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Michael Shurden
Editor
Lander University

Charles Emery
Editor
Erskine College

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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.

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

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

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Michael Shurden
Editor
Lander University

Charles Emery
Editor
Erskine College

FACULTY PERCEPTIONS AND ENCOUNTERS WITH DISRESPECTFUL STUDENT BEHAVIOR

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ABSTRACT

What behaviors are considered disrespectful by today's faculty members? What behaviors are considered acceptable? Are college professors' demographic characteristics significantly related to their perceptions and actual encounters with students' disrespectful behavior? This study, based on a survey of members listed in the Association to Advance Collegiate Schools of Business (AACSB) International directory, was motivated by these and related questions. Findings suggest that business professors' perceptions of students' disrespectful behavior were not always congruent with the encounters they reported on the survey instrument. Rank and employment status using ANOVA tests and Independent Samples T-Tests were significantly different with $p < .05$ and $p < .001$ respectively when compared to derived factors. Professors perceive a prudent student to be the converse of a disrespectful one.

INTRODUCTION

Pre-Civil War records show disruptive student behavior occurred at America's most prestigious institutions, such as Yale, Johns Hopkins, Princeton, and Harvard (Brubacher & Rudy, 1997, p. 50). College governance consisted of rigorous control of student behavior in and out of the classroom. Paternalistic discipline and elaborate punishments were designed to control "restless and unruly boys" with a "straight jacket" of petty rules. Regulations existed for virtually every aspect of student life: promptness, attendance at classes, dancing, drinking, swearing, idling, dressing, gambling, and prayers. The pre-Civil War college student responded to the disciplinary system and rules with violent and open rebellion, such as riots and street brawls, and even ransacking the Harvard Commons.

Much of the college student classroom behavior today is far less dramatic, more diluted, and stealthier than many of the accounts in Brubacher and Rudy (1997). However, many members of society including those on campuses feel a growing disdain for courtesy, civility, and manners (The Academic Senate for

California Community Colleges, 1996, p. 3.). Often groups and individuals on campus have little awareness or concern for the customs and values of other groups.

Today's college faculty members are likely to see various types of disruptive behavior, including covert and overt behaviors. More passive covert behaviors include sleeping during class, arriving to class late, leaving class early, or generally acting bored and disengaged. Observable and open overt behaviors include students talking during class, using cellular phones, eating noisily or slurping their drinks (Meyers, 2003, 94-98).

While many of these behaviors are defined as *misbehavior*, or a "behavior that is considered inappropriate for the setting or situation in which it occurs (Charles, 1999)," they also can be classified as *disruptive* behavior. Findings from a recent survey of college alumni found that *disruptive* behavior could be a major learning inhibitor and negatively impact student retention (Seidman, 2005, p. 40). The effects on faculty members range from an inability to handle or cope with such behavioral problems, to apathy and/or frustration, to teacher burnout (Evers, Tomic, & Brouwers, 2004, p. 132).

Some faculty members assume that college students know how to behave in a classroom and demonstrate proper classroom etiquette. Faculty expectations of students' behavior are based on assuming simple and *obvious* standards of social decorum. However, because of changing cultural norms, diversity in social class, age, lifestyle, and ethnicity, some of these classroom etiquette assumptions are not simple and obvious, and may be *somewhat fuzzy* (Boice, 1986, 1993; Emerick, 1994; and Williams, 1994).

For example, some faculty may perceive students who wear baseball hats indoors and particularly in the classroom, as rude and lacking in social graces; while others may not view baseball hats as inappropriate or may not even notice this way of dressing (Tom, 1998, p. 515). Furthermore, faculty perceptions could identify these behaviors and dress styles as acts of insolence, incivility, and insubordination, while students' behavior may simply stem from ignorance, or differences in definitions and perceptions of acceptable behavior.

Faculty often must balance expectations of what seem to be established, traditional standards of etiquette, with an understanding and tolerance of changing demographics and acceptable behavioral norms, exacerbated by communication and technology advances (Tom, 1998, p. 516). Rather than presuming that common forms of etiquette are obvious to diverse groups, faculty might consider discussing classroom etiquette expectations on the first day of class. Emerick (1994) included written normative expectations of student behavior in his course syllabus; these were shared with the first year students on the first day of class.

While tolerances, expectations, and methods for handling classroom incivilities may differ from instructor to instructor, norms of classroom civilities will often vary by type of teaching institution (Tom, 1998, p. 516). In a study whose purpose was to determine how faculty members perceive the behaviors of students, findings suggested that faculty from different university types can vary in how they value students' behavior (Brozo & Schmelzer, 1985). Based on behaviors the faculty members perceived as very desirable and very undesirable, a faculty at a teaching-oriented institution valued behavior related to classroom activities and course work, while faculty at a research-oriented institution valued noncourse-related behavior and obsequiousness. Despite these perceptual differences between the two types of institutions, ten commonly regarded disruptive behaviors were ranked at the bottom for the combined group; these included, indifference to traditional classroom decorum, such as eating in class, sleeping during lecture, talking with other students during lecture, dressing sloppily, and reading newspapers in class (Brozo & Schmelzer, 1985, p. 233).

Buttner (2004) lay down a convincing argument that differences in expectations are evident between males and females. She writes, "…men and women may have different expectations about how instructors convey respect in interactions in the business classroom" (p.321). The converse may also be true; male and female professors might have different expectations about how students convey respect in interactions in the business classroom. Perceptions and actual encounters of male and female professors might be rooted in preexisting differences related to social and "interactional justice, sensitivity to interpersonal relationships, expectancy, and the perceived fairness of a given process" (Buttner, 2004, p. 321).

Buttner's work on differing male and female college students' perceptions of disrespectful teacher behavior led to this study's purpose and primary research questions. This article's purpose is to measure differences among faculty members regarding their perceptions and actual encounters with disrespectful student behavior. The primary research question more specifically asks: Are college professors' demographic characteristics significantly related to their perceptions and actual encounters with students' disrespectful classroom behavior? To investigate further, the following methods were used to test the research question.

METHOD

Ethical guidelines were followed and institutional permission was granted to collect data. A survey and a separate list of questions that pertain to assessment of demographic variables were administered electronically, via Survey Monkey, to members of the Association to Advance Collegiate Schools of Business (AACSB) International. The population sampled consisted of professors and academic administrators representing collegiate schools of business throughout the world. The contacts were randomly selected, using systematic sampling. A sample of 400 email addresses was generated and email addresses verified prior to sending the survey.

The sample was assumed to be normally distributed and all survey responses deemed representative of the population of approximately 1,370 AACSB members. In fall 2006, a total of 147 out of 400 surveys were returned, providing an overall response rate of 37%. Since some respondents completed only the demographic portion of the survey, 36 surveys could not be used for data analysis. The 111 useable returns represent 28 percent of those surveyed and 8 percent of the 1,370 names at that time listed on AACSB directory.

Analysis of the demographic data revealed 69 male professors and 40 female professors completed the survey; two professors did not indicate their gender. The rank was represented by: instructor-11; assistant professor-10; associate professor-26; full professor-20; and other-42. Among the respondents, there were 6 men and 5 women on part-time status, and 63 men and 35 women on full-time status. White men represented 52 of 67 male professors reporting ethnicity. White women represented 36 of 39 female professors reporting ethnicity. The average part-time and full-time experience is 5 and 17 years respectively, with one person teaching for 45 years. Of those responding, 19 were from liberal arts colleges, 63 from comprehensive universities, and 27 were from research institutions. The contract status for males and females combined was 28 non-tenure track (which comprised 26% of the respondents), 25 tenure track (24%), and 53 were tenured (50%).

SCALE DEVELOPMENT

Items were developed based on a series of focus group meetings among seven business faculty members. Those faculty members evaluated and modified items until a unanimous decision was made on the acceptability of each of the 32 items included on the survey instrument. An alpha scale reliability test (Cronbach, 1951; 1984) was performed on the instrument's two separate scales. Scale one, hence referred to as the Perception Scale (PS), consisted of a 16 items (Likert-type) represented by "1 = strongly disagree" to "7 = strongly agree." Scale two, hence referred to as the Memory Encounters Scale (MES), consisting of 16 items (semantic differential) represented by anchors "1 = never" and "7 = all the time." The standardized Cronbach's Alpha reliability coefficient for the PS is .91 and MES is .92, which exceeds the Nunnally (1978) criteria of 0.70 for an acceptable alpha.

On the PS scenario statement 10, "a student who treats faculty or other students discourteously (interrupting, horse laughing, bad mouthing, etc.) is…" had the highest raw score mean of 6.16, with a standard deviation (SD) of 1.64, and PS scenario statement 12, "a student who wears improper dress in my class (baseball hat, t-shirt with profanity, loud-jingling jewelry, etc.) is ..." had the lowest raw score mean of 4.18, with a SD of 1.58. On the MES scenario statement six, "at least two students have come to class unprepared (not reading required materials, having school supplies, and submitting required work on time)," had the highest raw score mean of 5.21 and SD of 1.94, and MES scenario statement 14, "at least two students have stormed out of class in anger" had the lowest raw score mean of 1.44 and a SD of 1.23. Recall lowest possible response on the MES was one and the highest seven.

A scale "between .80 and .90 is very good" (Devellis, 1991, p. 85). Neither the PS nor MES improved with the removal of an item, a good indication of internal consistency. Both the PS and the MES appear to be "very good" measures of two constructs: 1) professors' perceptions on the students' disrespectful behaviors and 2) professors' memory encounters with students' disrespectful behaviors. The PS is a Likert-type scale measuring perceptual range of the disrespect construct and MES is a semantic differential scale measuring professors' memory encounters with the disrespect construct. A principal component factor analysis was run on both scales, separately, as a data reduction technique making fewer variables more suitable for multivariate statistical analysis. Rather than 32 variables, six can explain most of the variance.

PRINCIPAL COMPONENT FACTOR ANALYSIS

Comparability between sample and population patterns could be a limitation concerning the adequacy of this study's sample size. Given the small sample size of 111, a 28% response rate (a typical rule-of-thumb bias for acceptable response rate reported in the literature is 70%) from the sample of 400, evidence was found to support the use of factor analysis in this case. Guadagnoli and Velicer (1988) dealt directly with the relation of sample size to the stability of component patterns. The authors used a Monte Carlo procedure to vary sample size, number of variables, number of components, and component saturation in order to examine systematically the condition under which a sample component pattern becomes stable relative to the population. They determined that factor loadings of .60 or higher with at least four variable loadings per factor permit stability of the factor pattern regardless of sample size.

Principal Component Factor Analysis, using Varimax with Kaiser Normalization as a rotation method, revealed variable loadings above .60 on all PS and MES derived factors. In the initial solution, three

un-rotated factors account for 66 percent of the variance on the PS, and three un-rotated factors account for 62 percent of the variance on the MES. After rotation, the component pattern of derived factors appeared stable due to very high variable loadings, and the factor pattern was interpretable to the AACSB population for both scales. In interpreting the rotated factor pattern, an item is said to load on a given factor if the factor loading was .60 or greater for that factor (Devellis, 1991; Hatcher, 1994; Kachigan, 1991) and was less than .60 for the others. The PS and MES component saturation was very high.

Table 1: Factor Items & Variable Loadings for the PS and MES*

PS Three Factors explain 66% of Variance				**MES Three Factors explain 62% of Variance**			
Items	Factor 1	Factor 2	Factor 3	Items	Factor 1	Factor 2	Factor 3
Q10	**.846**	.267	.154	S14	**.816**	.070	.109
Q1	**.780**	.228	-.006	S16	**.779**	.199	-.011
Q7	**.763**	.435	.083	S15	**.775**	.274	-.025
Q13	**.763**	.376	.127	S13	**.713**	.244	.184
Q11	**.751**	.346	.129	S4	**.652**	.381	.235
Q9	**.728**	.114	.117	S10	**.647**	.432	.224
Q3	**.695**	.019	.381	S12	.497	.451	-.160
Q14	**.683**	.283	.430	S6	.043	**.799**	.184
Q8	.546	-.115	.352	S1	.278	**.789**	-.056
Q2	.438	.246	.120	S7	.170	**.753**	.298
Q5	.188	**.769**	.256	S2	.307	**.710**	-.127
Q6	.328	**.750**	.080	S11	.377	**.657**	.077
Q12	.187	**.727**	.204	S3	.446	**.603**	.091
Q16	.084	.135	**.897**	S8	-.063	-.095	**.753**
Q15	.117	.475	**.726**	S5	.268	.454	**.603**
Q4	.431	.260	**.654**	S9	.469	.192	.552

*Cronbach's Alpha (standardized) for PS is .909 and for the MES is .924.

