND SOCIAL SUPPORT

A fruitful avenue for understanding the relationships between social support and health is to explore personality factors associated with social relationships (Uchino, Cacioppo and Kiecolt-Glaser, 1996). One potential explanatory factor for the receipt of social support is attachment style. Joplin, Nelson and Quick (1999) conducted a study of working college students to investigate the relationships among attachment orientations, perceived social support, and health. Results indicated that interdependence was related to positive health outcomes, while counterdependence and overdependence were related to a variety of negative health outcomes. Counterdependent individuals reported lower levels of support from a variety of sources. Ognibene and Collins (1998) also conducted a study of college students to investigate the relationships among attachment orientations and perceived social support with coping strategies. Their results indicated that secure individuals perceived more support was available from family and friends than dismissing, preoccupied or fearful individuals. Secure individuals also sought more social support in response to stress without using escape/avoidance strategies.

Several studies on the relationship of attachment styles to the patterns of self-disclosure, or the way persons reveal themselves to others, indicate that interdependents and overdependents were more open with others (Mikulincer & Nachshon, 1991). Not only did interdependents and overdependents disclose more, but more of what they told others was personal information about them. In addition, interdependents also were responsive to personal information received from others. Research on self-disclosure has determined that being willing to reveal ones' self to another is paramount to the development of interpersonal relationships (Altman & Taylor, 1973). Also, the lack of self-disclosure has been positively associated with feelings of isolation and dissatisfaction with one's social network. Individuals who interact effectively with others are more likely to receive social support, thus:

Hypothesis 3: An interdependent attachment style will be positively related to family social support and an overdependent or counterdependent attachment style will be negatively related to family social support.

METHODOLOGY

Questionnaires were completed by 304 undergraduate students enrolled in management classes at three universities. The students were given five points extra credit towards their overall grade for completing the questionnaire during class time. The mean age of the students was 22.46 (with a standard deviation of 4.12); the gender was 59% male and 41% female. Fifty six percent of the students had part time employment and 12.5% were employed full time.

Social support

Social support was assessed by asking subjects their perception of support from two sources: family members and friends/peers. Family members included spouse as well as other members of the family (e.g., parents, siblings, etc.) Each source of social support was measured using 23 items taken from two other measures: House and Wells (1978) social support measure and the Job Content Questionnaire (JCQ) (Karasek, Brisson, Kawakami & Amick, 1998). Four types of social support (emotional, instrumental, informational and appraisal) were included. A Likert response format scale of 0-5 was utilized where zero was strongly disagree and five was strongly agree. Some examples of the items were: "My family members are willing to evaluate my school work." "I can talk to my family members if I have a problem at school." "My friends/peers are willing to listen to my school-related problems." "My friends/peers have loaned me books or other aids for my school work." The reliability estimate (coefficient alpha) for this measure for family was .94 and .93 for friends. Given most prior research utilized the overall measure of social support, the same was done in this study.

Attachment Styles

Participants completed the Self-Reliance Inventory II (Quick, Joplin, Nelson and Quick, 1999) which was developed to measure three attachment styles: counterdependent, interdependent and overdependent. Participants completed 31 items using a 0-5 Likert scale where 0 was strongly disagree and 5 was strongly agree. Some examples of the items were: "I would rather not depend on anyone else." "I feel secure in my ability to meet life's challenges." "I can perform high quality work with little support from others." "Independence is important to me." The reliability estimates (coefficient alphas) for the subscales were: .85 for counterdependent; .69 for interdependent; and .65 for overdependent.

Performance

Performance was measured by the student's cumulative grade point average. The cumulative grade point average was obtained from the school registrar, with the student's

permission. The cumulative grade point average did not include courses taken at any other universities.

Control Variable

ACT composite scores were used as a control variable in this study. ACT scores can range from 1 to 36 and are the second most widely used college admission tests. The most current ACT scores were obtained from the school registrar.

RESULTS

Table 1 shows the means, correlations and standard deviations for all measures. Neither social support from family nor friends/peers was significantly related to performance (i.e., GPA). Correlations did indicate a significant negative relationship between the counterdependent attachment style and GPA ($r = -.19, p < .01$), and a significant positive relationship between interdependence attachment style and GPA ($r = .14, p < .05$). The counterdependent attachment style has a significant negative correlation with support from family ($r = -.25, p < .01$), as well as support from friends/peers ($r = -.33, p < .01$). The interdependent style also has a significant positive correlation with support from family ($r = .12, p < .05$), and friends/peers ($r = .14, p < .05$).

Regression analyses were conducted to determine whether social support and/or attachment styles could predict GPA. A two-step hierarchical regression was performed. Step one included the control variable, ACT. The second step included social support from family and friends/peers to see if they would account for any additional variance. ACT was predictive of GPA, $F(1, 201) = 79.96, p < .000$, and accounted for 28% of the variance ($\text{Adj. } R^2 = .281$). The second step did not account for any additional variance and neither family nor friends/peers social support were significant predictors of GPA; thus, hypothesis 1 was not supported.

In a second two-step regression was conducted, with ACT and the three attachment style dimensions entered to see if they would predict GPA. In the first step, the control variable of ACT was predictive of GPA $F(1,196) = 82.38, p < .000$, and accounted for 29% of the variance ($\text{Adj. } R^2 = .292$). The second step accounted for an additional variance in GPA (4%), $F(4, 193) = 24.68, p < .000$; however, only counterdependence was significant ($\beta = -.19, p < .01$) beyond ACT. This provided partial support for the second hypothesis.

Two additional regressions were conducted to determine whether or not the dimensions of attachment style were predictive of social support for family members and/ or friends/peers. The three dimensions of attachment style were predictive of family social support, $F(3, 292) = 11.90, p < .000$, and accounted for 10% of the variance ($\text{Adj } R^2 = .100$). Partially supporting the third hypothesis, each dimension was a significant predictor of the dependent variable: counterdependence ($\beta = -.27, p < .000$), overdependence ($\beta = .18, p < .01$), and interdependence

($\beta = .17, p < .01$). The three dimensions of attachment style were predictive of friend/peers social support, $F(3, 291) = 19.59, p < .000$, and accounted for 16% of the variance ($\text{Adj } R^2 = .159$). Each dimension was a significant predictor of the dependent variable: counterdependence ($\beta = -.34, p < .000$), overdependence ($\beta = .22, p < .000$), and interdependence ($\beta = .19, p < .001$).

Separate analyses by gender and racial groups were conducted as a result of detecting gender and racial group differences in GPA. Among the separate gender results, the simple correlations with GPA and social support, as well as attachment style, did not show any significant relationships for men; however, for women, a significant negative correlation was found with counterdependence and GPA ($r = -.25, p < .01$) and a significant positive correlation between interdependence and GPA ($r = .28, p < .01$).

The participants were divided into two racial groups: minority and non-minorities. For the minority group ($n = 74$), there was a positive significant relationship between GPA and social support from friends/peers ($r = .31, p < .01$), while social support was not significant for neither family nor friends for non-minorities ($n = 225$). A significant negative relationship was found between the counterdependence attachment style and GPA for minorities ($r = -.28, p < .05$). Similarly, a significant negative relationship was found between the counterdependence attachment style and GPA for non-minorities ($r = -.14, p < .05$).

In an effort to better understand why the hypothesized support was not found for social support, we evaluated the relationship at the dimension level. For women, a significant positive relationship was found between GPA and emotional social support ($r = .23, p < .05$), and appraisal social support ($r = .19, p < .05$) from family. None of the dimensions were significantly related to any dimension from friends/peers for women. Further, there were no significant relationships found for men related to social support from family or friends/peers. With regards to the racial groups, significant positive relationships were found between GPA and appraisal social support ($r = .27, p < .05$) from family, and emotional social support ($r = .27, p < .05$), appraisal social support ($r = .26, p < .05$), and informational social support ($r = .33, p < .01$) for minorities. For non-minorities, there were no significant relationships found related to GPA and social support for either family or friends/peers.

TABLE 1: Means, Standard Deviations, and Correlations

Variables	Mean	S.D.	1	2	3	4	5	6
GPA	2.91	0.56						
ACT	22.85	3.99	.53**					
Family Social Support	91.02	17.87	0.1	0.07				
Friends Social Support	83.02	17.06	0.02	0.06	.17**			
Overdependent	19.5	4.87	0.07	0.03	.12**	.13**		
Counterdependent	29.7	10.53	-.19**	-0.1	-.25**	-.33**	0.09	
Interdependent	40.13	4.57	.14*	.19**	.12*	.14*	-.28**	-.01**
**significant at the .01 level								
* significant at the .05 level								

DISCUSSION

The relationship between individual differences and academic performance is important to management education. The results of this study indicate this is particularly true for students with a counterdependent attachment style. Counterdependents are more likely to have lower academic performance and may not receive social support. These findings could have serious implications for retention and graduation rates. Counterdependents believe no will help them and this study would seem to provide some evidence to support that belief. Students with a counterdependent style may benefit from advisors and/or mentors that understand their reluctance for forming interpersonal relationships and can help them discover the benefits of healthy attachments. Schlee (2000) reviewed the mentoring programs of 154 universities in forty one US states and concluded that mentorship programs for business students were beneficial for insecure students who needed reassurance about working in organizations. These results may also impact the formation of teams for student learning. Students with counterdependent styles could have detrimental effects on teamwork without support and guidance from other group members. Workshops may need to be developed that will prepare team members for working effectively in student project groups.

During our post hoc analysis, we determined there were gender and racial differences in GPA. Women were more likely to have a higher GPA if they had an interdependent attachment style and a lower GPA with they have a counterdependent attachment style. In addition, emotional and appraisal support from family was instrumental for a higher GPA. For minorities, social support from friends/peers was important for a higher GPA. Minorities also had a lower GPA if their attachment style was counterdependent. Also, appraisal support, emotional support, and informational support from family were important for higher GPAs. These results indicate women and minorities may need more social support for academic performance than men and non-minorities.

There are limitations to this study that should be addressed in future research. The study was cross-sectional and although GPA was used as an objective measure of performance, it does not capture the demands of various courses. Some students may elect to enroll in courses that are not as demanding as others. Likewise, some methods of learning (i.e., case studies, applied or interactive courses, etc.) may be more challenging to some students. These differences could affect the aggregate measure of GPA used in this study. Despite the limitations, this study has extended the research in management education to address how two individual differences, social support and attachment style, may impact academic performance. Attachment styles have not been previously examined as a variable related to academic performance. This study indicates that this shortcoming may have serious implications in management education for counterdependent students.

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AN EXPLORATORY STUDY OF CLASS PRESENTATIONS AND PEER EVALUATIONS: DO STUDENTS PERCEIVE THE BENEFITS?

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ABSTRACT

This study examines students' perceptions of how class presentations and peer-evaluations contribute to their learning and skill-building, and whether their perceptions significantly differ by gender. The data were collected from marketing students at two universities in the United States. This study found that students generally perceive that class presentations contribute to their learning and skill-building. The results indicate that students seem to benefit from peer-evaluations through more active engagement in class presentations. No consistent patterns of variance in perceptions of presentations and peer-evaluations were found between males and females at both universities as well as across universities, suggesting that class presentations and peer-evaluations are equally beneficial for all students regardless of their gender and/or university they are at.

INTRODUCTION

Student presentations are a common part of many courses at colleges and universities as they are one of the ways to improve learning of course material. The potential benefits of student presentations include greater class interaction and participation, increased interest in learning, new perspectives not covered otherwise, and improvement in communication and presentation skills. Students can gain knowledge not only from the research they and other students perform, but also by observing the other presenters' strengths and weaknesses to develop better communication and presentation skills. Despite the positive aspects of using student presentations in the classroom, some students may show resistance to do extra work, have fear in public speaking, and display boredom while sitting through others' presentations if they are not engaged with the experience. Therefore, such students may have generally negative beliefs about giving classroom presentations.

In addition to the expected potential benefits of class presentations for presenters, the question is whether the audience (non-presenting students) benefits from class presentations. It is hoped and expected that non-presenting students in the class could also benefit from student

presentations. These potential benefits for non-presenting students include learning different perspectives about the course material and improving communications skills by observing others. As with any presentation, the challenge is to get non-presenting students to pay attention and to be engaged in the learning experience. One way to overcome this challenge is to ask non-presenting students to evaluate the presentations (peer-evaluations). We believe that peer-evaluations could be a good way to get non-presenting students involved and engaged in the presentations in order to get the most benefit from the learning experience. Specifically, asking students to list what they learn from presentations through taking notes will promote (or force) greater involvement with the presentations. As a result of being actively engaged in the presentation, the students should benefit much more than if they had merely been passive viewers. Undoubtedly, as most marketing and business students will witness many presentations throughout their careers, effective listening skills will improve; thus, they will increasingly become better listeners. Moreover, since students might be evaluating their peers in their future positions after graduation, this practice may also prepare them for that potential aspect of their work.

Despite the known benefits of communication skills for students (e.g., de Beer, 2007; Gaedeke & Tootelian, 1989; Goldgehn, 1989; Kelly & Gaedeke, 1990; Joby & Needel, 1990; McCorckle *et al.*, 1992), a thorough search of the literature did not reveal any study that has examined the potential benefits of student class presentations from either the presenter or audience (non-presenter) perspective. The knowledgebase on student perceptions of presentation benefits has not been adequately developed and remains a huge gap in the marketing (and business education) pedagogy literature. This study is a first attempt at filling this gap, where the main goal is to examine the perceived benefits of class presentations for presenters as well as non-presenters. It is generally assumed that class presentations help students develop public speaking and communications skills. However, this assumption has not been investigated. Also, what is not known is how non-presenting students benefit, if any, from class presentations, and how to get them engaged in class presentations. As marketing educators attempt to prepare marketing students to become self-sufficient and well-spoken professionals in the work place, it is important that these educators know from the students' perspective whether or not class presentations actually benefit the student, and whether diversity in the student body based on gender makes any difference in their perception of presentation benefits. We believe that the results of this exploratory study provide some insights into this area.

BACKGROUND

It is reality that no matter what one's job is, presentation skills ultimately will come into the picture during his/her career (de Beer, 2007). There is no doubt that good presentation and communications skills are essential for all business and non-business majors to be successful in their careers. This is especially true for students in the marketing area who usually start off their

careers in sales positions. Indeed, marketing educators have long emphasized the importance of communication skills with respect to career opportunities and success.

Prior studies found that oral communication skills were the most important hiring criteria for entry-level marketing positions (Kelly & Gaedeke, 1990), including entry-level marketing research positions (Joby & Needel, 1990) or entry-level sales positions (Tomkovick & Erffmeyer, 1993, cited in Wunsch & Tomkovick, 1995). Also, a study by Gaedeke & Tootelian (1989) shows that employers list communication abilities, interpersonal communication skills, speaking abilities, and writing skills among the qualities they always consider when screening new college graduates. Similar findings about the importance of communication skills for marketing students looking for professional employment after graduation are reported by Goldgehn (1989) and McCorckle *et al.* (1992).

The research also shows that two of the six competencies needed for salespeople and sales agents are the abilities to listen and communicate effectively (More *et al.*, 1986). Based on a national survey of sales managers, a study by Ingram *et al.* (1992) found that listening skills were one of the factors accounting for differences between failure and success in salespeople. According to Feiertag (2002), good listening skills are one of the two characteristics that distinguish successful salespeople from the rest. These studies further demonstrate the importance of communication and presentation skills for students in the marketing area option in order to have a successful career in their field. In fact, de Beer (2007) states that success in delivery of effective presentations can open a whole world of opportunities for one's career; it can help him/her conquer new frontiers, as well as broaden his/her horizons through personal development, influence, and advances in one's profession. Clearly, the ability to effectively communicate is a powerful asset for a professional.

While class projects that involve oral and written communication assignments are one of the ways to improve students' business communication skills (Wunsch & Tomkovick, 1995), class presentations specifically provide students with the experience they need to develop and/or improve their presentation and communications skills. As students give more presentations, they can become better presenters and improve their communications skills. Non-presenting students also benefit from class presentations, including learning course material, learning to listen for the key points of presentations, and bringing different perspectives to the discussion. To promote additional benefit on the part of the audience, non-presenters can be required to evaluate the presentations. This participation would increase the cognitive involvement of non-presenting students, and in doing so, should improve the learning benefits of the presentations. The presenters themselves offer the opportunity to non-presenting students to learn through the observation of their presentations (i.e., modeling/vicarious learning), thus promoting the development of better presentation skills.

Karns (2005, p. 165) states, "Students' willingness to engage fully in learning through a particular pedagogy is an important element in a pedagogical approach's ability to foster learning." Because of its centrality to academic success, social status, and workplace

effectiveness, oral and listening skills development has been increasingly emphasized in business education. In that effort, student involvement in peer assessment has been increasingly practiced by educators worldwide, and empirical studies confirm that peer-evaluation promotes active learning by engaging students (Boud, 1988; Falchikov & Goldfinch, 2000). In essence, a low-involvement cognitive learning situation can become high-involvement through the use of a required response, with the outcome of additional accretion, tuning, and restructuring (Rumelhart & Norman, 1978) of course material in the mind of the audience member. The question though remains: Do students see the benefit?

Gender differences have also been researched in various studies examining individual listening skills, group production, and self-efficacy (Hunter *et al.*, 2005), classroom interactions (Canada & Pringle, 2006), peer evaluations of student presentations (Girard & Pinar, 2009), class performance (Nouri & Clinton, 2006), student evaluations of teaching (Centra & Gaubatz, 2000), and learning style preferences (Wehrwein *et al.*, 2007). The findings of these studies are mixed. For example, Hunter *et al.* (2005) reported that a 1998 Canadian assessment of students' speech communication skills revealed that all male groups lagged significantly behind that of all female groups. Wehrwein *et al.* (2007) found significant gender differences in learning style preferences among undergraduate physiology students. Approximately 54 percent of females and 13 percent of males preferred a single mode of information presentation. Overall a majority of female students preferred single mode instruction with an emphasis on using all five senses, while a majority of male students preferred multi-modal instruction, namely visual, auditory, reading and writing, and using the five senses.

Girard and Pinar (2009) found no consistent gender bias in peer assessments of student presentations and suggested that peer assessment could be utilized in grading by teachers without any concern. However, Pinar and Hardin (2006) find that presenter's and/or evaluator's gender could affect the evaluation of presentations. Prior research focuses on understanding the gender effect in student evaluations of teachers (Centra & Gaubatz, 2000) but not specifically in the context of gender effect/bias in student perceptions of presentation contributions. Centra & Gaubatz (2000) found gender similarity bias in student evaluations of teaching. Other research examines gender bias in the context of recruitment and/or job interviews (Arvey & Faley, 1988; Gallois *et al.*, 1992; Graves & Powell, 1995; Hardin *et al.*, 2002; Powell, 1987), and customer bias toward a salesperson's gender (Dwyer *et al.*, 1998; Jones *et al.*, 1998; Lucas, 1996). These studies produced mix results regarding a consistent gender effect on recruiting and/or sales performance. Although gender differences can be measured easily, to the authors' best knowledge, there is no research that tests the gender differences/bias in student perceptions of presentation contributions to their learning and skill-building and their involvement with peer-evaluation of presentations in an attempt to increase student engagement.

Study Objectives

The overall purpose of this study is to examine the potential benefits of student class presentations and peer-evaluations of the presentations for presenting and non-presenting students, as well as the contribution of presentations to the learning of course material. Specifically, this research will:

- Investigate whether or not students perceive that student presentations and peer-evaluations improve their communications skills and contribute to various aspects of learning of the course material;
- Examine if there is any relationship among presentation benefit variables, as well as between student engagement in the class presentation and perceived presentation benefits;
- Compare if male and female students perceive the class presentation and peer-evaluation benefits differently, and if so, in what ways they differ, and
- Compare if students at two different universities (mid-western vs. eastern) perceive the presentation benefits differently, and if so, in what ways they differ.

METHOD

Undergraduate and graduate marketing students at two American universities participated in the study over several semesters. In order to accomplish the research objectives, the data were collected in two stages: (1) a peer-evaluation rubric was utilized to involve the students in the individual presentations, and (2) a survey was later used to measure their perceptions of presentation contributions to their knowledge and skill-set, as well as engagement with the presentations. During the first stage, each student prepared and gave a 7 to 10 minute presentation of an analysis of a current business news article from a major newspaper (e.g., Wall Street Journal) or business magazine (e.g., Business Week) as a part of the course requirements. The second stage involved a survey given at the end of each semester covering the potential benefits of class presentation.

Stage One

The rubric served as a peer-evaluation tool in order to engage students in other students' presentations by having them evaluate each presenter's performance and assign scores to four aspects of the presentations (see Appendix A for rubric). A maximum of 20 points could be assigned by an evaluator to each presentation based on the four presentation attributes adopted from Pinar and Hardin (2006). The attributes employed were: (1) Quality of the article content (max. - 6 pts.); (2) Relevance to the course material (max. - 5 pts.); (3) Content of the presentation (max. - 5 pts.), and (4) Quality of presentation (max. - 4 pts.). Students were also asked to write down three new things that they learned from each presentation. The gender of each student was

captured from the students' names on the evaluation forms. The peer-evaluation scores from this rubric were not used in the analysis; rather, they were used to improve students' engagement in class presentations. Also, the non-presenter students were not graded based on the main points they listed in the rubric because each non-presenter would be evaluating each of his/her classmate's presentation ($N \times (N-1)$); therefore, grading non-presenters on understanding or learning the material presented may not be practical for relatively large class sizes. However, in order to keep the non-presenter students accountable for the material presented by their peers, they were told by the instructors that the scores they assign to each presentation were going to be utilized in grading of the presenters' presentations. This way, non-presenter students knew that their peers' evaluation scores of their own presentations were eventually going to be incorporated into their own grades when "they" presented. Also, this practice would encourage the non-presenter students to be fair in their peer-evaluations knowing that they themselves were going to be evaluated in the same fashion.

Using the rubric for peer-evaluation not only allowed the students to be able to answer the last three questions in the second-stage survey instrument that measured the students' perceptions of the value of their involvement in the presentations (see Appendix B), but also served as reinforcement (i.e., through operant conditioning) to students to better prepare for their own presentations. Students were provided the evaluation criteria before their presentations. In order to avoid introducing external bias by the authors (teachers), the students were not informed of the purpose of the study until all presentations were completed and all data were collected with the survey instrument.

Stage Two

During the second data collection stage, a survey instrument was developed to measure the perceptions of presentation contributions to learning and skill-set building. It was adapted from Pinar *et al.* (2005) for our study objectives. Specifically, the survey instrument was designed to evaluate students' level of agreement or disagreement with the following statements utilizing a five-point Likert scale: (1) Presentations contribute to learning of class materials; (2) Presentations improve public speaking skills; (3) Presentations develop listening skills for key points; and (4) Presentations bring different perspectives for class learning; (5) Evaluating presentations by students is not a good idea (reversed for analysis); (6) Listing what I learn from the presentation is a good way to learn; and (7) I become more involved when I evaluate the presentations. The first four questions measured overall student perceptions toward the contribution of presentations to their learning and skill-set building for presenters. The second set of three questions measured how much they appreciate their involvement with peer-evaluation of the other students' presentations for non-presenters by having to actively listen and pay attention, in other words, their engagement. It is important to note that the survey instrument asks students only about their perceived benefits of the giving class presentations, listening to the presentations, and their contribution to learning the course material. It does not ask any thing about the benefits of

preparing for presentations and using class time. Because of its relevancy to the study, and the anonymous nature of the data collection, gender was the only demographic question that was asked. We are aware that other demographic information could be helpful for the reader had students came from different ethnic/religion, age, or income backgrounds. However, the student profiles at both universities were homogeneous. The survey questions are presented in Appendix B.

Sample

The survey respondents were students enrolled in marketing courses with required presentations at two universities (one mid-western and one eastern university). This allowed comparisons of the student perceptions of class presentation benefits from two universities. As stated before, each student gave a presentation of an article about a current business and marketing issue related to the course material covered in a given week during the semester that came from a major business publication. The second-stage survey was conducted upon the completion of all presentations, which was near the end of the course. This was a convenience, but intended sample because the study required students to give presentations in order to take the survey. Therefore, students in the authors' classes were included in the study. The study included a total of nine classes from both universities, where the class sizes ranged from 18 to 30 students, except one with 8 students. The sample consisted of a total of 220 students in seven undergraduate and two graduate classes. Three undergraduate (89 students, 40.4 percent) and two MBA classes were from mid-western university (39 students, 17.7 percent). Four undergraduate classes were from eastern university (92 students, 41.9 percent). Out of the 220 students who completed the survey, 51 percent were male and 49 percent were female. Since the sample size for MBA classes was relatively small, a separate analysis was not conducted for them.

RESULTS

Discriminant and Convergent Validity

In order to assess the discriminant validity of the seven items, a Principle Component Analysis with Varimax rotation was performed. The results revealed two clear dimensions with high loadings ranging from .63 to .77 (Table 1). The first set of four questions loaded on the underlying dimension, presentation benefits, and the second set of three questions loaded on the engagement (peer-evaluation) dimension as expected. The total variance explained was 94 percent, of which 35 percent was associated with the first dimension and 59 percent with the second dimension. In order to assess the convergent validity (internal consistency) of the items under each dimension, reliabilities were tested by examining Cronbach's alpha coefficients. With standardized reliability coefficients of .76 for the first dimension and .62 for the second

dimension, which exceed the recommended level of 0.50 for an exploratory study (Hair *et al.*, 1995), the scale items show a high level of convergent validity with each factor.

Table 1. Results for the Discriminant and Convergent Validity		
	Presentation benefits	Engagement
Presentation benefits – Cronbach’s alpha = .76:		
Presentations contribute to learning of class materials	.77	
Presentations develop listening skills for key points	.74	
Presentations bring different perspectives for class learning	.73	
Presentations improve public speaking skills	.73	
Engagement – Cronbach’s alpha = .62		
I become more involved when I evaluate the presentations		.76
Evaluating presentations by students is not good idea(R)		.75
Listing what I learn from the presentation is a good way to learn		.63

Student Perceptions of Presentation Benefits

The first objective of this study is to examine how student presentations and peer-evaluation contribute to the various perceptual aspects of student learning and improvement of communications skills. Descriptive statistics of the responses are provided in Table 2. The results indicate that the majority of students agreed or strongly agreed (combined) that presentations contributed to their learning of class materials (79.8%), developed listening skills for key points (62.5%), brought different perspectives for class learning (84.6%), and improved public speaking skills (89.9%). These findings show that the most important benefits students perceive to obtain from the class presentations are “improving public speaking skills” (mean of 4.32), “bringing different perspectives for class learning” (mean of 3.98), and “contributing to learning of class materials” (mean of 3.81). These results show that students have overall positive beliefs about the contributions of class presentations.

The second part of the first objective deals with peer-evaluations or student engagement with the class presentations. As shown in Table 2, the mean scores of student perceptions of their engagement through peer-evaluation were not as high as the scores for their perceptions of presentation benefits. However, the averages were still above the mid point of “3” on a 5-point scale. A majority (54.3%) agreed or strongly agreed (combined) that they became more involved when they evaluated the presentations. After reversing the scale for analysis, 50 percent agreed or strongly agreed that evaluating presentations by students were a good idea (or 50 percent disagreed and strongly disagreed that evaluating presentations by students was not a good idea). Finally, 48.4 percent agreed or strongly agreed that listing what they learned from the presentations was a

good way to learn. These findings show that students do have positive beliefs, although not very strong, about the benefits of peer-evaluations and presentation engagement. It seems that 26.4 percent students were not in favor of being forced to engage in presentations; maybe those preferred to be passive listeners.