Scenario statement 10 loaded highest on factor 1 of the PS, "a student who treats faculty or other students discourteously (interrupting, horse laughing, bad mouthing, etc.) is…," with r= .846, mean= 6.16, and SD= 1.64. PS scenario statement 5 loaded highest on factor 2, "A student who chooses not to participate in mandatory class assignments or activities is…," had an r= .769, mean= 4.92, and SD= 1.75. PS scenario statement 16 loaded highest on factor 3, "A student who openly challenges a professor's knowledge is…," had an r= .897, mean= 4.44, and SD= 1.96.

Table 2: Factor Items & Descriptions for both PS and MES			
PS Items & Descriptions		**MES Items and Descriptions**	
F1:Q10	A student who treats faculty or other students discourteously (interrupting, horse laughing, bad mouthing, etc.) is…	**F1:S14**	At least two students have stormed out of class in anger.
F1:Q1	A student who repeatedly comes to class late without prior notice is…	**F1:S16**	At least two students have openly challenged my knowledge.
F1:Q7	Students are not attentive during the lecture (sleeping, reading unrelated material, talking, browsing the Web, email of text messaging, etc.) is…	**F1:S15**	At least two students have argued vehemently with me about an assignment or grade.
F1:Q13	A student who answers a cell phone in class is…	**F1:S13**	At least two students have answered cell phones while class was in session.
F1:Q11	A student who talks to other students during the lecture is…	**F1:S4**	At least two students in my class are argumentative with me and other students.
F1:Q9	A student who does not respond to faculty questions when called upon is…	**F1:S10**	At least two students treat me and other students discourteously (interrupting, horse laughing, bad mouthing, etc.).
F1:Q3	A student who walks out of class without permission is …	F1:S12	At least two students wear improper dress in my class (baseball hat, t-shirt with profanity, loud-jingling jewelry, etc.).
F1:Q14	A student who storms out of class in anger is…	**F2:S6**	At least two students have come to class unprepared (not reading required materials, having school supplies, and submitting required work on time).
F1:Q8	A student who addresses a faculty by first name is…	**F2:S1**	At least two students have repeatedly come to class late without prior notice.
F1:Q2	A student who misses several days of class without prior notice is…	**F2:S7**	At least two students are not attentive during the lecture (sleeping, reading unrelated material, talking, browsing the Web, email of text messaging, etc.).
F2:Q5	A student who chooses not to participate in mandatory class assignments or activities is…	**F2:S2**	At least two students have missed several days of class without prior notice.
F2:Q6	A student who has come to class unprepared (not reading required materials, having school supplies, and submitting required work on time) is…	**F2:S11**	At least two students talk to other students during my lectures.
F2:Q12	A student who wears improper dress in my class (baseball hat, t-shirt with profanity, loud-jingling jewelry, etc.)is ...	**F2:S3**	At least two students have walked out of the class without permission.

Table 2: Factor Items & Descriptions for both PS and MES			
PS Items & Descriptions		**MES Items and Descriptions**	
F3:Q16	A student who openly challenges a professor's knowledge is…	**F3:S8**	At least two students address me by my first name in class.
F3:Q15	A student who argues about an assignment or grade is…	**F3:S5**	At least two students choose not to participate in mandatory class assignments or activities.
F3:Q4	A student who is argumentative with faculty or fellow students is…	F3:S9	At least two students do not respond to my questions when I call on them.

MES scenario statement 14 loaded highest on factor 1, "at least two students have stormed out of class in anger" had an r= .816, mean= 1.44, and SD= 1.23. MES scenario statement 6 loaded highest on factor 2, "at least two students have come to class unprepared (not reading required materials, having school supplies, and submitting required work on time)" had an r= .799, mean= 5.21, and SD= 1.94. MES scenario statement 8 loaded highest on factor 3, "at least two students address me by my first name in class," had an r= .753, mean= 2.27, and SD= 2.01. Summaries of factor analysis results are shown in Table 1 and Table 2.

"Statistical theory also shows the standard deviation of a sampling distribution is inversely related to the sample size. That is, the larger the sample size, the smaller the standard deviation of the sampling distribution" (Henry, 1990, p. 39). Also, "For a sample size of 100, 95% of the sample means fall within $\pm$ 1.96 standard deviation units. A sample size of 10 (9 degrees of freedom) would require $\pm$ 2.26 standard deviation units" (Henry, 1990, p. 40.). Confidence intervals are larger for smaller samples. This study's sample size of 111 can be considered adequate because it approaches the properties of a normal distribution, and a systematic random sampling method was used. Seven null hypotheses were tested.

HYPOTHESES TESTING

One-Way Analysis of Variance (ANOVA) were used to test for mean differences among dependent variables (derived factors) and independent demographic variables (1) gender, (2) rank, (3) contract status, (4) employment status, (5) U.S. born, (6) Carnegie classification, and (7) ethnicity regarding perceptions of disrespectful student behavior on two scales. The hypotheses were stated as follows and results are presented in Table 3 and Table 4:

Hypothesis $_1$: There is no significant difference between the means of male and female professors regarding their perceptions of disrespectful student behavior on either the PS or the MES.

Hypothesis $_2$: There is no significant difference among the means of professor's rank (as instructor, assistant professor, associate professor, full professor or other) and their perceptions of disrespectful student behavior on either the PS or the MES.

Hypothesis $_3$: There is no significant difference among the means for professor's contract status (non tenure track, tenure track, or tenured) regarding their perceptions of disrespectful student behavior on either the PS or the MES.

Hypothesis $_4$: There is no significant difference between the means of college teacher's employment status (as part-time or full-time) and their perceptions of disrespectful student behavior on either the PS or the MES.

Hypothesis $_5$: There is no significant difference between the means of professors born in the United States and those who are not, regarding their perceptions of disrespectful student behavior on either the PS or the MES.

Hypothesis $_6$: There is no significant difference among the means of professors teaching at various Carnegie classified institutions (as community college, liberal arts, comprehensive, and research one) regarding their perceptions of disrespectful student behavior on either the PS or the MES.

Hypothesis $_7$: There is no significant difference among the means for professor's ethnicity regarding perceptions of disrespectful student behavior on either the PS or the MES.

RESULTS

To test the null hypotheses, we used responses from 111 completed surveys. One-Way ANOVA tests are presented in Table 3 and Table 4 for the seven null hypotheses tested at a significance level of .05. All statistical analyses were performed using SPSS 15.0.

With factor analysis, used here as a data reduction technique, data transformed during rotation and variable loadings in some cases can be negative. Negative variable loadings simply mean that the variable is inversely related to the factor on which it loads. One example, such as a "stealing" variable would load negatively on an "honesty" factor (Kachigan, 1991). Derived factors represent a "hypothetical" construct (Hatcher, 1994); in this study, the two hypothetical constructs measured are faculty perceptions and their memory encounters with students' disrespectful behavior. The means reported here are not those from raw score responses on the PS or MES, but means of summed variable loadings on said factors. Please see Table 3 for an ANOVA summary.

Hypothesis 1 was tested using One-Way ANOVA, and no significant mean difference between male and female professors existed regarding their perceptions of disrespectful student behavior on either the PS or the MES and the derived factors on each scale; therefore, we did not reject hypothesis 1.

Hypothesis 2 was tested using One-Way ANOVA, and a significant difference among the means for professors' rank (as instructor, assistant professor, associate professor, full professor, or other) and their perceptions of disrespectful student behavior on either the PS or the MES and the derived factors on each scale were revealed; therefore, we rejected null hypothesis 2. A significant difference was found to exist among the factor means of professors on the PS and slightly on the MES with a p=.025 and .057 respectively. A Tukey's post hoc test revealed the difference to exist on factor three between instructors and associate professors with a p = .022. The PS mean difference was -1.11, and instructor's PS factor 3 mean was -.41 and associate professor's factor 3 mean was .18. The two groups have inverse perceptions of factor 3 on the PS.

Hypothesis 3 was tested using One-Way ANOVA, and no significant difference among means for college teachers' contract status (as non-tenure track, tenure track, or tenured) and their perceptions of disrespectful student behavior on either the PS or the MES and the derived factors on each scale was revealed; therefore, we did not reject null hypothesis 3. Please see Table 4 for an ANOVA summary.

Hypothesis 4 was tested using One-Way ANOVA, and a significant difference between means for college teachers' employment status, as part-time or full-time, and their perceptions of disrespectful student behavior on either the PS or the MES and the derived factors on each scale was revealed; therefore, we rejected null hypothesis 4**.** A significant difference was found to exist between the means of professors on the PS with a p=.000. The mean for part-timers on factor 2 was -1.33 and full-time professor's factor mean was .14. The two groups have inverse perceptions of factor 2.

Table 3: One-Way ANOVA Tests for Independent Variables on PS Select Factors

Source	Sum of Squares	df	Mean Square	F	Sig.
Gender Factor 1	Between 2.516 Within 99.484 Total 102.000	1 101 102	2.516 .985	2.554	.113
Rank Factor 3	Between 10.853 Within 91.147 Total 102.000	4 98 102	2.713 .930	2.917	**.025****
Contract Status Factor 1	Between .438 Within 101.082 Total 101.519	2 97 99	.219 1.042	.210	.811
Employment Status Factor 2	Between 19.609 Within 82.391 Total 102.000	1 101 102	19.609 .816	24.037	**.000*****
US Born Factor 1	Between .335 Within 101.537 Total 101.872	1 100 101	.335 1.015	.330	.567
Carnegie Factor 1	Between 4.317 Within 97.683 Total 102.000	2 100 102	2.159 .977	2.210	.115
Ethnicity Factor 1	Between 4.794 Within 96.572 Total 101.366	4 95 99	1.198 1.017	1.179	.325

* represents p<.05 and ***represents p<.001

Hypothesis 5 was tested using One-Way ANOVA, and no significant difference between the means for those born in the United States and those who were not and their perceptions of disrespectful student behavior on either the PS or the MES and the derived factors on each scale was revealed; therefore, we did not reject null hypothesis 5. Group sizes were much too small.

Hypothesis 6 was tested using One-Way ANOVA, and a significant difference among the means of professors teaching at various Carnegie classified institutions (as community college, liberal arts, comprehensive, and research one) regarding their perceptions of disrespectful student behavior on the PS and the MES scales was revealed; therefore, we rejected null hypothesis 6. A significant difference was found to exist among the means of professors on the MES with a moderately significant p=.056. A Tukey's post hoc test revealed the significant difference to exist on factor 3 of the MES between professors teaching at research one and comprehensive institutions with a p = .044. The factor mean was .051 for the 62 professors reporting they work for comprehensive institutions; the factor mean was -.36 for the 22 professors reporting they work for research institutions. The two groups have inverse perceptions on factor 3. The professors at research institutions have a negative correlation with MES factor 3, with scenario statements relating to teaching. These findings are consistent with Brozo & Schmelzer (1985) and Tom (1998).