Table 2. Descriptive Statistics of the Student Perceptions of Presentation Benefits

Measurement items	N	Mean	SD	Strongly Disagree	Disagree	No opinion	Agree	Strongly agree
Presentation benefits: Presentations contribute to learning of class materials	N=218	3.81	.82	1.8%	7.8%	10.6%	67.0%	12.8%
Presentations develop listening skills for key points	N=219	3.52	.96	2.7%	15.1%	19.6%	52.5%	10.0%
Presentations bring different perspectives for class learning	N=216	3.98	.73	0%	6.0%	9.3%	65.3%	19.4%
Presentations improve public speaking skills	N=219	4.32	.81	1.4%	2.3%	6.4%	42.9%	47.0%
Engagement: I become more involved when I evaluate the presentations	N=219	3.30	1.1	6.8%	19.6%	19.2%	45.2%	9.1%
Evaluating presentations by students is not a good idea (Reversed for analysis)	N=216	3.26	1.1	6.0%	20.4%	23.6%	41.7%	8.3%
Listing what I learn from the presentation is a good way to learn	N=219	3.21	1.0	4.6%	24.7%	22.4%	41.6%	6.8%

Engagement and Presentation Benefits

The second objective of the study is to examine the relationships among the presentation benefits, and between presentation benefits and peer-evaluation (i.e., student engagement) of presentations. Table 3 presents the results of correlation analysis. The correlation coefficients among the presentation benefit variables (Q1 – Q4) range from a low of .365 to a high of .497, all of which were significant at the $p < .01$ level. These findings indicate that, in addition to specific benefits of class presentations (as presented in Table 2), these benefits seem to be correlated with each other. These findings further support the benefits of class presentations. The non-significant correlation between “evaluating presentations by students is not good idea (Q5)” and other variables indicate that some students do not seem to understand the potential benefits of peer-evaluations, or they may not like the practice of evaluating their peers and may prefer to be passive listeners. However, significant correlations ($p < .01$) between two other peer-evaluation questions (Q6 and Q7) and presentation variables indicate their involvement through peer-evaluation and listing the main points had a positive relationship with their learning from the

presentations. As students get more involved in presentations, they learn more and develop better communication skills. These results suggest the additional benefits of class presentations if all students are engaged in presentations; thus, proving the importance of engagement or involvement in presentations for student learning.

	Q1	Q2	Q3	Q4	Q5	Q6
Presentation benefits						
Q1. Presentations contribute to learning of class materials						
Q2. Presentations improve public speaking skills	0.410 ^a					
Q3. Presentations develop listening for key points of presentations	0.490 ^a	0.401 ^a				
Q4. Presentations bring different perspectives for class learning	0.497 ^a	0.365 ^a	0.487 ^a			
Engagement						
Q5. Evaluating presentations by students is not good idea (R)	0.066	-0.010	0.058	0.122		
Q6. Listing what I learn from the presentation is a good way to learn	0.318 ^a	0.225 ^a	0.435 ^a	0.254 ^a	0.198 ^a	
Q7. I become more involved when I evaluate the presentations	0.282 ^a	0.192 ^a	0.382 ^a	0.242 ^a	0.331 ^a	0.527 ^a
^a p<0.01 (2-tailed)						

Gender Differences in Student Perceptions of Presentation Contributions

The third objective is to investigate whether student perceptions of presentation contributions and engagement with presentations through peer-assessment significantly differ between males and females. As presented in Table 4, an independent sample t-test revealed no differences between females and males in their perceptions of presentation contributions except for one statement. Males agreed more than females that listing what they learned from the presentations was a good way to learn ($t = 3.2, p < .01$). Males valued writing down what they learned from the presentations more than females did. This may imply that male students may be more interested in getting involved or engaged in (class) presentations actively and visually due to the differences in learning styles of each gender as Wehrwein *et al.* (2007) suggest.

	Gender	N	Mean	SD	T-test
<u>Presentation benefits</u> Presentations contribute to learning of class materials	Male	109	3.85	.83	1.0
	Female	104	3.74	.81	
Presentations improve public speaking skills	Male	109	4.38	.74	1.2
	Female	105	4.25	.87	
Presentations develop listening skills for key points	Male	109	3.56	.95	.77
	Female	105	3.46	.98	
Presentations bring different perspectives for class learning	Male	106	3.96	.70	-.28
	Female	105	3.99	.75	
<u>Engagement</u> Evaluating presentations by students is not good idea (R)	Male	107	3.34	.99	1.2
	Female	104	3.15	1.14	
Listing what I learn from the presentation is a good way to learn	Male	109	3.42	.99	3.2 ^a
	Female	105	2.98	1.02	
I become more involved when I evaluate the presentations	Male	109	3.26	1.10	.71
	Female	105	3.33	1.08	
^a p<0.01					

Differences in Student Perceptions of Presentation Benefits between Two Universities

Furthermore, the study investigates whether or not differences exist in the perceptions of presentation contributions between the students at the two universities. The independent sample t-test results indicated that significant differences exist between the students at the two universities on two measures. The students in the mid-western university agreed significantly more than the students in the eastern university that “presentations contributed to learning of class materials”, and “improved public speaking skills” (Table 5). No significant differences between the two universities were found in the student perceptions of other benefits. Therefore, the interaction effect of gender and school was further investigated.

Table 5. T-test Results for Differences in Students' Perceptions at Two Universities					
	University	N	Mean	SD	T-test
<u>Presentation benefits:</u> Presentations contribute to learning of class materials	Mid-western	128	3.91	.77	2.03 ^b
	Eastern	90	3.68	.87	
Presentations improve public speaking skills	Mid-western	128	4.43	.80	2.42 ^b
	Eastern	91	4.16	.79	
Presentations develop listening skills for key points	Mid-western	128	3.52	.93	.05
	Eastern	91	3.52	.99	
Presentations bring different perspectives for class learning	Mid-western	127	4.06	.65	1.79
	Eastern	89	3.88	.80	
<u>Engagement:</u> Evaluating presentations by students is not a good idea (R)	Mid-western	125	3.30	1.04	.59
	Eastern	91	3.21	1.09	
Listing what I learn from the presentation is a good way to learn	Mid-western	128	3.13	1.00	-1.39
	Eastern	91	3.33	1.07	
I become more involved when I evaluate the presentations	Mid-western	128	3.33	1.06	.43
	Eastern	91	3.26	1.14	
^b p<0.05					

Interaction Effect of School and Gender on Student Perceptions of Presentation Contributions

Lastly, the study investigates whether there was an interaction effect of school and gender on the student perceptions of presentation contributions. A one-way ANOVA was performed (the results are not presented in Table) after recoding the data to create four groups (males at the mid-western university, females at the mid-western university, males at the eastern university, females at the eastern university), which allowed for more specific comparisons. The significant one-way ANOVA and LSD Post Hoc test results did not reveal any interaction effects. Specifically, male students at the mid-western university agreed significantly more than male and female students at the eastern university that presentations contribute to learning class materials ($p < .05$) and improving public speaking skills ($p < .01$). Male students at the mid-western university also agreed significantly more than male students at the eastern university that class presentations introduced different perspectives for class learning ($p < .05$). Male students at the mid-western and eastern universities agreed significantly more than female students at the

mid-western university that listing what they learn from the presentation were a good way to learn ($p < .01$). Thus, no consistent effect of gender and university variables on students' perceptions of presentation benefits and engagement through peer-evaluation was found. These results were also confirmed by testing the interaction effects of gender and school using general linear modeling in SPSS.

CONCLUSION AND IMPLICATIONS

The first objective of this study is to examine how student presentations and involvement with peer-evaluation contribute to the various aspects of student learning and improvement of their communications skills. The results show that students perceive benefits from class presentations and overall have positive beliefs about the contributions of the class presentations. Based on student perceptions, as expected, "improving public speaking skills" is the most important benefit of class presentations. Given the importance of communication and presentation skills in students' future careers, including marketing, (e.g., de Beer, 2007; Gaedeke & Tootelian, 1989; Goldgehn, 1989; Kelly & Gaedeke, 1990; Ingram *et al.*, 1992; Joby & Needel, 1990; McCorckle *et al.*, 1992; More *et al.*, 1986), the class presentation is an important dimension in preparing students for success.

The results also suggest that students generally perceive their involvement with peer-assessment of student presentations positively. Even though students did not seem to necessarily like the practice of peer-evaluation, the significant correlations in Table 3 support the notion that students may receive more benefit from class presentations through direct involvement. For example, a correlation of .435 between Q6 and Q3 indicates that listing what they learn from a presentation improves their listening skills, especially listening for the key points. These results confirm the findings of prior studies (Boud, 1988; Falchikov & Goldfinch, 2000; Karns, 2005) that peer assessment promotes active learning by engaging students. Moreover, getting students engaged in presentations allows students to develop good listening skills that are the important for marketing area (and all students) for their careers (Feiertat, 2002; Ingram *et al.*, 1992).

This research also investigates the potential gender effect on student presentations. Specifically, the study examines whether differences exist between male and female students' perceptions of presentation benefits and their involvement with peer-evaluation of presentations. Since there were no significant differences between the perceptions of male and female students for all but one of the presentation and peer-evaluation benefits, both genders appear to equally benefit from class presentations. The only difference found was that males agreed significantly more with the statement that listing what they learn from the presentations was a good way to learn ($p < .01$). While the study's purpose did not include investigating why such a result exists, it might be explained by the difference in learning styles of male and female students as found by Wehrwein *et al.* (2007) where male students preferred auditory, reading and writing, and using

their five senses, whereas female students preferred visual, printed words, and using their five senses.

Differences in student perceptions of presentations and their involvement with peer-evaluation were also tested between the students at two universities in order to see if there is any effect by school. The students at the mid-western university agreed significantly more than those at the eastern university that presentations contribute to learning of class materials and improve public speaking skills ($p < 0.05$). Because no significant differences between the two universities were found in the student perceptions of other benefits, the interaction effect of gender and school was further investigated. However, no consistent interaction of gender and school was found with student perceptions of presentation benefits and involvement with peer-evaluation. These findings are supported by those of Girard and Pinar (2009) in that there is no consistent pattern of gender differences. Specifically, this study finds that male students do not consistently perceive the benefits of class presentations significantly different than female students or vice versa.

There are several implications of these findings. First, because approximately 80 percent of students perceived that presentations contribute to learning of class material (Table 2), teachers could improve students' learning of class materials by using class presentations as part of their course assignments. Given there are no significant differences between male and female students, as well as between the students from two universities, class presentations seem to be beneficial for students regardless of gender and/or university. Second, peer-evaluations of student presentations enhance students' engagement with the presentations and promote active learning. Third, students perceive that presentations contribute to the improvement of public speaking skills. Fourth, teachers do not need to be concerned about gender differences in student perceptions of presentation benefits. Given the overall positive student perceptions of the benefits of class presentations and peer evaluations of the presentations, this study shows that peer-evaluation of student presentations should be incorporated as part of a course's presentation requirement. Finally, because the measurements used in the survey revealed discriminant and convergent validity; therefore, the survey and the rubric can be used as an assessment of learning tool which would be of interest to all educators in response to the need for accreditation documentation of learning outcomes in higher education institutions.

It is important to note that this study investigates the students' *perceptions* of the benefits of class presentations in improving their communications skills and contributions to learning of the course material; it was not intended to measure the actual improvement in their communications skills and contribution to course material. Future research should examine not only student perceptions, but also actual improvements resulting from class presentations. Moreover, the study does not aim at directly measuring and testing the learning styles of students based on gender. Future research should also investigate whether student perceptions of presentation benefits differ by specific learning style and gender. In addition, because this study was conducted with students from only two universities, a caution should be exercised in

generalizing the results. Future studies should include students from a larger number of universities and also from areas other than marketing. Also, given the variety of nationalities often found in today's classrooms, future research should include the cultural background of students in more cosmopolitan areas. Finally, this study examines a limited number of class presentation benefits that deal with communication skills and peer-evaluation; it did not cover the benefits of preparing for presentation and using class or presentation time. Future studies could include additional benefits and learning outcomes from student class presentations.

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APPENDIX A

Course Number and Name: _____ Student Name _____

Article Presentation Evaluation by Students--Please read carefully.

As a part of this class, students are expected to help in evaluating the quality of the article and presentations. This will be used in assigning the grade to each article presentation. Your responsibility is to rate each article presentation on the factors listed below and to assign the grade you think it deserves for each section and add them up for total points. For your evaluation, you are required to give at least three logical things that you learned from each article presentation. As a professional student, I will encourage you to be very objective with each evaluation for your own BENEFIT. Student CANNOT evaluate and vote on her/his presentation.

The Article Presenter: _____

Quality of the article content (max.6 pts.) _____

Relevance to the course material (max. 5 pts.) _____

Content of the presentation (max. 5 pts.) _____

Quality of presentation (max. 4 pts.) _____

Total Points _____ /20 pts.

Please list three new things you learned from the presentation:

1. _____
2. _____
3. _____

APPENDIX B - SURVEY QUESTIONS FOR STUDENT PERCEPTIONS OF PRESENTATION EVALUATION

Student presentations are a common part of most courses at universities. We are interested in your perceptions and perspectives about the student presentations. All the information given will be kept confidential. Please indicate your opinion of student presentations regarding the followings:

	Strongly disagree	Disagree	no opinion	Agree	Strongly agree
a. Presentations contribute to learning of class materials	1	2	3	4	5
b. Presentations improve public speaking skills	1	2	3	4	5
c. Presentations develop listening skills for key points	1	2	3	4	5
d. Presentations bring different perspectives for class learning	1	2	3	4	5
e. Evaluating presentations by students is not a good idea (R)	1	2	3	4	5
f. Listing what I learn from the presentation is a good way to learn	1	2	3	4	5
g. I become more involved when I evaluate the presentations	1	2	3	4	5

You are: a. Male _____ b. Female _____

PROFESSIONAL ETHICAL OBLIGATIONS FOR MULTICULTURAL EDUCATION AND IMPLICATIONS FOR EDUCATORS

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ABSTRACT

This exploratory study examined educators' perceptions about multicultural education using data collected from a predominately White, homogenous region of the United States. Findings reveal educators' understanding of multi-cultural education may be limited by the surroundings in which they work and live. Implementing a plan for multicultural education may be challenging, especially if the need for it is perceived as low. Finally, this investigation underscores the call for educational leaders to ensure multicultural education is embedded into all aspects of the school and curriculum.

INTRODUCTION

Anyone who works in the field of intercultural relations knows how often in his community he hears the remark, "There is no problem." Parents, teachers, public officials, police, community leaders seem unaware of the undercurrents of friction and hostility. Until or unless violence breaks out "there is no problem."

Gordon W. Allport (1954, p. 502)

In his groundbreaking work on prejudice, Allport (1954) captures what may be a prevailing idea among many stakeholders in public schools, and with convincing reason. Although the country is becoming less White each year, in some parts of the United States, including areas within the Pacific Northwest, the percentage of non-White population growth remains small (Vestal, 2008). In schools that serve a primarily homogenous, White population, the need by educators to develop and strengthen multicultural education may be diminished. This contention is supported by Nieto and Bode (2008), who present comments made by educators about multicultural education. One cited educator states, "We don't need multicultural education here; most of our students are White" (p. 42). Another notes, "I want to include multicultural education in my curriculum, but there's just no time for it" (p. 43). Shortly after

President Barack Obama's election in November, 2008, Associated Press reporter, Jesse Washington pointed out, "From California to Maine, police have documented a range of alleged crimes, from vandalism and vague threats to at least one physical attack. Insults and taunts have been delivered by adults, college students and second-graders" (p. A4). Even more disquieting was a recent in-depth, lead newspaper story proclaiming, "There's also been a spike in racist activity and hate crimes in Spokane and other Pacific Northwest communities – indeed, almost everywhere in the United States" Morlin (February 7, 2010, p. A1). These comments and reports, combined with the lack of diversity in some sections of the country, prompted researchers conducting this study to consider whether Allport's 1954 assertion *there is no problem until or unless an act of violence breaks out* rings true today.

The purpose of this study was to explore educator perceptions about multicultural education using data collected from a predominately, White, homogenous region of the United States. Four primary questions guided the research. In a region where diversity in terms of race and cultural backgrounds is considered negligible: 1) How do educators conceptualize multicultural education; 2) To what degree are educators concerned about developing a commitment to multicultural education; 3) What challenges do educators face in putting multicultural education into practice; and 4) What professional ethical obligations, if any, do educational leaders have in learning about, promoting, and embracing multicultural education and multicultural schools?

REVIEW OF RELEVANT LITERATURE

The review of relevant literature is organized around three areas of inquiry: 1) What is multicultural education; 2) Why should educators be concerned about developing a commitment to multicultural education; and 3) What professional ethical obligations do educational leaders have in learning about, promoting, and embracing multicultural education and multicultural schools?

Multicultural Education Defined

According to Tiedt and Tiedt (2010), the term multicultural education was used for the first time as a topic heading by *Education Index* in 1978. As they point out, this was close to the same period the National Council for Accreditation of Teacher Education (NCATE) included multicultural education as one of its standards. The term has been defined in various ways since it was first introduced.

Banks (1996) defines multicultural education as "a field of study and an emerging discipline whose major aim is to create equal opportunities for students from diverse racial, ethnic, social class, and cultural groups" (p. 46). Nieto (2004) views multicultural education as a process that requires not only challenging issues of difference and diversity, but also issues of

power and privilege. In other words, when inequitable structures, policies, and practices of schools exist, they must be confronted.

Nieto and Bode (2008) expand upon this definition to include seven characteristics of multicultural education. First, multicultural education is antiracist. Second, it is basic, meaning multicultural education should be considered as important as reading, writing, and math. Third, multicultural education is critical for all students, not just for students of color, or for those who are considered disadvantaged. Fourth multicultural education is pervasive. It is embedded in all aspects of school life, environment, lessons, and relationships among teachers, students, and the larger school community. Fifth, multicultural education promotes social justice. Sixth, multicultural education is an ongoing, complex process that is never fully complete. Finally, multicultural education is critical pedagogy, building on the experiences, knowledge, and viewpoints of the learners and the teachers.

Manning and Baruth (2009) suggest multicultural education is both a concept and process, designed to “teach learners to recognize, accept, and appreciate differences in culture, ethnicity, social class, sexual orientation, religion, special needs and gender” (p. 5). In addition, they believe multicultural education should instill a sense of responsibility and a commitment toward the democratic tenants of justice, equality and democracy. Bennett’s (2011) characterization of multicultural education parallels that of Manning and Baruth. She writes, “Multicultural education is a complex approach to teaching and learning that includes the movement toward equity in schools and classrooms, the transformation of the curriculum, the process of becoming multiculturally competent, and the commitment to address societal injustices”. Regardless of minor nuances in these descriptions, advocates agree educators bear the responsibility for changing school culture to reflect the values of multiculturalism (Dimmock & Walker, 2005).

Developing a Commitment to Multicultural Education

Many of the more compelling reasons educators should be concerned about developing a commitment to multicultural education can be found in both national and state standards for teachers and administrators. Various existing standards directly or indirectly address the necessity for educators to understand the value of diversity within their communities and schools. Proposition 1 (2009) of the National Board for Professional Teaching Standards states, in part, *they [teachers] treat students equitably. They recognize the individual differences that distinguish their students from one another and they take account for these differences in their practice. Furthermore, they respect the culture and family differences students bring to their classroom.* United States Secretary of Education, Arne Duncan recently endorsed these standards which also include the following for school administrators: “Accomplished educational leaders ensure equitable learning opportunities and high expectations for all.”

All of the Interstate School Leaders Licensure Consortium Standards developed by the Council of Chief State School Officers in collaboration with the National Policy Board on Educational Administration underscore the inescapability for administrators to embrace diversity in their schools. Mandates requiring school professionals to take a prominent role in delivering multicultural education can go a long way to ensuring its continued existence in every school. However, it is also worth considering whether those who must implement a policy or standard share the same outlook and have a sincere desire to do so.

A clear consensus among individuals is essential to incorporating multicultural education in public schools. According to Gay (2006), multicultural education should become a regular part of education in the United States for three major reasons: 1) The social realities of U.S. society, 2) the influence of culture and ethnicity on human growth and development, and 3) the conditions of effective teaching and learning. Each rationale plays an important and unique role in establishing the justifications, parameters, and directions for multicultural education (p. 4). Nieto and Bode (2008) further maintain multicultural education has the potential to address conflict and inequality in four areas; racism and discrimination, structural conditions in schools that limit learning, the impact of culture on learning, and language and diversity (p. 43).

In some contexts, multicultural education has not been readily embraced. Scheurich and Skrla (2003) assert many educators believe parents of color do not care or aspire to educational success for their children. Furthermore, since its inception in the 1970s multicultural education has been criticized because it has challenged the status quo, encouraged those who have been oppressed to speak out, and transformed traditional curriculum and instructional practices (Nieto and Bode, 2008).

The challenge, Frattura and Capper (2007) stress, is some educators including those in leadership roles contradict their own core values and beliefs about equity and social justice by segregating students whose cultures or abilities may be different from the majority. For example, students whose first language is not English may be segregated or clustered into designated schools. According to Tatum (2003) school segregation has continued to rise since the early 1990s. The implication of this direction for educators is threefold. Every year many parents in districts throughout the nation entrust the care of their children with the states' educators. Parents expect that they will be treated with dignity and respect. No child should experience separation, isolation, humiliation, or ridicule due to his or her differences.

Educators in every school district are under pressure to improve student achievement. If students feel unsafe or threatened at school, then they are less apt to focus on academic learning (Henze, Katz, Norte, Sather & Walker, 2002). Finally, the foundation and sustainability of a democratic society and the concept of social justice, is the practice of confronting discrimination in communities and striving for democracy, inclusion, liberation, and action for change rather than inaction that preserves inequity (Lee & McKerrow, 2005, as cited in Jean-Marie, 2007). Lumby and Coleman (2007) add, "This emphasis on equity can only be achieved through leaders taking action to implement and institutionalize the valuing of difference" (p. 109). For these

reasons, all individuals responsible for educating our nation's youth should be concerned about developing and strengthening a commitment for multicultural education.

Professional Obligations toward Promoting Multicultural Education

The answer to this question may seem apparent, because for some, it is considered common sense. For instance, the professional educators code of ethics for one Pacific Northwest state sets forth the following expectation: *The professional educator, recognizing that students need role models, will act, speak and teach in such a manner to exemplify nondiscriminatory behavior and encourage respect for other cultures and beliefs.* Nevertheless, the question warrants further scrutiny. To date, little has been published linking professional ethics and leadership (Northouse, 2004; Ciulla, 2004), and the gap between preparing educational leaders in ethics is even wider (Edmonson & Fisher, 2002). Calabrese (2001) notes, "Ironically, in educational organizations, ethical behavior is assumed and discussion of ethical principles given a secondary place at best" (p. 3). Beckner (2004) maintains educational administrators tend to base many of their decisions on experience and personal judgment rather than on theories, particularly from philosophy and ethics. Building a foundation to support a mutual relationship between multicultural education and professional ethical obligations is still evolving.

Making ethical decisions has become more difficult and complex because the notions of right and good are embedded in cultural and community consensus about values (Fried, 1997). Moreover, many individuals are members of more than one culture, and the accepted norms about right and wrong might vary (p. 6). Strike, Haller, and Soltis (2005) connect professional ethics to the issue of truth. They suggest:

The idea that truth is partial and perspectival means that it is unlikely that we will ever achieve any ethical theories that are universal. We are irreducibly different. All theories assume someone's particular experience. Views that try to see us as persons or as utility maximizers end up imposing someone's truth as everyone's truth. Thus all attempts at ethical generalization are oppressive. They deny who we are, and they impose someone else's definition of what we should be on us. (p. 133)

Ethics deal with conduct versus behavior, and conduct implies a choice can be made about a course of action or decision (Rebore, 2001). Therein lays the conflict. People's values differ, often resulting in antagonism and polarization. To illustrate, is it right to pass policies declaring English the official language of a school district? Is it right to locate non-English speaking students in portable classrooms, away from the main school building? Is it right to ban students of a particular sexual orientation from forming a school club? Educators face these and similar value laden issues every day. Choice is not necessarily between a right and a wrong, but

between two compelling right answers (Klinker & Hackman, 2003). In these complex situations, educators must rely on professional ethics to guide their actions. Otherwise, they risk harming children who are directly affected, and others associated with their schooling.

Dubin (2006) believes more than professional ethics may drive educational leaders' decision-making processes. He makes a distinction among professional, personal, organizational, and societal ethics. Professional ethics reflect standards of the profession. Personal ethics involve one's view of right and wrong. A school district's policies and philosophy represent organizational ethics. Societal ethics are belief systems established by the greater society and communicated through the media and political structures. When any one or more of these ethics conflict, decisions, including those pertaining to multicultural education may be more difficult.

Connerley and Pederson (2005) provide four moral goals of leadership identified by Gardner (1990): 1) Releasing human potential; 2) balancing the needs of the individual and the community; 3) defending the fundamental values of the community; and 4) instilling in individuals a sense of initiative and responsibility. "All of these goals are consistent with a multicultural leadership focus" (p. 157). It follows, therefore, educators who ascribe to these goals may have an ethical responsibility to ensure all students be given an equal opportunity to develop the academic and social skills needed to function in a democratic society. To improve the likelihood of achieving these goals Bordas (2007) reminds, "In reality, the call to becoming a multicultural leader is setting your intentions to serve a purpose greater and nobler than yourself" (p. 185).

METHODOLOGY

The Setting

The setting for this study encompassed a medium-sized, rural public school district located in the northwestern region of the United States. Data collection took place during the 2008-2009 school year, and according to the school district profile, the total number of students enrolled in the district was 3,725. Of those, 58 (1.5%) were Native American Indian, 24 (0.64%) were Asian, 29 (0.77%) were Black, 11 (0.2%) were Native Hawaiian or Pacific Islander, 3,500 (93.9 %) were White, 98 (2.6%) were Hispanic and 5 (0.13%) were unknown. During the time data of data collection, 1,747 (46.65%) qualified for free and reduced meals under the federally subsidized National School Lunch/Breakfast Program. The faculty and staff totaled 650. Of those, 649 were White, and one was Hispanic.

Gaining Access to the Settings

The process of gaining access to the setting and participants was accomplished through meetings held with the superintendent and other district officials to familiarize them with the purpose of the investigation. Administrators were given an opportunity to review the questionnaire and make suggestions for revisions before the final version was delivered to participants.

Participants

A total of 24 teachers, one counselor, and two administrators participated in the study. The participants included 5 (19%) males and 22 (81%) females. For all participants in the study, the average number of years working in education was 17.

Respondents from the elementary level included nine teachers and one administrator. Six teachers indicated they taught all subjects, one teacher taught special education, and one taught computer science. At the elementary level, participants' average years of service in education were 18.

Participants from secondary schools included 15 teachers, one administrator and one counselor. Areas of instruction for the secondary teachers covered special education, social studies and Spanish, math, business education, English, science, and physical education. The average years of experience in education were 16. A table located in Appendix A provides a description of each participant.

The Questionnaire Instrument

The questionnaire instrument, comprised of open-ended questions was developed based upon the literature which 1) defined multicultural education; 2) supported the reasons why educators should be concerned about developing a commitment to multicultural education; and 3) presented the professional ethical obligations educators may have in learning about, promoting, and embracing it. The researchers also incorporated feedback from a superintendent, a high school teacher, a director of elementary education, a school board member, a principal, and a state legislator.

The researchers selected a cross-sectional survey design (Creswell (2008)). This design allowed the researchers to examine the attitudes, beliefs, opinions and practices about multicultural education. Furthermore, use of the electronic survey allowed the researchers to remain unobtrusive, collect the data in a timely manner, and closely protect the anonymity of the participants.

Open-ended questions were used for several reasons. Open-ended questions more closely reflect the views of the respondent (Fowler, 2008). In addition they permit participants to reply

within the context of their cultural and social experiences rather than the researcher's experiences (Neuman, 2000 as cited in Creswell, 2008). Finally, the open-ended approach does not limit responses to those already assumed by the researcher, thereby providing for the opportunity to learn the unexpected (Fowler, 1998). Some of the questions elicited one-word responses, and others were constructed for lengthier responses (Tashakkori & Teddlie, 1998).

The instrument contained 11 questions (Appendix B), and was checked for accuracy and ambiguity by the researchers and two additional content experts. Two teachers who did not participate in the study piloted the survey to check for clarity and give feedback on the amount of time it took to complete it.

Procedure

Following approval from a university Institutional Review Board, and the district's superintendent, the total population of school district certified and classified employees received an electronic correspondence containing a brief introduction, the purpose of contact, and an invitation to participate in the study. Participants were contacted via school district email and given a link to an electronic questionnaire.

The decision to use this data collection format was made because it permitted the researchers to be unobtrusive, and protect the privacy, confidentiality, and anonymity of the participants (Miles and Huberman, 1994; Lavrakas, 2008). At the time the study was conducted, one of the researchers was serving as an assistant principal in the district. Due to the sensitive nature of the information being sought, the researchers wanted to protect the relationship between the school district leadership team and the participants (Miles and Huberman, 1994). Lavrakas (2008) writes, "Some participants would be reluctant to discuss attitudes and opinions on such topics as race, politics, and religion unless they believed their responses could not be identified to them" (p. 28). Furthermore, "...respondents may be more willing to admit to negative attitudes toward minority groups if the survey is anonymous" (p. 28). A similar data collection was used in two previous studies assessing the degree of racial and religious prejudice (Survey Research Center, 1988; Tacke, 1999).