Table 4: One-Way ANOVA Tests for Independent Variables on MES Select Factors

Source	Sum of Squares	df	Mean Square	F	Sig.
Gender Factor 1	Between 1.249 Within 97.401 Total 98.650	1 97 98	1.249 1.004	1.244	.267
Rank **Factor 2**	Between 9.005 Within 90.995 Total 100.000	4 96 100	2.251 .948	2.375	**.057***
Contract Status Factor 1	Between .833 Within 89.885 Total 90.718	2 96 98	.416 .936	.445	.642
Employment Status Factor 1	Between .111 Within 99.889 Total 100.000	1 99 100	.111 1.009	.110	.741
US Born Factor 1	Between .145 Within 98.417 Total 98.562	1 97 98	.145 1.015	.143	.706
Carnegie **Factor 3**	Between 5.755 Within 93.849 Total 99.604	2 97 99	2.877 .968	2.974	**.056***
Ethnicity Factor 1	Between 2.889 Within 95.447 Total 98.335	4 93 97	.722 1.026	.704	.591

* represents moderate significance

Hypothesis 7 was tested using One-Way ANOVA, and no significant difference among the means for college teachers' ethnicity (Black, Hispanic, Asian, White, or Other) and their perceptions of disrespectful

student behavior on either the PS or the MES and the derived factors was revealed; therefore, we did not reject null hypothesis 7. In this case, the sample of representative minority groups was much too small.

DISCUSSION

Student behavior faculty members found disrespectful are discussed in this section. Some of the findings are what one would expect. Others are somewhat surprising. See Appendix A for a full listing of the item and its mean rank. The faculty in the sample find "a student who treats faculty and other students discourteously" to be highly disrespectful. In fact, this behavior topped the list as the most disrespectful classroom behavior.

The behavior that received the second highest vote as disrespectful was a "student who answers a cell phone in class." Similarly, a student who is not attentive during the lecture (sleeping, reading unrelated material, talking, and browsing the Web; email of text messaging, etc)" was ranked third on the list. None of these findings are surprising since each of them would potentially be disruptive in a class setting and contradict the fundamentals of civil social behavior. Somewhat surprisingly, actions such as calling a professor by his or her first name (13), arguing about an assignment or a grade (14), or challenging the professor's knowledge (15), are generally not considered a sign of disrespect by professors in the sample.

Table 5: Descriptive Statistics with Chi-Square by Gender on Contract Status and Rank

Class	Non-Tenure Track	Tenure Track	Tenured	Instructor	Assistant professor	Associate Professor	Full Professor	Others
Male	13(17.4)	14(15.6)	39(33)*	5(7)	3(6.3)	13(16.5)	12(12.7)	36(26.6)**
Female	15(10.6)	11(9.4)	14(20)	6(4)	7(3.7)	13(9.5)	8(7.3)	6(15.4)
Total	28	25	53	11	10	26	20	42

*Represents Chi-Square statistics of * p<.05; or ** p<.01; Expected count is indicated with ( ).

Chi-Square is typically used to test for significant differences in the relative frequencies among groups of nominal data: a classic example of Chi-Square usage is determining the weapon of choice among women who commit murder. In this study, Chi-Square suggested male and female faculty differ significantly by their contract status as non-tenure track, tenure track and tenured, with a critical value of 6.297 being larger than the 5.991 critical value in the Chi-Square Table 5, with df = 2, the p= .042, or < .05. Also, male and female faculty members differ significantly according to their rank as instructor, assistant professor, associate professor, full professor, or other with a critical value of 17.438 being larger than the 13.277 critical value in the Chi-Square Table, with df = 4, the p= .002, or < .01. Although significant differences in relative frequencies among male and female faculty's contract status and rank were found, those nominal variables were not significantly correlated to their perceptions of students' disrespectful behavior.

No significant differences specific to gender emerged in an ANOVA test or the Independent Samples T-Tests. The means for male and female professors did not differ on either the PS (perception scale) or the

MES (memory encounters scale) when ANOVA tests were run on derived factors for both PS and MES. We truly expected significant gender differences (Buttner, 2004) concerning how professors perceive student's disrespectful behavior in the college classroom; this did not materialize as a congruency issue between male and female faculty members' perceptions and reported encounters. Women and men did not differ significantly according to their perceptions and their reported memory encounters with students' disrespectful behavior even though Chi-Square analysis showed they differ significantly in rank and contract status.

Independent Samples T-Tests for rank, employment, and contract status are presented in Table 6. Further examination of rank, employment status, and contract status for independent demographic variables on the derived factors was warranted due to Chi-Square tests showing significant differences in relative frequencies for male and female professors, the small sample sizes per group, and significant differences found with One-Way ANOVA during hypotheses testing. Thus, Independent Sample T-Tests revealed significant differences on the various levels of rank and employment status, adding further insight to our data analyses. T-Tests results are shown in Table 6.

Table 6: Independent Samples Tests for Rank, Employment & Contract Status on PS or MES Factors#

Source	Independent & N		Mean	T	df	Sig.
MES, Rank Factor 2	Full. Prof. Other	17 33	-.427 .199	-2.359	48	.022*
MES, Rank Factor 2	Assoc. Prof. Full Prof.	25 17	.121 1.429	1.849	40	.072
PS, Rank Factor 3	Asst. Prof. Assoc Prof.	10 25	.576 -.250	2.428	33	.021*
PS, Rank Factor 3	Instructor Asst. Prof.	9 10	-.296 .575	-2.422	17	.027*
PS, Contract Factor 1	Non-ten.-track Tenure-track	25 22	.185 -.353	1.910	45	.063
MES, Contract Factor 3	Non-ten.-track Tenured	25 45	.101 -.156	1.045	68	.300
PS, Contract Factor 3	Tenure-track Tenured	22 45	-.352 .160	-1.932	65	.058
MES, Employ Factor 2	Part-time Prof. Full-time Prof.	9 85	-1.533 .169	-5.415	92	.000***

#Equal variances are assumed in each case. * represent p < .05; *** represents p < .001.

It is interesting that there is no statistical difference in the way male and female professors perceive students' disrespectful behavior and their reported memory encounters. One possible explanation could be women are managing relationships with students in advance, thus, helping to avoid possible occurrences of students' disrespectful behavior rooted in playground rules Gilligan (1982) challenged so vehemently. Further findings were revealed when the means for business professors' rank was compared with derived factors on the PS and MES. Rank had a significant p= .025 in the ANOVA tests; factor three on the PS instructors had

a factor mean of .744 and associate professors had a factor mean of -.361 with significant difference of p = .022 in the Tukey's test, and no significant difference was found to exist on the MES; therefore, associate professors are not perceiving disrespectful behavior the same way instructors do.

In fact, associate professors have a negative mean on factor 3 of the PS suggesting an opposite correlation to that factor. This is not surprising that instructors, given their tenuous status, most work on year-to-year contracts, would feel students would be more prone to be more disrespectful towards them. In Table 2, the items loading on factor 3 are examples of scenarios that exhibit blatant disrespectful student behavior (student openly challenges a professor's knowledge, student argues about an assignment, for example); nonetheless, on the MES instructors are not significantly different than any other rank. This suggests instructors' perceptions are incongruent with their actual memory encounters, and associate professors' perceptions are congruent with their actual memory encounters.

Employment status is where the biggest difference was found, between the means of part-time and full-time professors with a p = .000. The significant difference between the employment status of part-time and full-time professors was found to exist on factor 2 of the PS. No difference existed on the MES between the means of part-time and full-time faculty. In Table 2, the three items loading on factor 2 of the PS were scenario examples of students' disrespectful behavior of a passive nature (student not participating in class assignments, inappropriate attire, and being unprepared). These are all examples of students lacking prudence.

The PS means for factor 2 were .143 for full-time professors and -1.330 for part-time professors. A negative mean implies a variable loading has an inverse correlation with the factor upon which it loads, thus, part-time faculty would not perceive these items as disrespectful, and full-time faculty would. Given the nature of the scenario items, it appears full-time faculty appear to perceive students who violate prudence, curricula, and learning related behaviors as being disrespectful. This is interesting that full-time faculty perceive students' lack of prudence to be behavior disrespectful toward faculty. Given no significant differences exist on the MES both part-time and full-time professors' perception should be considered incongruent with their actual memory encounters.

What is perceived to be disrespectful behavior is not being encountered significantly by faculty in the college classroom. Among those encounters found to be significant on the MES, they occurred mostly among the ranks. The lower level faculty reported more encounters than higher ranking faculty. In Table 5, full professors compared to others show a T-Test difference of p= .022 on factor 2 of the MES. Part-time and full-time faculty differ at p= .000 on factor 2 of the MES. It appears faculty concerns of students' disrespectful behavior is related to behaviors necessary for students' own well beings. Overt examples of disrespect are rarely being encountered. Encounters are not consistent with perceptions. In the case of faculty perceptions, a prudent student (one who is capable of exercising sound judgment in practical matters, especially as concerns one's own, in this case, "academic" interests) is a respectful student. The definition of "prudent" is used from Webster's New World Dictionary of the American Language, Second College Edition, 1980, Simon & Schuster, New York, NY. Prudence is the basis of any moral philosophy.

CONCLUSION

Male and female business faculty perceptions and encounters are statistically the same regarding disrespectful student behavior. More importantly, they perceive student behaviors that violate prudence to be more disrespectful than behaviors associated with youthful self-expressions. Professors in this study were

more concerned with "discourteous actions" "arriving to class late" or "answering a cellular telephone in class," all of which relates directly to academic performance and classroom decorum, than they were with students wearing "baseball hats," "T-shirts with profanity," "arguing about an assignment or grade," or "challenging a professor's knowledge."

The biggest differences were among the ranks and with part-time and full-time faculty. Full-time professors' encounters with issues of academic prudence are different than adjuncts' and lecturers' encounters with similar behaviors. The part-time faculty members are encountering significantly more disrespect than full-time faculty on factor 2, mostly associated with issues of prudence. While full-time faculty members perceive these issues as disrespectful, part-time faculty members, adjuncts, and lecturers are reporting statistically significant encounters with tardiness, inattentiveness, talking during lectures, and unprepared students. We make a series of recommendations based on our findings.

RECOMMENDATIONS

First, deans and department heads should consider orienting the new faculty in their department - especially adjunct faculty members - on issues of student behavior common among the current generation of college students. This can be done in a luncheon meeting, where all faculty members are invited. The open discussion and dialogue between the full-time faculty and the adjunct faculty on teaching related issues is always healthy.

Second, a formal University-wide or College-wide "Code of Conduct" statement should be developed and disseminated to all students on the first class day. The document on appropriate classroom etiquette would increase awareness of the faculty expectations of acceptable classroom behavior. We believe it is important for the professor to spend some time reviewing this document, and discuss with students why the document was developed and why the college believes it is important part of the student learning process. The two major justifications are to create a healthy learning environment for all, and teaching students how to behave professionally in the workplace. When students see this perspective, and realize that just as obeying the traffic laws is best for all, appropriate classroom conduct helps everyone, they are usually convinced. However, the issue is important enough to be revisited.

Third, to be effective, faculty members are well advised to remind students from time to time (return to this document) through the semester of the agreed code of conduct. It makes sense in some cases to have each student in the class sign the document on the first day of the class as a covenant. These should be collected before the students leave the class, and students should know that these are being saved in a file. The document should clearly spell out that there will be penalties for poor or disrespectful behavior.

And, finally, faculty should consider placing greater focus on what is academically prudent behavior by creating a system of recognition and rewards for students who exhibit exemplary classroom behavior - for example, a faculty could include in the syllabus a formula that allocates a respectable percent of the course grade for adequate preparation before the class, punctuality, attentiveness, and participation and even professional attire. This would send a strong message that the prudent and professional behavior is expected and appreciated in the college classroom, too.