Twenty-four teachers, two administrators, and one counselor took part in the study. The majority of respondents completed the survey online. Seven individuals returned their responses on a paper copy of the survey.

DATA ANALYSIS METHODS

In this study, the goal was to examine the uniqueness of each participant's understanding of multicultural education, the extent to which educators believed they had professional ethical obligations to promote and incorporate it into their curriculum, and how multicultural education was addressed in their schools. To accomplish this, the researchers selected a data analysis

strategy developed by Colaizzi (1978). This method was chosen because to be the most because it combines within-case and across-case analytic strategies.

Analysis of individual responses helped the researchers understand aspects of experience not as individual *units of meaning*, but as part of the pattern formed by the confluence of meanings within individual accounts (Ayres, Kavanaugh & Knalf, 2007). Researchers made sense of each data set and then compared across those accounts to identify themes that were common to all participants' responses (Colaizzi, 1978). The steps in this analysis are summarized in Table 1.

Strategy	Analytic Focus	Product
Analytic immersion in all	Within all responses	Sense of experience of multicultural education practices
Immersion in each response	Within each response	Identification of significant statements
Comparisons of significant	Across all interviews	Identify categories of statements common to all participants
Reconnections of significant statements to responses	Within and across all responses	Identification of themes
Organize categories of significant statements by themes	Set of significant statements	Essential structure
Return analysis to participants	Essential structure	Close the circle of authentication

To establish credibility with the findings, member checks (Lincoln and Guba, 1985) were solicited from the administrative team and other individuals who held positions of leadership within the school district. The member checks provided the researchers the opportunity to correct errors of interpretations. Triangulation (Creswell, 1998) was achieved by using multiple investigators. Having more than one perspective was useful in clarifying the research design, and analyzing the results.

RESULTS

Four questions guided this study. In a region where diversity in terms of race and cultural backgrounds is considered negligible: 1) How do educators conceptualize multicultural education; 2) To what degree are educators concerned about developing a commitment to multicultural education; 3) What challenges do educators face in putting multicultural education

into practice; and 4) What professional ethical obligations, if any, do educational leaders have in learning about, promoting, and embracing multicultural education and multicultural schools?

In order to gain insight on the perceptions and commitment to multicultural education in a region characterized as predominantly White, data were organized into the following themes: a) definition and tenets of multicultural education; b) challenges of implementing multicultural education; and c) the importance and professional ethical obligations to incorporate multicultural education in classrooms, schools, and communities.

Definition and Tenets of Multicultural Education

When asked to define *multicultural education*, respondents in this study offered a variety of broad perspectives.

FSC 4: I define multicultural education as creating educational opportunities for students from diverse racial, ethnic, social-class, and cultural groups.

FET 12: [Multicultural education is] an education that is open and available to students of all cultural backgrounds.

FET-21: [Multicultural education is] education that illuminates the cultural factors inherent in the subjects we study. It may also involve targeted study of specific culture, indigenous or abroad, historical or extinct cultures, or cultures that have migrated to the United States and changed or assimilated.

Some participants defined multicultural education in the context of learning about other cultures.

FST-22: Multicultural education is learning about different cultures and their ideas, beliefs, customs, writings, etc.

FST-20: [Multicultural education] is learning how people of all backgrounds live, learn, celebrate, pray, and speak.

FST-14: [Multicultural education is] learning about others and how other cultures have influenced our culture and appreciating the richness other cultures bring to our culture.

Other responses emphasized curriculum adaptation and development.

FST-1: [Multicultural education is] adapting curriculum to be able to make content material understandable and teachable to all students.

FST-24: [Multicultural education is] building a curriculum that will transcend language and...designed to meet the needs of all students.

FST-13: [Multicultural education is] curriculum formulated to educate children about the importance of tolerance and understanding towards human being's rich difference.

Several participants linked multicultural education with the process of teaching and imparting knowledge.

FST-1: [Multicultural education is] teaching a diverse population of ethnic, cultural, and language differences.

MST-3: [Multicultural education is] developing instruction methodologies that are 'user friendly' for students of minority ethnicities.

FSC-4: I think of teaching students about the many different cultures in our country and world. I am also reminded of my goals to share these pieces of literature with students to help bridge understanding between cultures in our school.

FET-25: [Multicultural education is] teaching children of different cultural backgrounds. If there are not many children of different cultures, it would be teaching them about different cultures.

FST-24: [Multicultural education is] utilizing multiple innovative teaching strategies that involve active engagement with the whole class, involve peer tutoring, and utilizing all of the senses in teaching.

Results of this study revealed the tenets associated most often with multicultural education were respect, knowledge and understanding of human differences, acceptance, tolerance, and fairness. For some, respect constituted an underpinning of multicultural education.

FET-15: The basic tenet for me is the Golden Rule, meaning that we respect all people and their beliefs. We don't have to live anyone else's belief, but we do need to respect them.

FET-21: My morals are based upon respect and responsibility. I believe everything comes back to these two principles. If people respect one another and themselves, then peace, love, joy, and happiness are present.

MST-3: All people are worthy of respect and intrinsically have value. We can agree to disagree, but respect is not optional. Treat others as you would have them treat you.

FET-21: This is very difficult to address, and I emphasize that families [may] believe different things about religion, and that we are to be respectful of the beliefs of others, even if we don't share those beliefs.

Possessing knowledge and having an understanding about other cultures were two other principles identified by participants. Examples of statements made about knowledge and understanding follow.

FET-16: Knowledge of common customs, beliefs, and languages held by multicultural groups that would aid in communicating and deeper understanding, to embrace the differences and similarities between themselves and the groups.

FET-26: Providing knowledge of many cultures with the intent of creating understanding, appreciation, and tolerance of cultural similarities and differences.

FET-16: Imparting knowledge about a multitude of ethnic backgrounds (customs, lifestyles, traditions, celebrations, history, etc. through multiple learning styles.

FST-12: By learning about the cultures of others, we will increase our understanding of our own culture, as well as our understandings of history.

FST-8: [A tenet of multicultural education is] being able to understand and educate people with different cultural backgrounds.

In addition to these tenets, participants reported multicultural education included the acceptance of all people, tolerance and openness to change, and treating students fairly.

Challenges of Implementing Multicultural Education

The majority of challenges to implementing multicultural education were directly related to what participants primarily referred to as a lack of cultural and ethnic diversity in the community and region.

FET-2: Because our district has very few minority children, we don't seem to address multicultural education much at all. If it comes up in stories or around Martin Luther King's birthday, we discuss it.

MST-5: We are not exposed to many cultural differences only because of our community make-up. We are a rural state with not many economic opportunities to attract other cultures. Our school/district is a reflection of the state.

MST-7: I don't believe many of our students have been exposed to much ethnic diversity and therefore do not have any knowledge about other people or cultures outside their own small community.

FST-13: In our district, we have a high population of one basic ethnic group.

FEA-14: We lack cultural diversity in [the region] and in our neighborhoods.

When asked to what degree of importance it is to communicate across cultures and to facilitate communication among diverse cultural groups, participants responded with a strong of appreciation. However, many comments also reflected the challenge of following through with multicultural instruction, given the lack of diversity in the region.

FET-2: I am definitely sensitive to this issue. It is very important to me that all my students feel validated and supported. However, the overwhelming majority of our students are White.

MST-3: It is very important to communicate effectively with all students, however we have very little ethnic diversity in our area and school.

FMT-9: It would be a top priority if we had any cultural or ethnic groups.

FST-13: Of course, it is important to me. But, as I stated, we do not at this time teach to a melting pot of diverse cultures.

FEA-14: The need isn't present in my area on a regular basis. Rarely do we have students enroll with a different ethnicity. If I lived somewhere else, it would be critical to each child's success.

FMT-9: In my school district...none. We are one big WASP community, unfortunately.

FET-26: We are largely White, Christian, and there is an underlying mistrust of minorities in parts of the community.

FET-27: In our district, there are not many opportunities for children to learn about cultures other than their own, except through media and books.

Several participants reported that a lack of time prohibited them from adding multicultural education to all the other subject matters they were expected to teach.

FET-15: There aren't enough hours in the day for me to meet all the needs of each child, even though that is my goal.

FET-21: Time commitments for other subjects. It's just one more thing.

FST-13: At this point, to be frank, we have such an extreme focus on performing for the Federal government we have little time for anything but the basics.

Others believed a general lack of interest and an absence of training diminished the desire to implement multicultural education.

FET-6: They have the attitude out of sight, out of mind. There aren't any, or very few, different ethnic backgrounds here so we don't need to worry about it. Acknowledging that you don't need the different groups present to teach about the cultures will be the first hurdle to jump over.

FST-22: The biggest challenge I see is that there is little to no cultural diversity in our school/district. It's hard for students to be interested, much less apathetic towards cultures that they are not exposed to. They are so set in their ways and ideas that I think it's hard for some of them to even realize that there is a whole world full of other cultures.

MSA-19: The area in which we live is pretty remote and much of the population is unaccepting of outside influences. Many educators have been part of this for far too long and have not had the opportunity or training needed to truly understand that there are differences in how children are taught and the perception of education in other cultures.

Importance of Multicultural Education

Despite the challenges mentioned, nearly all of the participants in this study indicated it was important to incorporate multicultural education into the curriculum. For example FST-22 wrote:

I believe it's extremely important for students to realize they are not the only ones here and other people and especially other cultures have different ideas and values, which may be different, but are unique and special too. Students can learn so much from someone who has different ideas, beliefs, and customs, so having that communication and respect across groups is important.

FSC-4 added,

“It is very important. It is our responsibility to provide equal access to education for all students.” Similar statements of support were made by over half of the participants.

Although many participants affirmed the importance of multicultural education, others disagreed, indicating it was not needed. For example, MMT-10 remarked, “In our school [multicultural education] is not too important. We do not have any or very many other cultures represented in our school. FEA-14 added, “The need isn't present in my area on a regular basis. Rarely, do we have students enroll with a different ethnicity. If I lived somewhere else it would be critical to each child's success.” A similar comment was made by MST-5 who stated, “this does not apply to our school, as there are no cultural or ethnic communities.” Another participant, FMT-9 claimed, “It is not at all because it is not an issue. I just had a friend visit from back east and in one week, she saw two people of ethnic backgrounds. “

When asked how multicultural education was being modeled by school leaders, respondents offered a mixed reaction. Some claimed no modeling took place.

MST-7: I have not observed educational leaders in our district modeling multicultural education.

FET-16: I do not see any modeling of multicultural education from our district and school leaders.

FST-17: I am not seeing any examples of multiculturalism being modeled by educational leaders in my school or district, unfortunately.

Others believed school and district leaders were actively engaged in modeling and promoting multicultural education, even though no participant knew with certainty whether their school or district had a diversity plan requiring multicultural education.

MST-3: The principal in our school has held assemblies discussion hurtful behavior towards others.

FEA-14: I observe our leaders demonstrating positive attitudes, beliefs, and behaviors regarding others regardless of socio-economics and/or ethnicity.

FET-21: I very much appreciate that our superintendent takes every opportunity to encourage teachers to actively promote educating our students to understand and respect historical leaders such as Dr. King and Rosa Parks.

FET-25: Our leaders do value multicultural education and have had teachers from Africa come and observe our schools.

FET-26: The few multi-ethnic families are always welcomed, students treated fairly, and as any other would be treated.

DISCUSSION

Several key findings, which may influence decisions related to policy and leadership can be learned from this study. First, the challenge of implementing multicultural education in a predominately White, homogenous area may be, in part, impacted by a narrow understanding of what this construct constitutes. Multicultural education encompasses more than teaching and learning about ethnic or cultural diversity, as suggested by some participants in this study. The mosaic of American schools reflects multiple images of individual differences. As educators, we must recognize other forms of diversity exist including race, age, physical attributes, religious preferences, sexual orientation, and home languages.

To develop cultural competence, Tiedt and Tiedt (2010) provide a multicultural education framework that focuses on integrating multicultural concepts into all subjects and grades. Nieto (2004) supports this concept and further suggests that because culture is always changing, educators must continually reflect on how cultural differences impact learning. Moreover, as Howard (1999) maintains, “The conserving function of education is to inculcate into the minds and hearts of each new generation those fundamental values and principles that define our unique character as a nation” (p. 5). Educators form the arches making this possible.

The challenges of implementing multicultural education mentioned by participants in this study mirrored those shared by Nieto and Bode (2008). If a school’s population is perceived to

have no diversity, then people are unable to justify the need for multicultural education. The danger in this reasoning is twofold. First, it assumes unless obvious distinctions exist, such as the color of one's skin or one's home language, the necessity to learn about the dimensions of human differences is unnecessary. The second conjecture posits students who reside in this area will never experience any interactions with those who do not share similar characteristics, values, and backgrounds.

Finally, this study sheds light on the perceived professional and ethical obligations educators and educational leaders believe they have in learning about, promoting, and embracing multicultural education. In their study on social justice leadership, Canfield-Davis, Gardiner, and Joki (2009) set forth the following challenge, "As educators we must assert leadership" (p. 215). This may prove problematic in some schools and districts where diversity plans are either ignored or nonexistent, as was reported in this study. Contacts with state officials revealed no requirements for districts or schools to produce diversity plans. The full implementation of multicultural education must be both a top down and bottom up process.

Each year, parents in districts throughout the United States entrust the care of their children with school employees. As educators, we have a choice. We can accept that "there is no problem," as indicated in Allport's groundbreaking work (1954, p. 502). Or, we can apply our framework of professional ethics and be stewards of multicultural education to ensure every child will be free from social injustice despite their unique characteristics.

Limitations and Recommendations

We are unable to establish a precise response rate due to our use of an anonymous online data protocol. We invited the entire population that consisted of all certified staff members in one school district. If we determine the response rate based upon the total number of certified employees invited ($N=270$) to our participants ($n=27$), who completed the online survey containing open-ended questions, then our response rate was 10%. This limits the transferability of the results. Couper (2001) indicates web-based survey methods may discourage participants due to technical difficulties. A possible reason for the low response rate could be attributed to the use of open-ended questions, which requires more time from the participants to complete. Previous research indicates no consensus for a critical response rate in published articles (Perera-Diltz & Mason, 2008).

Second, the data sample was comprised of predominantly white, female, Euro-Americans. There was only one employee in the school district from a minority group. This may show our data reflects limited points of view. The participants in this study were unique, and the findings cannot be generalized to other schools or districts. Additional data collected from other communities with similar characteristics would generate additional understanding of how educators view the importance of multicultural education.

Finally, a pilot test was not administered which may confound the results if participants found any questions to be ambiguous, or if an excessive amount of time was needed to complete the instrument (Creswell, 2008). However, we did not receive any such comments from those who returned the survey.

Recommendations for further study, including the gathering of data from other communities with similar characteristics would generate additional understanding of how educators view the importance of multicultural education. Obtaining educator perceptions about multicultural education from communities that are considered to be more diverse would also be useful. A more in-depth, holistic analysis of curriculum approaches, lesson plans, and observations of school culture would serve to evaluate the degree to which multicultural education is incorporated into the school program.

Last, Marshall and Oliva (2010) make the following assertion, “educational leaders will have the will, the words, the facts, and the guts to make a difference” (p.315). Further exploration of how leadership at the school and district level influences multicultural education may provide educators with knowledge of successful strategies to ensure all students are treated with dignity and respect.

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Appendix A: Description of Participants				
Participant Number	Gender	Grade Level	Current Position	Years of Experience in Education
FST-1	Female	Secondary	Teacher	4
FET-2	Female	Elementary	Teacher	7
MST-3	Male	Secondary	Teacher	4
FSC-4	Female	Secondary	Counselor	20
MST-5	Male	Secondary	Teacher	30
FET-6	Female	Elementary	Teacher	9
MST-7	Male	Secondary	Teacher	21
FST-8	Female	Secondary	Teacher	15
FMT-9	Female	Middle	Teacher	19
MMT-10	Male	Middle	Teacher	33
FET-11	Female	Elementary	Teacher	24
FST-12	Female	Secondary	Teacher	2
FST-13	Female	Secondary	Teacher	13
FEA-14	Female	Elementary	Administrator	19
FET15	Female	Elementary	Teacher	over 30
FET-16	Female	Elementary	Teacher	17
FST-17	Female	Secondary	Teacher	32
FMT-18	Female	Middle	Teacher	26
MSA-19	Male	Secondary	Administrator	12
FST-20	Female	Secondary	Teacher	15
FET-21	Female	Elementary	Teacher	29
FST-22	Female	Secondary	Teacher	5
FMT-23	Female	Middle	Teacher	23
FST-24	Female	Secondary	Teacher	4
FET-25	Female	Elementary	Teacher	8
FET-26	Female	Elementary	Teacher	37
FET-27	Female	Elementary	Teacher	3

Appendix B: Multicultural Survey Instrument

1. When you hear the term multicultural education, what tenants come to mind for you?
2. How do you define multicultural education?
3. What educational disparities for students do you see in your school/district/state?
4. To what degree is it important for you to know how well your school/district/ serves the various cultural and ethnic communities represented in your school?
5. How to you gauge their opinion on the educational practices taking place in your school?
6. As an educator, how important is it for you to be able to communicate across cultures and to facilitate communication among diverse cultural groups?
7. If you could name three multicultural proficiencies you believe every educator should have and model, what would they be?
8. What do you see as the difference between a broadly conceptualized multicultural education, and multicultural education characterized by celebrating holidays and heroes?
9. Does your school/district have a diversity plan? If yes, please describe the components of it. If not, why might this be the case?
10. When you hear a student or students use words like *gay, fag, dyke, spick, etc.* as put downs, what is your response?
11. If one purpose of schools is to prepare citizens of all backgrounds for active participation in a democratic society, how does your curriculum, faculty, school environment, and community outreach contribute to this purpose?
12. What characteristics would determine that a school is committed to multicultural education?
13. One's moral compass generally drives their behavior and decisions? Please share how your moral compass guides your decisions to ensure all students are treated equally and fairly in your school. Describe the key principles that define your vision of good morals and ethics.
14. What challenges do you see in implementing multicultural education in your school?

BRIDGING THE GAP: THE ROLE OF OUTREACH PROGRAMS IN GRANTING COLLEGE ACCESS TO FIRST GENERATION STUDENTS

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ABSTRACT

This paper represents findings of a college outreach program that targeted first generation students to help bridge their path to college education. The study examined outreach program participant' actual college attendance with their stated intentions to attend college while they were still 11th graders. The targeted population was 118 high school juniors who participated in a three-week business camp in 2007 and 2008. The camp introduced them to various topics in business education and helped them overcome issues that restrict their college ambitions. A follow up of the program's former participating students revealed that 95 % of 2007 and 2008 participants are actually attending college as compared to 97% who indicated their intention to go to college. The study concluded that attending the summer business program motivates students to attend college. However, the study did not find a positive correlation between attending a summer business program and majoring in a business discipline.

INTRODUCTION

REACH Business Camp is an initiative by the College of Business and Public Management at the University of La Verne with a clear vision of reaching out to first generation, underserved junior high school students. The objective of this program is to put college within the reach of any student no matter how unattainable a goal it may seem, by giving them a taste of college life and study with dormitory stay, targeted, extra-curricular activities, and business classes instructed by the University's undergraduate and graduate business faculty. The choice of subject matter was determined by the pool of students electing to attend the program. That is, interested students indicated an existing interest in business studies but were not sure about acting on that interest due to lack of financial resources to attend college and/or not being familiar with the steps involved in successfully applying to colleges and for financial aid.

The program has gained a reputation of being among the best programs in motivating high school students to pursue college education as measured by the program's graduating students' inclinations to attend college (96% in 2007, 98% in 2008, 98% in 2009, and 98% in

2010), and by the demand to add more students from the existing, participating districts and other school districts who want to be part of it in the future.

Over the past 4 years more than 200 juniors from various Inland Southern California high schools participated in this three-week long program. Students were nominated by one or more of their school career counselors, teachers, assistant principals, or principals to participate in the program. Students were also interviewed by the program director to make sure they fit the program's criteria which included: (1) Students having shown an interest in business education but being at risk of not pursuing that interest at the university level; and (2) Students having the aptitude and discipline to pursue a university education (indicated by a grade point average of 2.5 or higher, and involvement in some extracurricular activities including service to the community or to school, but being discouraged because of (a) financial issues, (b) family commitments, and (c) not having considered attending university.

PROGRAM CURRICULUM AND ACTIVITIES

The program curriculum consisted of instruction in the areas of management and organization, marketing, economics, accounting and finance, business ethics, creating a business website, success skills, entrepreneurship, and environmental sustainability. Camp participants were also exposed to college Admissions and Financial Aid through two workshops delivered by 2 University of La Verne counselors; and two SAT sessions (one on English & one on Math).

The program also featured motivational speakers including the State of California Assembly member Norma Torres; the Mayor of the city of Ontario Mr. Paul Leon; the Chief Executive Officer of the Webb Family Enterprises (a franchise owner of 11 McDonald's restaurants in the Inland Valley region of Southern California) and the Chairperson of the Global Operator Leadership Council for the McDonalds Corporation Mr. Reggie Webb; the former Superintendent of Rialto Unified School District Ms. Edna Davis-Herring; the Chief Administrative Officer of the Metropolitan Water District of Southern California Mr. Gilbert Ivey, the President of the University of La Verne Dr. Steve Morgan; the Mayor of the city of La Verne Mr. Don Kendrick in addition to many other community and business leaders.

To achieve its goals and make the program entertaining, students participated in other extra-curricular activities including field trips to the Metropolitan Water District's "MWD" of Southern California's Weymouth treatment plant and Diamond Valley Lake; attended a concert at the Hollywood Bowl; watched a baseball game at the Quakes stadium; visited the Jet Propulsion Laboratory "JPL"; and spent a half a day at the Getty Museum. In addition, Program Management organized pre and post celebratory events for students and family members, which were well attended by community leaders, school officials, and business and civic leaders.

The Business Plan Competition: One of the Program's Highlights

As in previous years, program management staged a business plan competition among participating students. The primary goal of the business plan competition is for students to demonstrate that they are able to create economic opportunities for all members of the group and the surrounding community through the application of what they have learned during the program. All students worked in groups of five to apply knowledge gained from daily instruction by developing business plans, based on specific criteria, for creating sustainable and profitable businesses. These business plans were presented to a panel of judges composed of business and community leaders. Program management awarded a \$1000 prize for the winning team while the runner-up received a \$500 prize. Below is an explanation of the evaluation criteria used for this activity:

1. The project was economically feasible and the group demonstrated an understanding of how a market based economic system operates
2. The group demonstrated that they have the right education and skills to make the project successful in a dynamic and competitive economy.
3. The group demonstrated their ability to succeed as entrepreneurs. They demonstrated knowledge of how to organize and manage.
4. The group demonstrated the financial management abilities and skills they have acquired through the REACH Business Camp.
5. The group demonstrated their understanding and commitment to ethics and ethical values.
6. The group demonstrated their knowledge of how to market their business, including creating a viable website.

Members of the University of La Verne Students In Free Enterprise "SIFE" team served as mentors to the students and served as advisors for the participants' business plans. In addition, SIFE students helped provide unique learning opportunities about principles of free enterprise. They helped them learn to work both individually and as a group to develop and complete projects designed to teach the principles of a market economy at their level of understanding and appreciation. SIFE students were instrumental in helping REACH participants develop their ability to apply their newly acquired knowledge and skills to real business situations; strengthen communication, team building, problem solving, and time management skills; improve written and oral presentation skills; use state-of-the-art presentation equipment; strengthen entrepreneurial and managerial skills; and improve ability to work in groups.

In 2007, Tom Marshall (the then editor of the Inland Valley News, a local newspaper) noted that while participating high school students did well during the three weeks' summer program, they showed appreciation for what they had learned, and they demonstrated a clear understanding of the principles of operating a business in a competitive environment.

Commencement with Powerful Speakers

Finally, a commencement was held for participating students on the last day of the program in the University's Sports Pavilion. More than 600 people each year attended this commencement, including community and civic leaders, business leaders, school officials, in addition to participating students' parents and family members. The commencement also featured a graduation speakers like Ms. Edna Davis-Herring, Superintendent of the Rialto Unified School District (2007); Mr. Reggie Webb, the CEO of the Webb Family Enterprise "also the National Chair of the McDonald Corporation's Leadership Council" (2008); Mr. Gilbert Ivey, the Chief Administrative Officer of the Metropolitan Water District of Southern California (2009); and Ms. Norma Torres, Assembly Member (2010). At graduation, certificates of graduation, certificates of achievements, and California State Assembly achievement certificates were given to students, and the winners of the business plans competition were announced and received their prizes.

In his speech to the students at the REACH opening breakfast in July 2010, Mr. Reggie Webb, the Chairperson of the Global Operator Leadership Council for the McDonalds Corporation expressed the importance of this program by saying:

What REACH does is give students a chance to experience what it will be like in college...it prepares them just not academically but mentally, spiritually and emotionally, which is everything it takes to get a degree...to achieve success, you must tie your star to another star that is going somewhere...everybody needs help at some point, you just can't do it yourself. You can't teach yourself things you don't know (Smith, 2010, p. A5).

THE PURPOSE OF THE STUDY

This paper represents a follow-up study on former REACH Summer Business participants to examine participants' actual attendance of college as compared to their stated intentions to attend college when they were 11th graders. The targeted population was 118 high school juniors who participated in a three-week business camp in 2007 and 2008 that introduced them to various topics in business education. It is the purpose of this paper to determine whether REACH business camp can affect first generation students' decision to actually attend college in order to determine program applicability and effectiveness within said sample. Accordingly, this paper addresses the following research questions:

1. Is there a positive relationship between participation in the summer business camp and students' college attendance?

2. Is there a positive relationship between participation in the summer business camp and majoring in a business discipline?

LITERATURE REVIEW

Research indicates that while first generation students are at a distinct disadvantage when it comes to entering and succeeding at college, with sufficient support, they can turn those disadvantages around (Jashik, 2005; Ellwood & Kane, 2000 as cited in Ghazzawi, 2010). One famous example is that of President Barack Obama who attended two Ivy League institutions and then went on to become America's first African-American President (The Associated Press, 2008 as cited in Ghazzawi, 2010).

Today, many institutions are reaching out to under-represented "mostly" first generation students through offering some form of a pre-engineering or math/science program with a goal to increase the enrollment and retention of members of the said group-for example, the University of Maryland Baltimore County, University of Akron, Bowling Green State University, and the University of La Verne, to name a few (Ghazzawi, 2010; Yelamarthi & Mawasha, 2008).

Increasingly, first-generation college student have come to the attention of researchers and academics alike as Colleges are reaching out to this demographic. One way in which they reach out is via specific outreach programs aimed at informing first-generation, low-income, and minority college-bound student about their college options. According to Pascarella, Wolniak, Pierson, & Terenzini, (2003), "first-generation students are at a disadvantage compared to their peers with respect to basic knowledge about postsecondary education, including: Higher education costs, application process, support, degree expectations and plans, and secondary school academic preparation" (as cited in Ghazzawi, 2010). In addition to this lack of knowledge about the mechanics of applying for and getting into college, these same students have problems making the academic transition from school systems that do not prepare them for what they will encounter in College (Rendon, Hope, & Associates, 1996; Terenzini, Rendon, Upcraft, Millar, Allison, Gregg, & Jalomo, 1994 as cited in Ghazzawi, 2010).

Apart from the above mentioned issues, according to Pike and Kuh (2005), in a study of 1,127 first-year students at various four-year colleges and universities, first-generation students are also far less likely to graduate from college precisely because they are the first in their families to attempt college. This leaves them without the family support that second and third-generation college attendees can take for granted (as cited in Ghazzawi, 2010). Therefore, as researchers gain a deeper understanding of the roadblocks that stand in the way of first-generation students successfully accessing a college education, more is being done to reach out to this population of students than ever before.