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APPENDIX A
Actual Scale Items on the PS Measuring Perceptions of Disrespectful Student Behavior

Actual scale item on a scale of 1 to 7, with 7 indicating the most disrespectful student behavior	Mean Score (Rank)
A student who treats faculty or other students discourteously (interrupting, horse laughing, bad mouthing, etc.) is…	6.16 (1)
A student who answers a cell phone in class is…	5.99 (2)
A student who is not attentive during the lecture (sleeping, reading unrelated material, talking, browsing the Web; email of text messaging, etc) is…	5.80 (3)
A student who storms out of class in anger is…	5.71 (4)
A student who walks out of the class without permission is…	5.59 (5)
A student who talks to other students during the lecture is...	5.47 (6)
A student who repeatedly comes to class late without prior notice is…	5.37 (7)
A student who is argumentative with faculty or fellow students is…	5.15 (8)
A student who does not respond to faculty questions when called upon is…	5.06 (9)
A student who misses several days of class without prior notice is…	4.94 (10)
A student who chooses not to participate in mandatory class assignments or activities is…	4.92 (11)
A student who comes to class unprepared (not reading required materials, having school supplies, and submitting required work on time) is…	4.76 (12)
A student who addresses a faculty by first name is…	4.50 (13)
A student who argues about an assignment or grade is…	4.49 (14)
A student who openly challenges a professor's knowledge is…	4.44 (15)
A student who wears improper dress in class (baseball hat, t-shirt with profanity, loud-jingling jewelry, etc) is…	4.18 (16)

TEACHING THE ISHIKAWA'S "FISHBONE" AS A PLANNING TOOL: RESPONSIBILITY AND ACTION PLANNING MATRICES APPLIED TO AIRPORT SECURITY AND NETWORK SECURITY

Satyanarayana Parayitam, University of Massachusetts Dartmouth
Kiran Desai, McNeese State University
Mayur S. Desai, Texas Southern University
Mary K Eason, McNeese State University

ABSTRACT

The present paper explains how FISHBONE can be used as a planning tool, instead of a traditional problem-solving tool. Through the application of Responsibility and Action Planning Matrices, the paper presents the application of this teaching tool to Airport security and Network security. The examples of Airport security and Network security are used for demonstration purposes only, and these exercises are not intended to solve the problems associated with Airport security or Network security, rather they serve as pedagogical tools to emphasize the changing nature of application of Fishbone analysis.

INTRODUCTION

Security at major international airports (USA,UK, Germany, France, Japan, India, and Singapore etc) has embarked upon installation and testing of new security methods especially after 9/11 terrorist attacks on USA. Some of the examples of the new security methods include: new baggage-screening machines, controlling, controlling departure terminal entry and doubling federal security personnel in dozens of airports. The high-tech baggage screeners with advanced X-ray capabilities cost up to $1 million each. Additionally, the expense of airport security personnel is being increased as airport security personnel are being added to the federal employment rolls. The U.S. Congress believes airport security personnel will be better trained and supervised as a federal force. There have been many arguments over whether such increased security equipment or the presence of a federal airport security operation would have precluded or had any effect on the events of September 11. While that debate continues, it does offer the opportunity to apply a well-known Planning/Operations Management technique to assessing the problem by using a reverse-evaluation/engineering approach.

LITERATURE REVIEW

The reverse engineering application of fishbone analysis (FA) to solve product-related problems and develop end-of-life product strategies is supported by several studies (Barr, Schmidt, Krueger & Twu, 2000; Ishii & Lee, 1996; Lee, Rhee, & Ishii, 1997; Otto & Wood, 1996; Rose & Ishii, 1999). The fishbone diagram has also been utilized to evaluate health care services; first, in a hospital setting to assess and reduce delays in the treatment of patients receiving coronary thrombolytic therapy (Bonetti, 2000) and to identify improvement strategies and training needs for physicians, nurses and other caregivers (Cohen, 2002). The cause and effect value of FA is demonstrated in studies conducted by Yu (1998) and Constantinides (1999) to identify root causes for software coding faults, and to categorize different causes of software communication failure. Finally, the effectiveness of FA used as a planning tool to improve quality processes and increase revenues is demonstrated by Lore (1998), Geerts & McCarthy (2000), Wilcox & Discenza (1994), and Clark (2000).

In the present paper we propose to provide two examples of application of fishbone diagram to (i) Airport security, and (ii) Network security.

THE APPLICATION OF FISHBONE DIAGRAM TO AIRPORT SECURITY

The application of a Fishbone (Ishikawa, 1996) diagram to the problem of "how a passenger can board a plane with a weapon" reveals six potential categories of possible causes (Figure 1).These are Method, People, Equipment, Material, Environment, and Measurement. A *Responsibility Matrix* (2) is then constructed to identify who has ownership of the causes and what action should be taken (Table 1).

Figure 1: Fishbone Diagram (Airport Security)

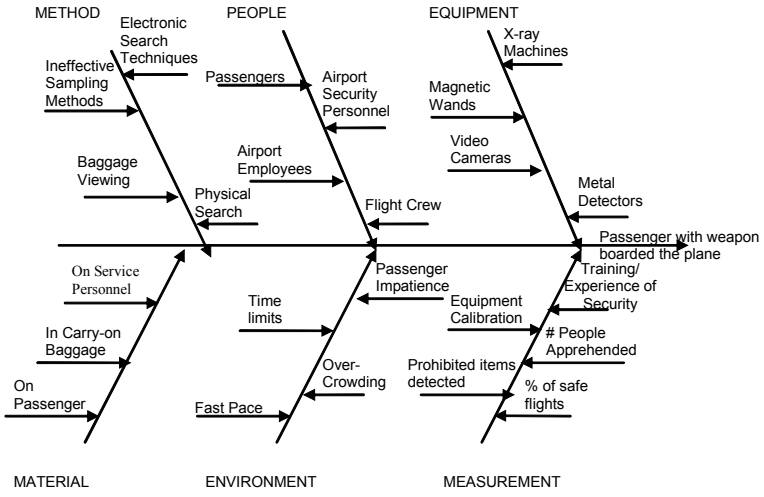

Table 1. Responsibility Matrix				
Airport Security				
CAUSE	**DESCRIPTION**	**RESPONSIBILITY**	**DEGREE OF CONTROL**	**ACTION TO BE TAKEN**
METHOD				
Electronic Search Techniques	Is technology up-to-date/ working properly	Maintenance Supervisor	Direct	Maintain and calibrate equipment at regular time intervals
Ineffective Sampling Methods	Is it random/ adequate sample size?	Head of Security	Direct	Efficiently search all or designated passengers
Baggage Viewing	Bags being viewed attentively	Head of Security	Direct	Proper training of employees, frequent rotation of employees
Physical Search	Performed properly and completely	Head of Security	Direct	Proper training of employees in search techniques
PEOPLE				
Passengers	Cooperative/ Notice Strange Behavior	Airport Management	Some	Encourage cooperation by Informing passengers it is for their safety, explain processes for reporting strange behavior
Airport Security Personnel	Properly trained/ Alert, well-supervised	Head of Airport Security	Direct	Monitor security personnel by camera and supervisory observation
Airport Employees	Looking for unusual or suspicious activity	Human Resources	Direct	Upgrade hiring practices, Hiring highly qualified employees
Flight Crew	Be attentive and aware during boarding and flight	Airline Management	Direct	Properly train flight crew in observational techniques and response procedures
EQUIPMENT				
X-ray machines	Used properly to fullest potential, up-to-date maintenance	Head of Security	Direct	Proper training in use of equipment for employees, emphasis on detail, equipment properly maintained and calibrated, re-design checkpoints for maximum efficiency
Magnetic Wands	Used properly to fullest potential, up-to-date maintenance	Head of Security	Direct	Proper training in use of equipment for employees, emphasis on detail, equipment properly maintained and calibrated, re-design checkpoints for maximum efficiency
Video Cameras	Used properly to fullest potential, up-to-date maintenance	Head of Security	Direct	Proper training in video surveillance for employees, emphasis on detail, equipment properly maintained and calibrated, re-design checkpoints for maximum efficiency

Table 1. Responsibility Matrix				
Airport Security				
CAUSE	**DESCRIPTION**	**RESPONSIBILITY**	**DEGREE OF CONTROL**	**ACTION TO BE TAKEN**
Metal detectors	Used properly/ calibrated	Head of Security	Direct	Proper training in use of equipment for employees, emphasis on detail, equipment properly maintained and calibrated, re-design checkpoints for maximum efficiency
MATERIAL				
Items on Passenger	Passengers can easily hide prohibited items if not properly searched	Head of Security	Direct	Physical search of passengers using wands, metal detectors, and other search
In Carry-on Baggage	Proper size/ checked thoroughly	Head of Security	Direct	Look for banned items, Post size and weight limits and strictly enforce
On Service Personnel	Banned items could be hidden in clothing or equipment	Airport Management	Direct	Require security clearance and background check for all service personnel; train service personnel to observe unusual peer behavior
ENVIRONMENT				
Fast-Pace	Security Process rushed	Head of Airport Security	Direct	Take time to do job correctly
Over-Crowding	Too many passengers at the same time	Airport Management	Direct	Hire additional human resources
Time Limits	Pressure to release passenger	Airport Management	Direct	Public safety paramount
Passenger Impatience	Passengers get angry /unruly	Airport Management	Some	Keep passenger pacified
MEASUREMENT				
% of safe flights	# of flights without incident	Airport Security	Some	Use Continuous Quality Improvement methods to monitor security processes and training of security personnel
Prohibited Items Detected	Number of objects detected	Airport Security	Direct	Use Continuous Quality Improvement methods to monitor security processes and training of security personnel
# People Apprehended	Number of passengers apprehended for prohibited items	Airport Security	direct	Inform public regarding prohibited objects and acceptable airport behavior. Enforce strict sanctions for violators.

Table 1. Responsibility Matrix				
Airport Security				
CAUSE	**DESCRIPTION**	**RESPONSIBILITY**	**DEGREE OF CONTROL**	**ACTION TO BE TAKEN**
Equipment Calibration	Is equipment calibrated as recommended by the manufacturer	Airport Security	Direct	Improve/ add maintenance checks. Acquire more up-to-date equipment.
Training/Experience of Security	Proper and effective training methodology	Head of Airport Security	Direct	Evaluate training results. Take corrective action when necessary. Monitor performance of security personnel.

Next, an *Action Planning Matrix* (Table 2) begins with the actions to be taken as identified by the Responsibility Matrix, and further identifies needed resources to support actions, and an expected time frame for results. Each category is presented and discussed in the following.

Table 2: Action Planning Matrix			
Airport Security			
ACTION TO BE TAKEN	**WHO**	**WHEN**	**RESOURCES**
METHOD			
Maintain and calibrate equipment at regular time intervals	Maintenance Supervisor	60 days	Training provided by manufacturer; additional human resources to facilitate maintenance schedule
Efficiently search all or designated passengers	Head of security	30 days	Computerized random sampling methods, training in observational techniques
Proper training of employees, frequent rotation of employees	Head of security	30 days	Competency evaluation, Computerized scheduling for rotations
Proper training of employees in search techniques	Head of security	30 days	Simulation training instructors
PEOPLE			
Encourage cooperation by Informing passengers it is for their safety, explain processes for reporting strange behavior	Airport Management	2 weeks	Signs, Public Address Announcements
Monitor security personnel by camera and supervisory observation	Head of security	1 week	Resources already in place
Upgrade hiring practices, Hiring highly qualified employees	Human Resources	2 weeks	Budget resources needed to engage professional services to perform pre-employment background checks