According to Hirsch (2008), US commitment to providing underserved students with avenues to college education is marked by the number of outreach programs to be found across the country. These programs may take the form of free or reduced tuition rates at well-endowed

universities such as Amherst or Harvard, while at other colleges, like Clark University or the University of Massachusetts Boston, they may be in the form of partnerships with high schools or various types of bridge programs. Despite this abundance of avenues into colleges for underserved students, Hirsch (2008) argues that unless students successfully complete their degree programs, they will simply have taken on debt without the benefits of remunerative employment that a college degree can provide. Hirsch (2008) concludes that in the present global economy, successful completion of a college degree can make the difference between lifelong employment and penury, and calls for increased cooperation between all bodies involved in creating avenues to college for economically disadvantaged students.

Why Outreach Programs?

Researchers like Carlson (2009), Kroon, De Klerk, and Dippenaar, (2003) and White, (2006) have conducted longitudinal studies of the positive and long lasting effects of students who have attended outreach programs. For example, Carlson (2009) saw the long-term effects of a Junior Achievement curriculum entitled "Enterprise in Action." According to him, he was able to see how it influenced students who had participated in it well into their high school years (as cited in Ghazzawi, 2010). In addition, researchers like Curtin (2008) and Abbady (2008) can attest to the fact that first-generation students require help with the complexities of college application. In the case of Curtin, it was his parents who were that support, while Abbady argues that without savvy parents or friends to rely on, a first-generation student has little chance of successfully completing the complex run-up to entering college (as cited in Ghazzawi, 2010). In recognition of this fact, according to US Fed News Service (2008), universities like Wisconsin at Madison provide outreach for first-generation students by helping them with the application process and then by providing them with adequate tutoring resources throughout their years of study (as cited in Ghazzawi, 2010).

Recently, North Arkansas College in Harrison announced its recipient of \$327,212 grant from the U.S. Department of Education grant to fund its Student Support Services program dedicated to providing academic and other support services to low-income, first-generation or disabled college students to help them stay in school, graduate and achieve academic success (U.S. Fed News Service, 2010). During the grant's announcement, Senator Mark Pryor of Arkansas said: "College can open doors, put students on a path to success, and strengthen our nation's competitiveness, but first we must help students overcome any unique challenges that can stand in the way...These funds will help provide students with financial aid counseling, tutoring, and career guidance to ensure they receive the support they need to reach their full potential." (U.S. Fed News Service, 2010, para. 5). Similarly, the University of Bridgeport in Connecticut received a competitive \$1.1 million five-year grant awarded by the U.S. Department of Education to help 140 undergraduates annually with extra tutoring and guidance. The grant provides \$220,000 a year to fund a range of services aimed towards low-income, first-generation

college students and students with disabilities boost their academic performance and successfully complete college (Lambeck, 2010).

Bourdieu (1977) argues that “because schools are institutions that are structured on a middle-class (or higher) orientation, middle-class families and their children understand the cultural and social nuances of how they operate” (as cited in Loza 2003, P. 46). This means that children not born into the middle and upper-middle classes need to learn the conventions or rules of the game if they are to succeed in the educational environment. In fact, research abounds indicating that social class impacts everything from teacher expectations to the physical conditions of each school (Loza, 2003). Similarly, Snell (2008) points out that when students are in college, “the majors being chosen, and the process by which students choose their majors, are all shaped by income, class, and education level” (as cited in Ghazzawi, 2010). Other factors that affect how student choose their colleges and majors are related to which majors will garner them gainful employment, meet parental approval or allow them to retain their circle of friends. Thus, while successful parents understand the role of college for future success and will prepare their children accordingly, parents with no college background may not have either the means or the knowledge to provide similar support to their children.

Kane (2001) argues that while college attendance stands at 80% for students from the middle and upper middle classes, only 57% of students from the lower middle classes actually attend college (Ghazzawi & Jagannathan, 2008). In addition, Ellwood and Cane (2000) indicate that “enrollment gaps based on family income have been widening over time” (as cited in Ghazzawi & Jagannathan, 2008, p. 48). Therefore, outreach programs seek to help students learn some of those conventions so that they too can gain access to a college education that is increasingly deemed a necessity for anyone desiring upward, social mobility. It is no surprise, therefore, that there are so many outreach programs across the country.

According to Hirsch (2008), US commitment to providing underserved students with avenues to college education is marked by the number of outreach programs nationally. These programs may take the form of free or reduced tuition rates at well-endowed universities such as Amherst or Harvard, while at other colleges, like Clark University or the University of Massachusetts Boston, they may be in the form of partnerships with high schools or various types of bridge programs.

Researchers like Gandara and Bial, 2001 or Perna (2002), put the total college outreach programs, presently in operation around the US, at around a 1,000. Each one offers a different mix of educational support and information to students from economically impacted backgrounds. In fact, based on statistics provided by the Educational Longitudinal Survey (ELS) of 2002, fully one in 20 US public schools participate in outreach programs, while one in ten economically disadvantaged high school students attends such a program each year (Domina, 2009).

Do Outreach Programs Work?

Researchers like Eckholm (2008), argue that interventions with low-income teenagers, namely African Americans and Hispanics, have proven effective at a time when said minority group is losing ground in today's job market. For instance, Texas A&M University has spent millions of dollars over the past six years to reach out to African-American and Hispanic students through the establishment of recruiting centers in Houston, Dallas, San Antonio, McAllen and Laredo and creating scholarships for first-generation and underserved students and high schools (Kever, 2010). To ensure students' success, the university provides mandatory classes in study skills and time management, and requires students to check in with advisers regularly. In addition, the university provides mentors for first generation and other minority students (Kever, 2010).

However, despite this abundance of avenues into colleges for underserved students, and despite some evidence that some of these programs are successful, Hirsch (2008) argues that unless students successfully complete their degree programs, they will simply have taken on debt without the benefits of remunerative employment that a college degree can provide. Hirsch (2008) concludes that in the present global economy, successful completion of a college degree can make the difference between lifelong employment and penury, and calls for increased cooperation between all bodies involved in creating avenues to college for economically disadvantaged students.

Adding to the concerns of authors like Deborah Hirsch, are studies that indicate that outreach programs show mixed results in terms of whether students go to college and, more importantly, whether they succeed once they get there. Despite these numbers, however, not enough is known about how well these programs work. For example, Domina (2009), using data from the 2002 ELS, initially concluded that outreach programs do little to change participating students' educational experiences. However, it was concluded that the programs may have a greater effect on students who did not actually participate. For example, it may motivate teachers to talk to their students more often about college attendance. Similarly, it may have the effect of helping peers, who did not attend the program, solidify their college plans because of the feedback received from those who did.

However, Domina (2009) goes on to point to the limitations of the data in that it is mostly based on self-reporting by students, some of whom may have only minimally participated in an outreach program. In addition, the study focused on participants who were in the 10th and 12th years of schooling while there is evidence that earlier interventions (8th and 9th grades) may show more significant effects. Based on these limitations, therefore, Domina (2009) calls for more studies, with narrowly defined criteria, in order to determine whether outreach programs are effective or not.

Ghazzawi and Jagannathan (2008) conducted just such an assessment study on a Summer Business Camp (REACH) held at the University of La Verne. While their study showed REACH

to have successfully motivated students to attend college, they in turn concluded that the study had some limitations such as the fact that the study sample consisted of only 50 participants from one summer camp as data from previous camps was unavailable. Therefore, the researchers pointed to the need for other types of studies, built on the first one that would compare REACH with similar programs. In addition, they speculated on the outcomes of a Summer Business Camp hosted by the entire University as opposed to only by one College. Finally, they called for an in-depth study conducted over several REACH camps to seek for consistency of results.

RESEARCH METHODOLOGY

This study assesses the impact of the two years (i.e. 2007 and 2008) of how an outreach Business Program “REACH Business Camp” helped first generation/underserved students in attending college and considering business education. The research method used for this study was based on a follow-up letters sent directly to students requesting updates on where they are in terms of college attendance, institution’s type (i.e. 4 year college, 2 year college, trade school, and military school. One of the authors sent a follow-up e-mail as a reminder. Additionally, most of the students were contacted via a telephone for an update.

The major part of the study included 118 high school students who participated in the program (50 in 2007 and 68 in 2008) from three Southern California school districts. Said students were previously selected based on their demonstrated the ability to succeed at a university by having a grade point average of 2.5 or higher on a 4.0-point scale and by being involved in some extracurricular activities such as service to the community, or the school. Additionally, participants in the program should have a desire to attain a business education.

Procedure

Participation in this study was voluntary and data was gathered via letters, e-mails/telephone responses, all of which were kept confidential. Participants were asked to answer questions on whether they are currently attending a college, its type, and what they are majoring in. To ensure the validity and the confidentiality of the collected information, participants were told that all provided information would remain confidential and would be disclosed only with the participant’s permission or as required by law.

Participants and Setting

In the year 2007, the sample had 50 high school juniors of which 54% were women (n=27) and 46% were men (n=23). Respondents’ ethnic backgrounds were 22% African American (n=11), 14% Asian/Pacific Islander (n=7), 18% Caucasian/ White (n=9), and 46% Hispanic (n=23). In comparison, in 2008, the sample included 68 high school juniors of which

66% were women (n=45) and 34% were men (n=23). Respondents' ethnic backgrounds were 22% African American (n=15), 18% Asian/Pacific Islander (n=18), 4% Caucasian/ White (n=3), and 56% Hispanic (n=38). Exhibits 1, 2, and 3 summarize the sample characteristics.

Exhibit 1: Characteristics of the Sample (N=118 for two years. 2007 N=50 and 2008 N=68)						
Ethnic Background	2007 Frequency	2007 %	2008 Frequency	2008 %	Combined 2 years Frequency	Combined 2 years %
African American	11	22	15	22	26	22
Asian/Pacific Islander	7	14	12	18	19	16
Caucasian/White	9	18	3	4	12	10
Hispanic	23	46	38	56	61	52
Total	50	100 %	68	100 %	118	100 %
<i>Gender</i>						
Male	23	46	23	34	46	39
Female	27	54	45	66	72	61
Total	50	100 %	68	100 %	118	100 %

In addition to the aforementioned questions, participants were asked by the program's director to write a letter or to send an e-mail indicating what aspects of this program were satisfying to them personally and helped changed their perspective about college. Sample testimonials included with this paper have been reproduced verbatim.

Exhibit 2: Characteristics of the Sample (N=118 for two years; 2007 N=50 and 2008 N=68) by Ethnic Background

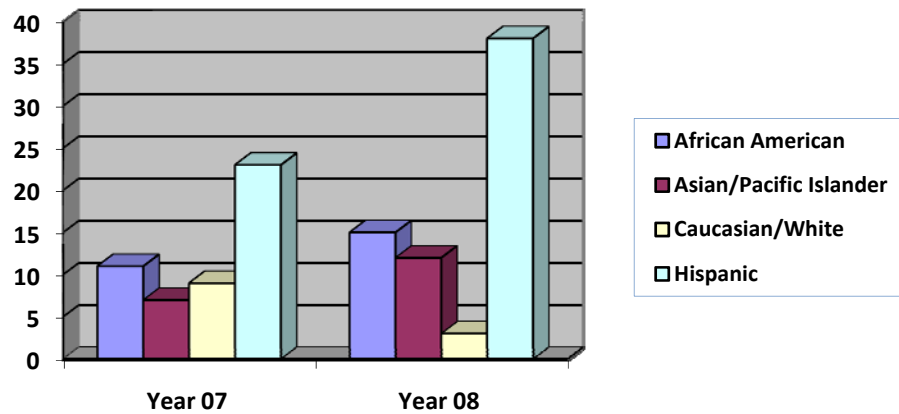
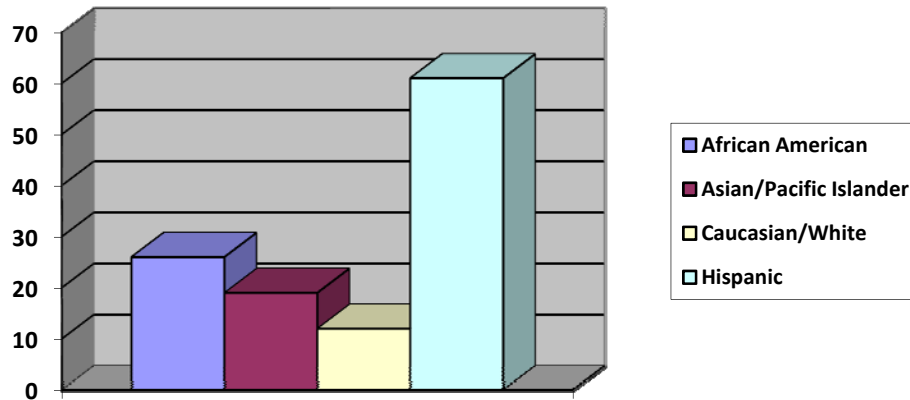


Exhibit 3: Characteristics of the Sample by Ethnic Background for Two Years Combined (N=118)

DISCUSSION

Intention to Attend Versus Actual College Attendance

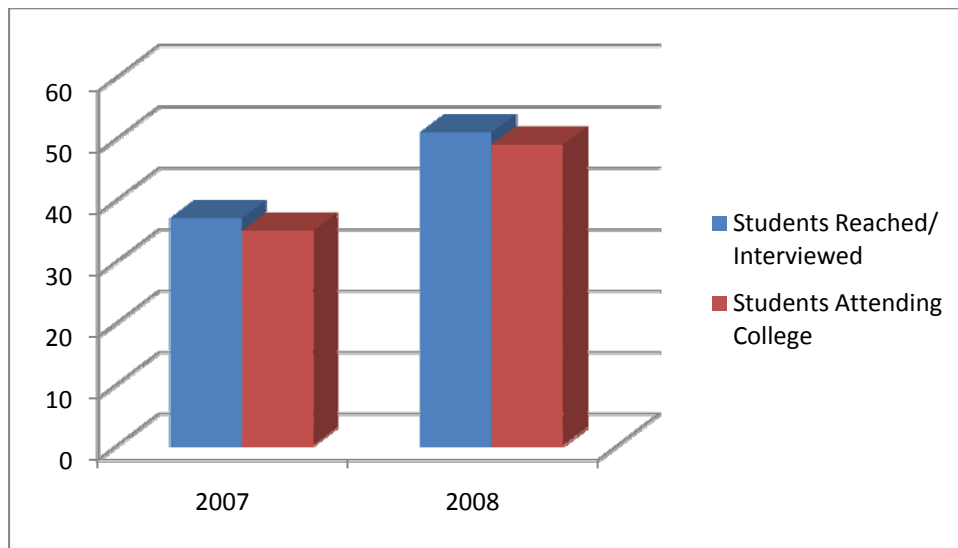
On the 2007 post assessment survey, students responded to the question of whether they intended to go to college, 48 students (22 male and 26 female), representing 96% of program participants, indicated their willingness to attend college. Only one female student indicated that she was “not sure” and one male student did not participate in the post test because of his illness at the time (Ghazzawi & Jagannathan, 2008; Ghazzawi, 2010). In the follow-up study of the former participants who would be in college, 39 out of 50 former participants were reached. The remaining 11 students were not able to be reached due to changes in addresses. Of the 39 students, 37 of them- 94% (16 male and 21 female) are actually in college today. The remaining 2 students (female) are attending trade schools (1 in a culinary school and in a cosmetology school).