Table 2: Action Planning Matrix			
Airport Security			
ACTION TO BE TAKEN	**WHO**	**WHEN**	**RESOURCES**
Properly train flight crew in observational techniques and response procedures	Airline Management	30 days	Utilize simulation training professionals currently on staff
EQUIPMENT			
Proper training in equipment use and video surveillance for employees, emphasis on detail, equipment properly maintained and calibrated, re-design checkpoints for maximum efficiency	Head of security	90 days	Increase budget to purchase additional equipment and tools, and to hire additional human resources.
MATERIALS			
Physical search of passengers using wands, metal detectors, and other search	Head of Security	60 days	Increased human resources; re-design check points for efficiency
Look for banned items; Post size and weight limits and strictly enforce	Head of Security	60 days	Signs, TV and Radio airtime, print media to inform public
Require security clearance and background check for all service personnel; train service personnel to observe unusual peer behavior	Airport Management	60 days	Engage professional services to perform background check. Utilize simulation training for observational techniques. Hire instructors or utilize airline instructors.
Inform public of restrictions on carry-on items	Airport management	60 days	TV & radio airtime, print media
ENVIRONMENT			
Hire more personnel to control over-crowdedness	Airport management	60 days	Human resources
Enforce complete security searches regardless of rush	Head of security	60 days	Training/ supervision, educate passenger to come early, say at least 1 hour before flight departure time.
Keep public safety paramount	Airport Management	60 days	Resources necessary to utilize media to manage expectations of passengers and educate them regarding security procedures
MEASUREMENT			
Make report of safe flights, prohibited items detected, and # of apprehended passengers. Use CQI methods to monitor incidents and improve procedures.	Head of Security	30 days	Administrative resources already in place
Improve/ add maintenance checks. Acquire more up-to-date equipment.	Head of Security	60 days	Additional human and financial resources
Evaluate training results. Take corrective action when necessary. Monitor performance of security personnel.	Head of Security	30 days	Administrative resources already in place

RESPONSIBILITY AND ACTION PLANNING MATRICES

Method

The Method Category of the Fishbone diagram represents the methods of enforcing security at the airport that could be the possible causes of security breaches. The four possible causes for the passenger boarding the plane with a weapon are *Electronic Search Techniques, Ineffective Sampling Methods, Baggage viewing*, and *Physical Search.*

Electronic Search Techniques

Electronic Search Techniques may be ineffective if the equipment is poorly designed or incapable of detecting all possible type of weapons. To ensure efficiency, the equipment should be maintained and calibrated at regular time intervals. This same reasoning applies to all checked baggage. This is the responsibility of the Maintenance Supervisor who has a *direct* control over the cause. The action to be taken is to maintain and calibrate equipment at regular time intervals. As indicated on the Action Planning Matrix, maintenance training is provided by manufacturer; however, additional human resources will need to be hired to administer the revised maintenance schedule, and this action should be accomplished within 60 days.

Ineffective Sampling Methods

Another cause of security breach is the ineffective sampling techniques. Oftentimes, security personnel subject the passengers to check at random and this may result in allowing the potentially threatening passengers unchecked. The action need to be taken is have effective sampling methods.

Baggage Viewing

Screeners should do *Baggage Viewing* of carry-on luggage attentively. Laxness or in-attention by the screeners will allow objects to go undetected.

Physical Searches

Performing *Physical Searches* when needed (as indicated by behavior, prior information, metal detector alarm etc.), on the passengers could be a potential cause because there is a chance that it is not being done properly or completely. Improper physical checking may allow a passenger to board the plane with a weapon. The correcting of *Ineffective Sampling Methods, Baggage Viewing*, and *Physical Searches* are all the responsibility of the Head of Airport Security who have a direct control over these things. The action to be taken should be to ensure effective sampling methods and adequate sample size (and possibly check every passenger by taking extra time and effort), frequently rotate baggage viewing personnel to reduce boredom and drudgery, and ensure accurate physical searches through proper training of employees in observational and search procedures and efficient execution in searching all or designated passengers.

According to the Action Planning Matrix, the resources needed to accomplish the recommended actions include software for computerized random sampling methods and scheduling for employee rotations, and additional training in observational techniques for Baggage Viewing, as well as simulation training for physical searches. Additional resources will also be required to provide competency evaluations subsequent to training. The actions necessary to prevent Ineffective Sampling Methods, and accomplish effective Baggage Viewing and Physical Searches should be accomplished within a 30-day timeframe.

People

This category includes the people having any involvement in basic airport operations or using airport services. Four groups (see Figure 1) shown on the diagram could be as the possible causes for a security failure. These are *Passengers* in the check-in and boarding areas, *Airport Security Personnel*, *Airport Employees* (non-security, shop and restaurant employees), and the *Flight Crew* (ticket agents, cabin and flight deck). They are listed on the responsibility matrix as having some control over the passenger boarding the plane with a weapon. The passenger with the weapon is considered as part of the problem and not a cause.

Passengers are a possible cause as they have the responsibility of cooperating with all of the security procedures established and implemented for their safety. They could aid in the effectiveness of security if they report strange behavior immediately. The passengers' cooperation is considered as part of the responsibility of the Airport Management and they have some of control. The action to be taken is to let the passengers know how the security procedures affect their safety, the processes and mechanisms available for providing input and what items are prohibited as carry on. This would help them to be more cooperative and attentive to what is going on in their surroundings. This task can be accomplished within two weeks, using minimal resources to create signs and make public address announcements effective.

Members of *Airport Security Personnel* are the most important cause because they have the responsibility of being alert to a security breach and available to immediately respond to such occurrences. They should be trained properly upon hiring to act upon any violation of airport security protocol. The Head of Security has the responsibility for this cause and has direct control. Head and Security personnel must make sure that each security guard is properly trained and well-supervised. The action that must be taken is physically monitoring security personnel by having someone walking around observing procedures. The availability of cameras to monitor real time activities also provides for immediate corrective action. This action can be accomplished within one week using resources already in place.

General *Airport Employees* are another possible cause as identified in the diagram. Airport employees should be looking for unusual or suspicious behavior and trained in response procedures. To eliminate the employees entering aircraft with a weapon (or any act like that) pre-employment checks must be performed. Human Resources for the airport and individual airlines have responsibility for this cause and they have direct control. The action to be taken is an upgrade of hiring procedures to assure only qualified individuals are selected. This action can be accomplished with two weeks by engaging professional services to perform pre-employment background checks. This will require additional budgetary funding to cover the cost of these contractual services.

The *Flight Crew* has the responsibility of being attentive and aware of what is happening on the actual airplane during boarding and flight. This is the responsibility of Airline Management and they have direct control over the cause. The action to be taken is to properly train flight attendants and pilots in

observational techniques, response procedures and encourage alertness. This action can be accomplished within 30 days by utilizing simulation-training professionals who are already employed by the airline.

Equipment

The Equipment category lists some of the basic equipment used at checkpoints to detect objects on passengers. The possible causes in this category of a passenger passing a checkpoint and boarding a plane with a weapon are as follows: *X-Ray Machines, Magnetic Wands, Video Cameras*, and *Metal Detectors*. These types of equipment could be possible causes of the problem if they are not used properly or if they are not used to their full potential. Equipment may also be out-dated and/or out of calibration, which could cause major problems in how it performs. These issues are the responsibility of the Head of Airport Security who has a direct control over the cause. The action to be taken is to provide better training for employees in equipment use and video surveillance to pay more attention to details. The equipment should also be checked in a set protocol for maintenance and calibration, and the checkpoints should be re-designed for maximum efficiency. This will require increased budgetary resources to purchase up-to-date equipment and tools, and to hire additional human resources for re-designed checkpoints. With the proper resources, this could be accomplished within 90 days.

Material

The Material category includes the items which constitute a hidden weapon (metal, ceramic, plastic etc.). This includes items *On the Passenger*, items in *Carry-On Baggage,* or items that may be brought aboard by *Service Personnel*.

Passengers could easily hide things in their bags that they are not allowed to carry on themselves. The *Carry-On Baggage* can be potential cause if it is not searched properly. Each bag should be of proper size and weight as per what is allowed. The materials named here are all the responsibility of Security and they have a direct control over the cause. The actions to be taken include a physical search of virtually all passengers using wands, metal detectors, and other search techniques. Carry on Baggage must be physically checked for banned items. Size and weight limits for carry-on baggage must be posted and strictly enforced. Physically searching every passenger will require additional human resources and re-designed security check-points. Size and weight limits for carry-on baggage can be communicated to passengers via signs at the airport, as well as through TV and radio airtime, and the use of printed media to inform the public. With these resources in place, we can expect the accomplishment of these recommended actions within 60 days.

Service Personnel could also transport banned items hidden within their clothing, or in their equipment. The actions of Service Personnel fall under the supervision of Airport Management, and they have a direct control over the cause. The actions to be taken include requiring security clearance and a background check for all service personnel, as well as training service personnel to observe unusual peer behavior. Just as for the afore-mentioned airline employees, Airport Management can accomplish the recommended actions by engaging professional services to perform pre-employment background checks. They should also utilize simulation training for observational techniques. This may require hiring instructors, or establishing a cooperative agreement with the Airlines to utilize their instructors. With the proper resources in place, these recommended actions should be accomplished within 30 days.

Environment

The Environment Category identifies causes related to the environment at the airport that can cause a passenger to board a plane with a weapon. This category identifies such factors as the *Fast Pace* of travel, *Over-crowding, Time Limits* to catch a flight, and the *Impatience exhibited by the Passengers* and others identified in the people category.

The airport being so *Fast-Paced* can cause the security process to be rushed. This would cause items on the passenger to not be detected. This cause is the responsibility of the Head of Airport Security and he has a direct control over the cause. The Head of Airport Security should enforce taking necessary time to do the job right regardless of complaints from waiting passengers. *Over-crowding* can cause a problem as it would become easier for someone to slip by without being searched completely. This is the responsibility of the Airport Management and they have a direct control over the cause. The action to be taken would be to have a sufficient number of properly trained personnel to meet the queue generated by flight schedules. This would help expedite the security check in process, reducing impatience and frustrations without sacrificing accuracy.

Time Limits are a cause because the airport is overcrowded, lines tend to be long and passengers are rushed. This leads to the fourth cause which is *Passenger Impatience*. Security feels pressure to release passengers without fully checking them because they are in a rush to get to their plane. All of these are the responsibility of the Airport Management and they have a direct control because they should enforce safety first. The actions to be taken include hiring adequate human resources to efficiently process passengers through security, thereby reducing passenger impatience while keeping public safety paramount. The actions necessary are to manage the Fast Pace of travel, reduce Over-crowding and Passenger Impatience, and work within Time Limits could be accomplished with additional human resources and a public education program to inform passengers that it is necessary to allow at least one hour to check in for a flight. With these resources in place, the recommended actions can be accomplished within 60 days.

Measurement

The last category is Measurement. This category deals with measures of the effectiveness of Security. This includes *Percentage of Safe Flights, Prohibited Items Detected*, *Number of People Apprehended, Equipment Calibration*, and *Training/Experience of Security.*

The *Percentage of Safe Flights, Prohibited Items Detected*, and *Number of People Apprehended* can measure the effectiveness of Security. These are the responsibility of Airport Security who has some control over the *Percentage of Safe Flights*, a direct control over the *Prohibited Items Detected*, and *Number of People Apprehended*. The action to be taken is improving the security process, and reporting and reviewing the *Percentage of Safe Flights, Prohibited Items Detected* and the *Number of People Apprehended*. Airport Security should use Continuous Improvement (Daft, 2006) methods to monitor and improve security processes, frequency of incidents, and training of security personnel. There are no additional resources required to accomplish these actions. Administrative resources are already in place, and these tasks should be accomplished within 30 days.

Equipment Calibration is a very important cause. The equipment should be tested periodically to assure it is working properly. Equipment that is not working properly could allow a passenger to get through

security with an undetected weapon or to be unnecessarily detained. This cause is the responsibility of the Security and they have a direct control over the cause. They should improve the equipment by doing maintenance checks at regular intervals and acquiring more up-to-date equipment. These recommended actions will require additional human and financial resources to purchase up-to-date equipment. These actions can be accomplished within 60 days of obtaining the required resources.

The last cause, *Training/Experience of Security*, deals with how well security personnel have been trained. This is the responsibility of the Head of Airport Security and he has a direct control over the cause. This is a control function and the action to be taken is to monitor and evaluate training results, redesign training programs and retrain on a continuing basis. The administrative resourced needed for these actions are already in place, and results should be available within 30 days.

THE APPLICATION OF FISHBONE DIAGRAM TO NETWORK SECURITY

Computer network has become an integral part of the business and hence keeping the network running all the time is crucial to the existence of the business. We live in a world that relies increasingly on its communications infrastructure. Network availability problems affect customers and their businesses, and can damage trust in the resilience of the network. As such, ensuring that networks are robust, reliable and resistant to external attack is a key part of network design (Harman et al. 2006). Some of the examples of network technologies used by the businesses are electronic data interchange (EDI), web-based applications (Liu & Mackie, 2006), LANs, WANs etc. EDI usage is expected to increase in the immediate future and its high growth in a potentially paperless environment presents a variety of security risks, such as disclosure of messages, tampering with messages, etc. (Bannerjee & Golhar, 1995). Dow chemicals is one of the many companies which uses web-based applications. Dow uses state-of-the-art IT security system and addressed this issue by implementing a high standard Cyber security system for its e-business based on the Chemical Sector Cyber Security Program. (Chen et al, 2006). The use of Internet technologies has substantially increased the vulnerability of information systems. One of the fastest growing threats on the Internet is the theft of sensitive financial data. Failure to include basic information security unwittingly creates significant business and professional risks (Beard & Wen, 2007). One of the security issues in the use of network involves information passing over the network. Information security encompasses technology, processes, and people. Technical measures such as passwords, biometrics, and firewalls alone are not sufficient in mitigating threats to information. A combination of measures is required to secure systems and protect information against harm (Veiga & Eloff, 2007). The harm could also be caused by generating a virus. A computer virus is a software code that can multiply and propagate itself. A virus can spread into another computer via e-mail, downloading files from the Internet, or opening a contaminated file. It is almost impossible to completely protect a network computer from virus attacks; the CSI/FBI survey indicated that virus attacks were the most widespread attack for six straight years since 2000 (Lin, 2006). Information security is a responsibility of every individual working in various functional areas of an organization. In order to secure information it is important for an organization to have an integrated security approach that engages multiple functional levels in an organization from the Board and management to IT staff and individual users (Higgins, 1999).

In order to minimize the risk of network failure and to secure it from being "attacked" by any means to disrupt the business the organizations should have a formal plan of managing and securing network.

Fishbone diagram technique can help understand and manage the network. It also further helps in identifying the causes of the network failure and provides an early plan. Proactive measures can help protect the network. Figure 2 (Fishbone diagram) shows the causes of possible failure of the network. Using this diagram business manager can proactively plan to prevent failure of network. Action planning matrix and responsibility matrix are presented in Tables 3 and 4 respectively.

Figure 2: Fishbone Diagram (Network Security)

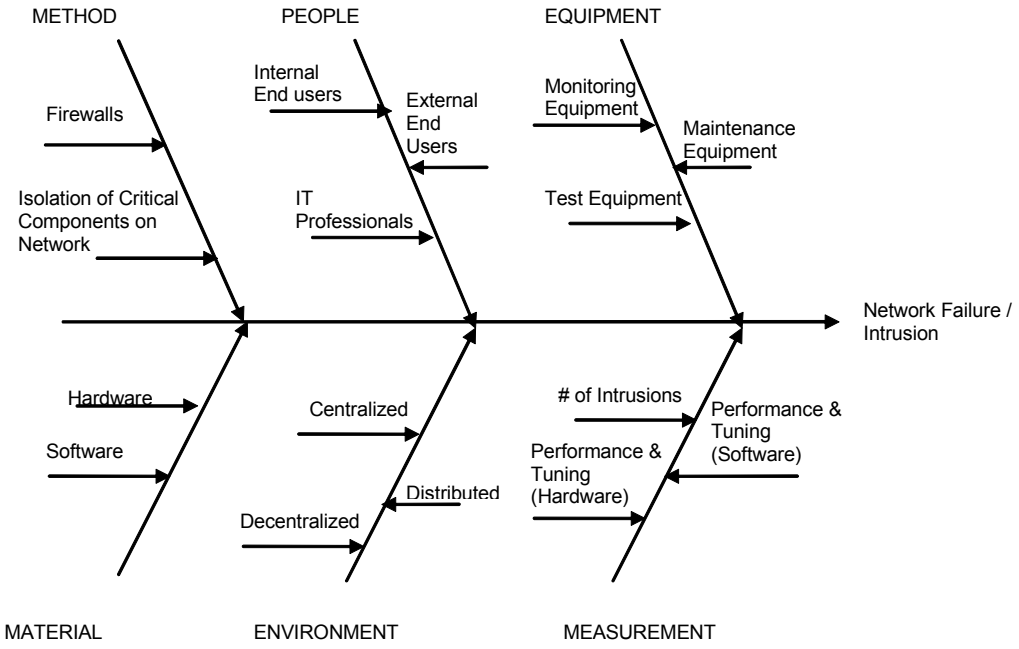

Table 3: Responsibility Matrix				
Network Security				
CAUSE	**DESCRIPTION**	**RESPONSIBILITY**	**DEGREE OF CONTROL**	**ACTION TO BE TAKEN**
METHOD				
Firewalls	Gateway to information resources	IT Security Supervisor	Some	Identify resources which need to be protected
Isolation of Critical Components on Network	Physical Separation of the components on networks	IT SecuritySupervisor	Direct	Identify the components on networks that need to be separated

Table 3: Responsibility Matrix				
Network Security				
CAUSE	**DESCRIPTION**	**RESPONSIBILITY**	**DEGREE OF CONTROL**	**ACTION TO BE TAKEN**
PEOPLE				
Internal End Users	Cooperative/ Notice Strange Behavior	Supervisor/ Management	Some	Encourage end users to follow company policy regarding using computing resources on network
External End Users	Cooperative/ Notice Strange Behavior	Supervisor/ Management	Some	Encourage external end users to follow company policy regarding using computing resources on network
IT Professionals	Properly trained/ Ethical	Head of IT Security	Direct	Provide training regarding information protection, Hire qualified IT professionals, check their background
EQUIPMENT				
Monitoring Equipment	Monitor Network Activity	IT Network Staff	Direct	Monitoring plan – list what to monitor and how often
Test Equipment	Regularly test network hardware & software	IT Network Staff	Direct	Develop routing test plan
Maintenance Equipment	Used properly to fullest potential, up-to-date maintenance	IT Network Staff	Direct	Develop and follow Network Maintenance Plan
MATERIAL				
Hardware	Computer hardware and peripherals on the network	IT Network Manager	Direct	Make sure all the computing hardware on the network are properly working and are secured
Software	Application, System, and Network software	IT Network Manager	Direct	Make sure all the software installation is functional and secured
ENVIRONMENT				
Centralized	Computing is controlled centrally	IT Network Manager	Direct	All the software and storage is controlled centrally
Decentralized	Computing is controlled at several places	IT Network Managers	Direct	Coordinate activities at different nodes in decentralized environment
Distributed	Processing is distributed across the network	IT Network Manager	Direct	Data processing and management is distributed making it secured is more critical

Table 3: Responsibility Matrix				
Network Security				
CAUSE	**DESCRIPTION**	**RESPONSIBILITY**	**DEGREE OF CONTROL**	**ACTION TO BE TAKEN**
MEASUREMENT				
# of Intrusions	# of unauthorized access to network	IT Security Manager	Some	Track unauthorized access to network
Performance & Tuning (Hardware)	Measure the network hardware performance	IT Administrator	Direct	Monitor and measure the access rates, data processing efficiency and make continuous adjustments
Performance & Tuning (Software)	Measure the network software performance	IT Administrator	Direct	Monitor and measure the access rates, data processing efficiency and make continuous adjustments

Table 4: Action Planning Matrix			
Network Security			
ACTION TO BE TAKEN	**WHO**	**WHEN**	**RESOURCES**
METHOD			
Setup the proper firewalls to secure the sensitive information from intruders	DBA-In my opnion should be network administrator	As needed	DBAs should be trained to identify proper places where firewalls are needed
Identify the network that needs to be isolated from the internet or other networks – and make sure that it is physically separate from rest of the network	Network Administrator	As needed	Provide training and proficiency to network administrators
PEOPLE			
Educate internal end users about importance of securing resources connected to the network	Management	6 months to 1 year	Track internal end users and provide training and sense of awareness
Educate external end users about importance of securing resources connected to the network	Management	6 months to 1 year	Track external end users and provide training and sense of awareness
IT Professionals should be regularly trained in what resources are critical and needs to be secured on the network	IT Manager	Periodically as needed	Well-defined training programs for IT Professionals

Table 4: Action Planning Matrix			
Network Security			
ACTION TO BE TAKEN	**WHO**	**WHEN**	**RESOURCES**
EQUIPMENT			
Monitoring equipment need to be regularly tested for its functionality and additional monitoring equipment need should be assessed	IT Manager	30 days or as needed	Increase budget to purchase additional equipment and tools, and to hire additional human resources.
Test equipment need to be regularly tested for its functionality and additional test equipment need should be assessed	IT Manager	30 days or as needed	Increase budget to purchase additional equipment and tools, and to hire additional human resources.
Maintenance equipment need to be regularly tested for its functionality and additional maintenance equipment need should be assessed	IT Manager	30 days or as needed	Increase budget to purchase additional equipment and tools, and to hire additional human resources.
MATERIALS			
Keep track of all hardware and make sure they are well secured and in warranty	IT Manager	6 months	Backup hardware and staff to manage hardware
Keep track of all application and system software and make sure they are working as per specifications	DBA – IT Manager in my opinion	Daily	Backup software in case of failure and skill staff to bring up the system
ENVIRONMENT			
Centralized environment generally has a mainframe or a large computer that has all software and other components on the network are simple terminals	DBA-My Opinion should be Centralized environment Administrator	Daily	Should have a trained software personnel who understands the centralized control
Identify various servers (database, application etc.) and sort out the information distribution to specify different levels of control and accessibility. The servers are not connected via networks but each server has several clients (independent networks of client/server)	Data Administrator (DA)	Weekly	DA should be trained to understand the information distribution on different servers
In distributed environment the control is critical since all the servers are connected via network and determining who has what level of access is important	Data Administrator (DA)	Weekly	DA should be trained in understanding the network architecture and information distribution on various servers
MEASUREMENT			
Keep a log of the access to servers by individuals so that any illegal access could be identified	DA	Daily	Provide enough support to DA so that the log is maintained regularly

Table 4: Action Planning Matrix			
Network Security			
ACTION TO BE TAKEN	**WHO**	**WHEN**	**RESOURCES**
Continuously measure the performance of the servers and clients – amount of data processed, number accesses, reason for accesses etc.	DA	Daily	Provide enough support to DA since performance of the network computing is important to running business
Continuously measure the performance of the Applications on servers and clients – amount of data processed, number accesses, reason for accesses etc.	DA	Daily	Provide enough support to DA since performance of the network computing is important to running business

CONCLUSION

As a teaching exercise, the creation of the Fishbone diagram is very helpful in planning for the prevention of problems. It allows the student to look at the possible problem and then brainstorm all possible causes for that problem. While the Fishbone Analysis is very useful, the addition of a *Responsibility Matrix* adds strength to the process by identifying the degrees of control and responsibilities parties to the problem have and recommended actions to be taken. An *Action Planning Matrix* then allows planning for needed resources to prevent the problem or its recurrence by identifying the resources needed as well as a time frame for expected results. The Fishbone Analysis, Responsibility Matrix and Action Planning Matrix show the interdependencies among the players and identify the processes necessary to prevent potential problems.

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STRESS AND ACADEMIC PERFORMANCE: EMPIRICAL EVIDENCE FROM UNIVERSITY STUDENTS

Kamarudin Rafidah, Universiti Teknologi MARA
Aris Azizah, Universiti Teknologi MARA
Mohd Daud Norzaidi, Universiti Teknologi MARA
Siong Choy Chong, Putra International College
Mohamed Intan Salwani, Universiti Teknologi MARA
Ibrahim Noraini, Universiti Teknologi MARA

ABSTRACT

This study investigates the relationship between stress factors, perceived stress and academic performance among 154 Pre-Diploma Science students in a Malaysian public institution of higher learning which to date has received very little research attention. The results indicate that the students experienced stress but at a moderate level. There is a statistical significant difference between the level of perceived stress at the beginning and middle of the semester but not statistical significant between the beginning and middle with the end of the semester. The correlation was not statistical significant between the level of perceived stress at the beginning and middle of the semester but statistical significant between the end of semester with academic performance of students. The practical implications of the results are discussed.