Similarly, on the 2008 post-assessment survey, 67 students (23 male and 44 female), representing 98% of program participants, indicated their willingness to attend college. Only one female student indicated that she was “not sure”. In the same follow-up, 51 out of 68 students were reached. The remaining 17 students were not able to be reached due to address changes. Of the 51 students, 49 of them-96% (15 male and 34 female) are actually in college today. Please see Exhibits 4, 5, 6, and 7.

Exhibit 4: Intention to Go Versus Actual Attending of College: A follow-up						
Year	Number of students in the program	Participants inclination to attend college	% of participating students	Follow-up/ students reached in 2010	Students currently attending college	% of participating students
2007	50	48	96	39*	37	94
2008	68	67	98	51	49	96
Total	118	115	97	90	86	95

* 1 student is in a culinary school and 1 is in a cosmetology school.

Exhibit 5: Actual College Attendance: REACH 2007 and 2008 Participants Who are Currently Attending College



As one former student who is studying environmental science at the University of California, Berkeley wrote, “Participating in the 2008 REACH Business summer program at La Verne fortified my drive to attend college. The intimate campus of La Verne gave me a taste of what university life would be like, and I thoroughly enjoyed it. Among the variety of business classes that were offered during those three weeks, I feel that outside of the classroom, that summer taught me one of the most important parts of business, networking. There are many people I met that I still am in contact with. Although three weeks seems like a short time, I still talk about that summer where I collaborated with many, learned a lot about working with others, and had a lot of fun” (Lam, 2010).

Another student wrote the following e-mail:

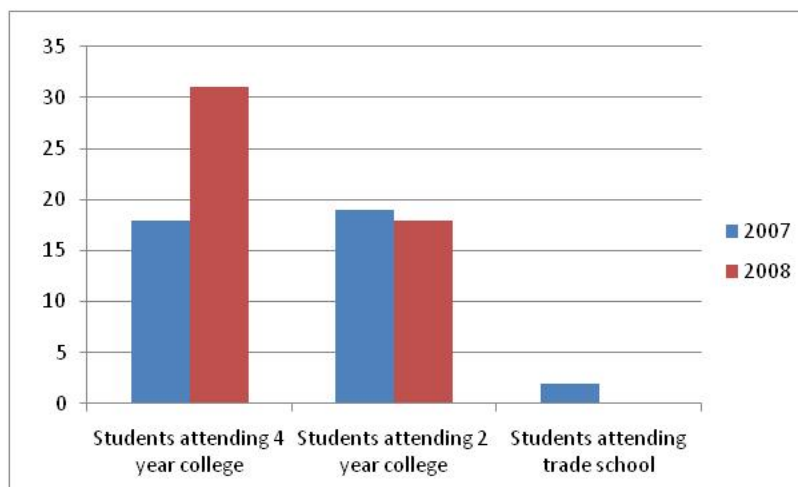
“My name is Edilia Herrera and I am currently going to Mt. San Antonio College. Am transferring to Cal. State, Fullerton. My major is computer and network technician and am planning to get a second degree in business management. Attending to University of La Verne for the business camp was one of the best experiences I had during the whole life attending to that camp changed my life forever. I learned so much that I never thought that I would ever say these but I actually loved being in class. The professors made each class session so fun and enjoy able to learn. I learned things that actually help me now in my daily life, I loved the camp... I thank you, the sponsors, he Ra’s, for making that great impact o my life that actually influenced me to continue going to school, to go to college and do something with my life” (Herrera, 2010).

Exhibit 6: Where Did REACH Participants Go?

Year	Number of students in the program	Follow-up/ students reached in 2010	Students currently attending college	Students attending 4 year college	Students attending 2 year college	Students attending trade school
2007	50	39	37	18*	19	2**
2008	68	51	49	31	18	0
Total	118	90	86	49	37	2

* 1 student is attending the Air force Academy
 ** 1 student is in a culinary school and 1 is in a cosmetology school.

Exhibit 7: Where Did REACH Participants Go?



Are Former REACH Participants Majoring in Business?

Former participants were asked if they are majoring in business. Based on their responses, it was revealed that a total of 16 students (i.e. 9 students from 2007 and 7 students from 2008) are majoring in business. While 35 students in total do not have a declared major yet (10 from 2007 and 25 from 2008), 35 (18 from 2007 group and 17 from 2008 group) are majoring in other majors (i.e. natural science, social science, and other disciplines). Therefore, the majority of the former participants are not majoring in business-related majors. Please see Exhibits 8 and 9. It is clear that more students from the 2008 group are still undecided as compared to 2007 due to the reason that they are still in their first year in college while their 2007 counterparts are on their 2nd year and got a better grip on college education and majors. Please see Exhibits 8, and 9.

One former participant who is majoring in business administration and currently at the University of California, Berkley wrote:

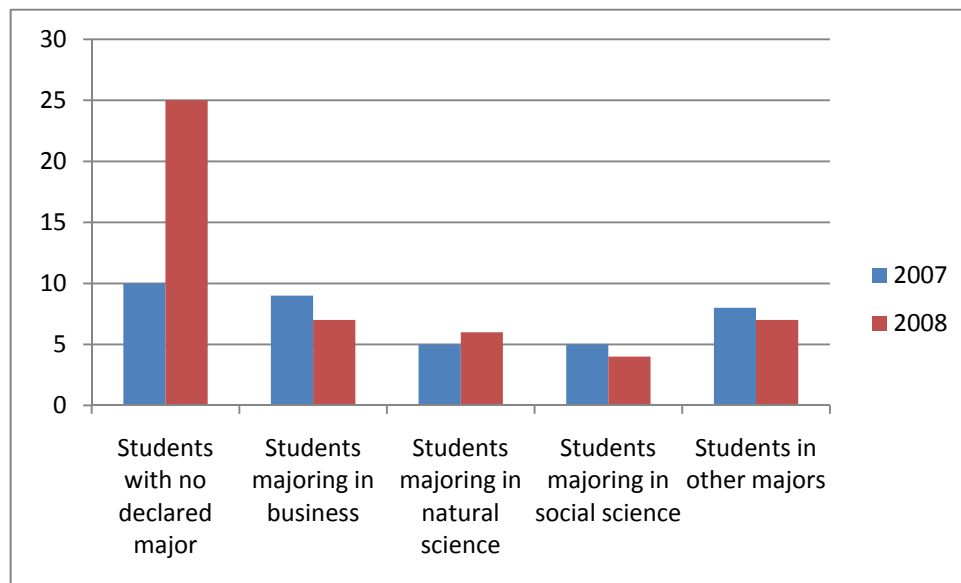
“The REACH business camp provided me with a wide range of knowledge regarding the business world, as well as led me to realize that business is what I want to practice in the future. It taught me skills and techniques dealing with networking, entrepreneurship, marketing, financing, accounting, and much more. Overall, the summer camp was a life changing experience, which allowed me to apply the learned skills and information to the real business world” (Motiwala, 2010).

Another former REACH participant who is currently at the University of California, Riverside and majoring in business administration stated:

I really enjoyed my time at the REACH business camp. Although we came in second place I learned a lot and was able to get a taste of different aspects of the business field. I now attend the University of California, Riverside and am majoring in business administration with an emphasis in accounting. I was really able to grow from this camp; attending University of Laverne for those amazing three weeks motivated me to further explore within the world of business. Thank you! (Murthy, 2010).

Year	Follow-up/ students reached in 2010	Students currently attending college	Students with no declared major	Students majoring in business	Students majoring in natural science	Students majoring in social science	Students in other majors
2007	39	37	10	9	5	5	8
2008	51	49	25	7	6	4	7
Total	90	86	35	16	11	9	15

Exhibit 9: Former REACH Participants: What They Are Majoring In?



As the main objective of REACH business camp is to provide first generation “underserved” 11th graders a taste of college and help nurturing them, the findings for the proposed research questions based on the aforementioned discussions may be summarized as follows:

Finding 1

There is a positive relationship between participation in the summer business camp and college attendance.

Finding 2

While during the participants' selection process students showed desire to study business, there is no relationship between participation in the summer business camp and majoring in business.

What Former Participants Are Saying?

As demonstrated in the study findings and conclusion, the program outcomes are very positive and suggest that outreach programs like the summer REACH business camp help jump started participating first generation students to further their education and pursue a college dream, program's director received many encouraging letters, e-mails, and phone messages from supporters, school administrators, school counselors, superintendents, community leaders, and most importantly former participants (see Appendix A). In a personal letter to the author of this paper, one student who is attending the University of California, Irvine wrote:

My name is Jane Chang and I am currently a second year attending the University of California, Irvine as a Biological Sciences major. Throughout my educational lifespan, I think the experience that I encountered in the REACH program is one that is beyond words. The REACH program not only impacted my educational experience, it impacted and greatly influenced my liking for college and motivation to attend college. I remember way in the beginning when I was first signing up for this summer program, I hesitated a bit for a few reasons such as, being separated from my family and going away to a foreign place for a month... It was an experience that helped me adjust to college now, and it was an experience that helped me grow as a person. The fundamental knowledge and information provided by the instructors were great, and the amount of experience I gained living at the Residence Hall helped me learn to interact better with my peers. Not only did the REACH Summer Program help me to become a better student and friend, it thoroughly prepared me for my education and social experiences at the University of California, Irvine. Thank you Dr. Ghazzawi for being a part of this REACH Program and allowing me to encounter one of the best experiences of my life. It was incredibly memorable and educational and Thank You for helping me reach once step closer to becoming a better person (Chang, 2010).

Another student who is attending the University of California, Los Angeles wrote the following note:

As a junior in high school, I heard about the REACH Business camp through my English teacher who highly recommended it. I was instantly interested and was very excited about being in a college environment for the summer... We rarely have a taste of the real outside world let aside a chance to interact with people of different ethnicity, religion, and background. However, being part of the REACH business camp really allowed us this opportunity. Therefore, my peers and I had a taste of how college would be. We were interacting and working on business plans and models with others... This was definitely an inspiring and motivating factor of business camp. My team created a company called NDIZI (a charity organization), which won first runner up. We were featured in the Claremont Courier newspaper and this was a big motivation for a lot of us to reach higher and dream bigger. I realized that dreaming, working hard, and achieving this dream can take me places that I never imagined I could be. REACH Business camp really inspired me to put myself out in the world and it proved to me that I can go to any college and shine. It was just a matter of working hard. Immediately after camp, I began writing essays for national competitions (something I would not have done before), and I won first place in two competitions. During my college interviews, the interviewers were very impressed with my achievements which were inspired by my achievements at ULV... I am currently a sophomore at UCLA. I'm studying to get my B.S. in Physiological Sciences. I'm a pre-med student with hopes of attending medical school in the future. I'm very active on campus. I'm a staff writer for Al Talib student news magazine and I hold an administrative position with them as well. I also hold an administrative position with MAPS (Mentors for Academic and Peer Support) as Parent Coordinator, so I work with underprivileged students and interact with their parents to better their educational quality. So altogether, ULV REACH Summer Business Camp with Dr. Ghazzawi was really an inspiration and a motivational turning point for me. It helped me to learn to become more successful. Thank you for everything! (Kahil, 2010).

CONCLUSION, LIMITATION, AND IMPLICATIONS FOR FUTURE RESEARCH

Conclusion

The current follow-up study attempted to contribute to the literature by showing the impact of exposing first-generation, low-income, and minority college-outbound students to college life on their future decision to actually attending college. The study was based on a follow up of two years participants of a 3-week summer business program that brought together

a total of 118 first generation 11th graders (50 in 2007 and 68 in 2009). While students showed significant changes in their attitudes towards college in general and inclination to attend college as measured in pre and post tests in these years respectfully, this study demonstrated that an average of 95% of those who were reached in the follow-up study are actually attending college today and therefore accepted its claim that there is a positive relationship between participation in the summer business camp and college attendance.

The authors of this study conclude that programs such as REACH will help first generation students feel the sense of belongingness in a college environment. As Ghazzawi (2010) stated, these students developed realistic expectations of college, broke the cycle of fear, and re-assure their high sense of self-efficacy. In an e-mail to the program's director, one former student said "My name is Octavio Reyes and I am currently attending California State University, San Bernardino. I'm pursuing a B.S in International Business. I was always motivated in attending college, but what I did not know was what to expect or what was expected of me in college because I had no one to turn for advice. That is where the REACH program came in hand. The REACH program gave me the personal experience of living on a university campus. It also showed me that networking with fellow students and instructors was an important aspect of success in college and in life... (Reyes, 2010).

The researchers believe that participants' actual college attendance was partially due to the fact that said participants got more realistic expectations about college after they got a taste of it. This finding correlates with other studies' findings where researchers suggested a need to fostering first generation and minority college-bound students through institutional interference out of a believe that much of the variation in student's success or failure could be attributed to the differences in the characteristics of the students' background (Ghazzawi & Jagannathan, 2008; Jassal, 2007; Rumberger & Thomas, 2000 as cited in Ghazzawi, 2010).

On the contrary, the study concluded that no correlation exists between participation in the summer business camp and students subsequently majoring in business.

Limitations and Implications for Future Research

One of the limitations of the study was the obvious size of its sample; only 90 students participated in this follow up study. Therefore the study recommends that more research with larger numbers of participants is needed to ensure the applicability of this research findings to the general population of participants. Another limitation is the lack of published data regarding similar programs' outcomes from other institutions. Accordingly, the study suggest a future longitudinal research to cover several summer programs to determine whether these study findings will hold true over time. Ghazzawi (2010) suggested that it will be useful to do a comparative study with other similar programs in other institution(s). Finally, future research should also investigate not only the actual college attendance of first generation but also their retention rate.

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