INTRODUCTION

Learning and memory can be affected by stress. Although an optimal level of stress can enhance learning ability (Kaplan & Sadock, 2000), too much stress can cause physical and mental health problems (Campbell & Stevenson, 1992; Carver & Scheier, 1994; Greenberg, 1981; Niemi & Vainiomaki, 1999; Laio, Lu & Yi, 2007), reduce self-esteem (Bressler & Bressler, 2007; Linn & Zeppa, 1984; Silver & Glicken, 1990) and may affect the academic achievement of students (Amirkhan, 1998; Beck & Srivastava, 1991; Calderon, Hey, & Seabert, 2001; Choi, Abbott, Arthur & Hill, 2007; Covington, 1993; Elliot, Shell, Henry & Maeir, 2005; Hammer, Grigsby, & Wood, 1998; Hatcher & Prus, 1991; Hofer, 2007; Kelly, Kelly, & Clanton, 2001; Marcos & Tillema, 2006; Rafidah, Azizah, & Noraini, 2007; Robbins, Allen, Casillas, Peterson, & Lee, 2006; Sanders & Kurt, 2001; Trockel, Barnes, & Egget, 2000; Quaye, Eyob, & Ikem, 2005; Vitaliano, Maiuro, Mitchell, & Russo, 1989; Was, Woltz, & Drew, 2006; Watering & Rijt, 2006).

A review of literature indicates that university students might experience stress due to multitude of ways such as (1) health factors - amount of exercise (Field, Diego & Sanders, 2003; Gruber, 1975; Hammer

et al., 1998; Jerome, 1996; Ryan, 2004; Turbow, 1985; Trockel et al., 2000), sleeping habits (Hammer et al., 1998; Kelly et al., 2001; Lack, 1986; Pilcher & Walter, 1997; Wolfson, 1998; Ryan, 2004; Trockel et al., 2000) and nutritional routines (Benton & Sargent, 1992; Hammer et al., 1998; Kalman, 1997; Meyers, 1989; Rafidah et al., 2007; Ryan, 2004; Trockel et al., 2000); (2) academic factors (Aldwin & Greenberger, 1987; Blumberg & Flaherty, 1985; Clark & Rieker, 1986; Duckworth & Seligman, 2006; Evans & Fitzgibbon, 1992; Felsten & Wilcox, 1992; Fisher, 1994; Kohn & Frazer, 1986; Lesko & Summerfield, 1989; Linn & Zeppa, 1984; Mallinckrodt, Leong, & Kralj, 1989; Pfeiffer, 2001; Ratana, 2003; Rafidah et al., 2007; Schafer, 1996; Struthers, Perry, & Menec, 2000); and (3) social factors – family and social support (Cutrona, Cole, Colangelo, Assouline, & Russel, 1994; Hackett, Betz, Casas, & Rocha-Singh, 1992; Hudson and O'Regan, 1994; Orpen, 1996; Trockel et al., 2000; Williams, 1996); finance (Hudson & O'Regan, 1994) and problems with roommates (Blai, 1972; Ryan, 2004).

Notwithstanding the overwhelming research on factors leading to stress and its influence on academic achievements among university students, many of the studies were conducted in isolation without incorporating a comprehensive list of stress factors. The majority of investigations have taken place in the United States, which concentrated mainly on students in the medical field. There also arises a question of which stress factor(s) has/have substantial influential on the academic achievement of students. Many of prior studies have either reported inconclusive or inconsistent results. Prior studies have also concentrated on collecting cross-sectional rather than longitudinal data. This paper thus attempts to address these gaps by incorporating a comprehensive list of stress factors and empirically test them against the academic performance of college students based on different periods of a semester. Specifically, this study is conducted based upon the following research questions:

1. Are there any statistical significant differences in the level of perceived stress among students at the beginning, middle and at the end of the semester?
2. Is there a statistical significant correlation between the level of perceived stress at the beginning, middle and the end of the semester and academic performance of students?
3. What are the stress factors that statistical significantly influence the academic performance of students?

In the following sections, the methodology used in this study is described, followed by analysis of the results. The findings are then discussed and implications of the results are presented before concluding the paper.

METHODOLOGY

The Subjects

The subjects involved in the present study comprise of Pre-Diploma Science students of Universiti Teknologi MARA (UiTM), Negeri Sembilan campus of Malaysia. The Pre-Diploma Science is a one to two semester bridging program with the objective to help the weak students academically, especially in the science subjects before they are admitted into any science or technological-based Diploma courses in any

UiTM campuses throughout the country. There are currently 3 satellite campuses, 12 branch campuses, 8 city campuses, 19 affiliated colleges of UiTM in Malaysia.

Upon completion of this preparatory course, students are then able to pursue the Diploma programs if they obtained at least a Cumulative Grade Point Average (CGPA) of 3.00 in the first semester. If the students fail to achieve the required point, they have to undergo the program for another semester. Since the population size of the Pre-Diploma Science students for the June – November 2005 intake at UiTM Negeri Sembilan was 242, all of them were chosen as subjects for the survey. Out of the 242 students, 154 complete responses were returned, yielding a response rate of 63.6%. The t-test analysis revealed that there are no statistical significant differences between the characteristics of respondents and nonrespondents, and thus, there is no nonresponse bias.

Instrumentation

A structured, self-administered questionnaire was developed as a mode of data collection. The questionnaire comprised of three sections, students' profile; Perceived Stress Scale (PSS); and Stress Factors Survey.

In section A, the respondents were asked to furnish demographic information such as names, gender and previous schools enrolled (boarding or non-boarding). This information is required to allow matching of data in the three stages of data collection (beginning, middle and end of semester) with the data on academic performance.

The questions in Section B were intended to measure individual's perception of stress using the PSS developed by Cohen, Kamarck, and Mermelstein (1983), using a five-point Likert-type scale ranging from 1 (Never) to 5 (Very Often). The 14-item self-report instruments have demonstrated reputable reliability and validity (Cohen et al., 1983). The PSS scores were obtained by reversing the scores on the six negative items (e.g., 1=5, 2=4, 3=3, 4=2, 5=1) and then summing across all items. Items 4, 5, 6, 7, 9, 10, 12 and 13 are positively stated items. Individual scores on the PSS can range from 14 to 70 with lower scores indicating lower perceived stress and higher scores indicating higher perceived stress at that particular point of time. The items can be easily understood and very general in nature that they are free of content specific to any subpopulation groups. Therefore, they are easy to score and can be administered within a short period of time. The Cronbach alpha values of the 14-item PSS for the three periods of data collection (beginning, middle and end of semester) are 0.67, 0.78 and 0.76, respectively, indicating acceptable internal consistencies (Norzaidi, Chong, Intan Salwani, & Rafidah, in press; Norzaidi, Chong, Murali, & Intan Salwani, 2007; Sekaran, 2004).

In Section C, the Stress Factor Survey was used to determine the sources of stress that have been found to influence the academic performance of students. This section requires the participants to identify the factors of stress that they experience during the given period by answering Yes/No questions. Eleven factors of stress were developed and respondents may indicate more than one factor which they perceive as relevant to them. Due to the nature of the nominal scale used, descriptive statistics using percentage (%) was used to explain the percentage of each stress factor in each corresponding period of the semester. Since the questionnaires were distributed at three different periods of time throughout the semester namely, at the beginning, middle and end of the semester, the number of occurrence of each stress factors is categorized as never (the stress factors never exist at all 3 periods); sometimes (the stress factors occur at least once); often (the stress factors occur twice); and very often (the stress factors occur at all 3 periods).

The data on the academic performance of students, i.e. the GPAs, were obtained by the researchers from the Academic Affairs Department after their final examination results were released. The reason of obtaining their GPAs is to find out whether the stress they experienced leaves an impact on their academic performance. The university's GPA system is classified into five categories (A=3.50-4.00; B=3.00-3.49; C=2.50=2.99; D=2.00-2.49; E=less than 2.00).

Procedures

The 4-page self-reported questionnaires were distributed to the students at three different times; one month after the semester started (beginning), one week after the semester break (middle) and the final one was given after their final exam ended (end). The purpose of doing so is to answer the first objective of the study, which is to identify the trend of stress among the students throughout that particular semester. Because of the fact that there was no control group, the issue of internal validity needed to be considered. To ensure that all plausible threats of internal validity are minimized and to reduce and control non-response error, the questionnaires were delivered and collected personally by selected lecturers during classes. The lecturers and subjects involved were thoroughly briefed on the purpose and the implementation of the data collection process. The same lecturers were asked to disseminate the questionnaires to the students throughout the three periods and were required to maintain close contact with the researchers during the study.

Questionnaires were administered during the same week to minimize the effect of varying stress levels that may occur and also under the same basic conditions. Respondents were asked to read the instructions written in the questionnaire carefully. In addition, the subjects have been kept apart so as to minimize the problems of the subjects influencing each other's responses. They were required to complete the questionnaire during the given time. The students were not given any extra marks for participating in this survey.

Respondents' Profile

The majority of students were female (77.9%) and the majority of them came from non-boarding schools (87%). This is a common scenario in higher institutions throughout the country whereby the percentage of female students tend to outnumber the male. It is also common for the majority of students to have received their education from non-boarding schools as the places in boarding schools are usually limited in number. The high numbers of respondents who came from non-boarding schools imply that they have no prior experience of staying away from their families and thus are assumed to be dependent on their parents and families.

RESULTS

Perceived Stress Scale

It was found that generally, the students experienced moderate stress levels throughout the semester, judging from the figures which are slightly more than half of the total score of 70 (beginning=37.90;

middle=39.17; end=38.40). It appears that the level of perceived stress increases as the students move from beginning to the middle of the semester, but drops slightly toward the end of the semester.

Stress Factor Survey

Table 1 shows the results of the Stress Factor Survey which consists of eleven stressors at the beginning, middle and end of the semester. The majority of students claimed that they were not getting enough sleep at the three different periods of time throughout the semester, with 53.4%, 57.1% and 53.9% respectively. This is followed by the nutritional factor, with 53.2%, 53.9% and 51.9% respectively. This suggests that the students are not satisfied with the food provided at the college dining hall. In addition, the students also claimed that they did not have enough exercises. This is probably due to the limited sports and recreational facilities and activities available for the students in the campus. Other factors that contribute to stress include course load, finance, problems with roommate, social activities and sleeping too much. Problems with girlfriends/boyfriends, class attendance and over exercising seem not to contribute much stress to the students.

Four trends can be observed from Table 1. Stress factors associated with nutrition, sleeping too much, social activities and finance increased as the students moved towards the middle semester but dropped as the students moved towards the end of the semester. Stress factors associated with class attendance, problems with roommate, over exercising and course load reduced as the students move towards the middle of semester, but increased again towards the end of semester. Problems with girlfriend/boyfriend and not enough exercising present increasing stress while the stress level dropped for not getting enough sleep as the students moved from beginning to middle and to the end of the semester.

Table 1: Percentage of Students Experiencing Stress during Different Periods of the Semester

Stress Factors	Percentage of Students		
	Begin Semester	Middle Semester	End Semester
Nutrition	53.20	53.90	51.90
Sleeping too much	21.40	23.40	20.10
Not getting enough sleep	58.40	57.10	53.90
Problems with boyfriend/ girlfriend	6.50	7.80	10.40
Class Attendance	4.50	3.20	5.30
Problems with roommate	28.60	18.20	30.50
Over Exercising	1.30	0.60	1.30
Not enough exercising	44.20	50.00	55.80
Social Activities	23.40	25.30	20.10
Finances	31.80	41.60	26.60
Course load	44.80	32.50	37.00

Students' Academic Performance

Based on the report obtained from the Academic Affairs Department, the majority of students scored GPAs of more than 3.00 (66.2%). Only 7.1% of the students scored GPAs of less than 2.00. This implies that on an overall, the academic performance of the students is satisfactory.

Levels of Perceived Stress and Academic Performance

ANOVA was used to test the significant differences between the level of perceived stress during the three periods of the semester. Table 2 indicates that there is a statistical significant difference between the level of perceived stress at the beginning and middle of the semester, but no differences were found between the level of perceived stress at the beginning and end of semester and between the middle and end of semester at 0.05 level of significance. The results also suggest that the level of perceived stress faced by the students at the beginning of semester is less compared to the stress level experienced at the middle of the semester. However, the level of perceived stress experienced by the students from the middle towards the end of the semester was slightly higher than the level of stress at the beginning of the semester.

Table 2: ANOVA Results on the Differences of Stress Levels between Beginning, Middle and End of Semester

ANOVA					
	Sum of Squares	df	Mean Square	F	Significance
Between groups	2498.07	47	53.150	3.536	0.000
Within groups	1593.15	106	15.030		
Total	4091.23	153			
Post Hoc (LSD)					
	N	Mean	Mean Difference		Significance
(1) Beginning	32	2.11	(1) – (2)	-1.17	.000
(2) Middle	60	3.28	(1) – (3)	-0.68	.160
(3) End	62	2.79	(2) – (3)	0.49	.339
Total	154	2.73			

Table 3 shows the Pearson correlation coefficient results between the level of perceived stress and the academic performance of the students. The results indicate that there is no statistical significant correlation between the level of perceived stress at the beginning and at the middle of semester with their academic performance. However, a statistical significant correlation was found between the perceived level of stress at the end of semester and the academic performance of students. The rho value (–0.206) indicates that there

is a statistical significant negative correlation between level of perceived stress at the end of semester and the academic performance of students.

The results imply that although the students perceived a higher level of stress at the beginning towards the middle of the semester, it does not affect their overall academic performance. Their academic performance will only be affected when their perceived level of stress is higher at the end of the semester in which the level of perceived stress is statistically no different with the level of perceived stress at the middle of the semester.

Finally, the Chi-Square test of independence was employed to test whether students' GPAs depend on the occurrence of stress factors. The results are as presented in Table 4. The results indicate that at p-value of 0.05, the GPAs of students do not statistical significantly depend on the number of occurrence of stress factors throughout the semester. It can be concluded that none of the stress factors significantly affect the academic performance of the students.

Table 3: Pearson Correlation Coefficient Results between Academic Performance and Level of Perceived Stress

	Perceived Stress End Semester	Perceived Stress Middle Semester	Perceived Stress Beginning Semester	Grade Point Average
Perceived Stress End Semester				
Perceived Stress Middle Semester	0.30(**)			
Perceived Stress Beginning Semester	0.20(*)	0.41(**)		
Grade Point Average	-0.201(*)	-0.11	-0.05	

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

Table 4: Chi-Square Results of the Stress Factors

Stress Factors	p-value
Nutrition	0.340
Sleeping too much	0.364
Not getting enough sleep	0.082
Problems with boyfriend/ girlfriend	0.232
Class Attendance	0.628
Problems with roommate	0.412
Over Exercising	0.730
Not enough exercising	0.361
Social Activities	0.194
Finances	0.437
Course load	0.455

DISCUSSION AND IMPLICATIONS

The study has fulfilled the three objectives set forth. In general, we concluded that students did experience stress but at a moderate level even though they were in their transition period from school to university life and that the majority of them come from non-boarding schools. In fact, the majority of students have performed satisfactorily based on their GPAs. In addition, the findings that none of the stress factors significantly affect the academic performance of the students allow us to safely conclude that to some extent, the moderate stress experienced by the students are desirable in attaining good academic performance.

One of the possible reasons is due to the small student population in the campus which was only 242 of them and the ratio between students and lecturers was approximately 10:1. Therefore the relationship among themselves as well as with the lecturers was very much closer. This close relationship has also motivated them to attend classes throughout the semester. Another possible reason was perhaps due to the course workload which was slightly similar to the secondary school level. They might be nervous during the beginning of the semester, but as they go along, they started to spot similarity of the course contents to their secondary schools. The level of stress reduces when they familiarized themselves to the academic system. In addition, their relationships with roommates improved as time passed. They were able to balance between their academic and sport activities as well as time spent on sleeping.

The more specific objective of the present study was to find out if there was any statistical significant difference in the level of perceived stress among the students at the beginning, middle and at the end of the semester. The results imply that generally, the level of perceived stress increases as the students move to the middle but drops slightly towards the end of the semester. One possible explanation to this situation was perhaps students were not yet given any tests and assignments at the beginning of the semester. However, as more tests and assignments were presented to them at the middle of the semester, this probably contributed to higher stress levels among the students compared to the stress level experienced at the beginning of the semester even though they are used to the course load. The non-statistical significance of the level of perceived stress between middle and at the end of the semester can probably be explained by the fact that the students are already used to the system.

Our second objective was to find out whether there was a correlation between the students' level of perceived stress at the three different periods of time (beginning, middle, and at the end of the semester) on their academic performance. Based on the test results, we found that there was no statistical significant correlation between the level of perceived stress at the beginning and middle semester with the students' academic performance although there are statistical significant differences in the levels of perceived stress. This finding is not surprising, given the fact that these students are normally school leavers and they are used to the school system where terms are used and only final exams are counted. As they enter the tertiary level, they still cannot see how the quizzes, tests, assignments held in between of the semester contribute to their overall grades. They still think that final exams are the most important criteria that make up their grades.

However, we found out that there was a statistical significant correlation between the level of perceived stress at the end of semester and the students' academic performance. The rho value was –0.206 which implied that when the level of perceived stress was higher, the academic performance would be lower. However, it is important to note that the correlation was rather weak. The implication is that the stress level they experienced was not that high to the extent that they could not cope with their academic activities. Hence, it was not surprising that more than half (66.2%) of them scored GPA 3.00 and above.

Our final objective was to determine the possible stress factors that the students perceived which may contribute to their academic performance. While some of these factors show substantial percentage of stress and that four trends were observed, the statistical results show that the GPA of students did not significantly depend on the number of occurrence of each of the stress factors.

The results have to be interpreted cautiously. Although no significant effects were found between the stress factors and academic performance, we strongly believe that this is merely an absence of evidence for the effects, not evidence that there are no effects at all. Further, the correlation is weak, suggesting that there are other possible factors that mask the relationship. These will have implications on the steps to be taken to mitigate all the stress factors discussed and the role of future research in addressing this.

Based on the observations above, it could then be argued that the stress factors such as nutrition, not getting enough sleep or sleeping too much, social activities, finance, course loads and problems with boyfriends/girlfriends should be addressed since these factors continued to pose major problems to the students even to the end of the semester which affect their academic performance.

Based on the findings and discussions above, we would like to bring forward several suggestions and recommendations to relevant authorities. First, it is suggested that the current student and lecturer ratio available in the campus to be maintained. This is because the results show that this was one the possible reasons that contributed to the low level of stress experienced by the students. This is important as it would ensure good academic performance among the students so that they are able to pursue the Diploma programs of their choice after one semester.

We also would like to urge the relevant ministry in-charge of higher education and the student affairs division of respective universities to consistently plan suitable activities or programs for the students such as organizing talks on financial management, motivation, time management, study skills and probably topics on managing stress. These programs should be organized continuously, not only during the orientation week (Sirca and Sulcic, 2005). Such programs and activities would help the students to identify, understand and manage their stress levels.

Further, it is also timely for the relevant ministry to embark on the idea of involving parents in some parts of the orientation programs. The financial problems of the students can be dealt with effectively if the parents have good understanding about financial planning. It is also important for the relevant authorities to disburse scholarships and loans on time to the university and to the students so that they do not have to worry about the financial burden shouldered by their parents. Besides enlightening the students in preparing them for university's life, parents must be involved in seminars on stress management. Many of the parents of these students have not attended universities and therefore, they do not understand how stressful their children are while in the university. By understanding the causes of stress facing their children, the parents are in better positions to advise and motivate them. This indirectly leads to better academic performance.

In addition, it is also suggested that the relevant authorities should continuously monitor students food intake provided at the dining hall. This is essential because good nutrition would contribute to good health which indirectly results in producing good academic performance. In addition, sports and recreational facilities or activities should also be upgraded to provide more opportunities for the students to get involved in sports and recreational activities. Obviously, getting involved in those activities is one of the possible ways to help students to reduce their stress.

While the problems of boyfriends/girlfriends are inevitable especially for those who have already found the other half before or after joining the institution, it is probably timely for the policy makers and the

university authorities to approach this issue with an open mindset. Special programs can be arranged for couples or individuals with boyfriends/girlfriends outside the institution on how they could maintain a healthy relationship and motivate each other in achieving better grades. Program such as emotional intelligence can also play a pivotal role in ensuring that these students are not emotionally disturbed when facing problems with their other halves (Hidi, 2006).

CONCLUSION AND SUGGESTIONS FOR FUTURE RESEARCH

This study has addressed various important stress factors to the academic performance of postsecondary level students. It is hoped that the suggestions above shed some lights to the relevant authorities in planning and conducting necessary programs for the students in ensuring that they continue to produce excellent graduates in this knowledge-based economy. Notwithstanding, the results would also benefit the parents. By knowing and acknowledging the causes of stress, parents are in better positions to give advice, motivation and/or moral support to reduce the stress factors which could enhance the academic performance of their children.

Perhaps the most significant limitation of the study is the small sample size and that the study was confined to Malaysia. The small sample size might have contributed to the weak correlation and the absence of evidence on the effects of the stress factors on academic performance. A larger sample size from different institutions and geographical locations might yield different yet interesting results. The statistical techniques used might also influence the results. Since this is an exploratory study, it is hoped that more advanced analyses could be used in future studies in order to reach general conclusions about the perceived stress factors, stress levels and academic performance of students. For example, it is possible that some of the stress factors hang together which allows for the creation of scores for sub-areas, i.e. the social and health factors. MLM could also be used to create growth curves of stress over the semester and the stress factors themselves can then be used as predictors of the slopes and intercepts of the factors.

This study can be used as a basis for further exploration on the influences of stress level on academic performance of students at diploma, degree or even postgraduate levels. The level of difficulties inherent in the coursework and exams may present different stress levels to the students. For instance, studies on the pattern of stress they experience in a different environment with different student population, facilities, subjects taught and others. Besides that, other possible factors which may contribute to stress that were not examined in this study such as environmental factors, family background, previous academic achievement and detailed background of the students could be further explored by future researchers. This might help to overcome the weak correlation found in this study. However, researchers have to be vary of the threats of internal validity if future the future studies conducted are longitudinal in nature.

Finally, while this study posited that the amount of stress experienced by the students are desirable in attaining good academic results, it is equally important to identify what constitute good and bad stress and how good stress can be enhanced and bad stress can be eliminated.

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EDUCATIONAL TUTORING ORIGINATING IN INDIA: AN INTERNATIONAL RESPONSE TO THE "NO CHILD LEFT BEHIND" ACT

Charlene A. Dykman, University of St. Thomas – Houston, TX
Beena George, University of St. Thomas – Houston, TX

ABSTRACT

Awareness of the problems faced by the basic educational system in the United States and the resultant mandate for change led to the No Child Left Behind Act of 2001. Provision of supplementary educational services is proposed as a solution under the Act, leading to a new market for tutoring companies. This also led to the creation of a new business model: e-tutoring, or online tutoring. These online tutoring services are also being provided by offshore vendors at competitive rates, employing tutors from various parts of the globe. These new business models raise thought-provoking questions as the American basic educational system experiences unforeseen vulnerabilities resulting from reliance on online tutors from lower wage countries. .

INTRODUCTION

Offshore online tutoring is a fairly new phenomenon, an innovative application of information technology to create a new e-business model. Some of the impacts of online tutoring are readily apparent; for instance, the convenience will appeal to many consumers while quality would be a concern for many. Our goal in this paper is to promote a healthy debate about the impacts of offshore online tutoring on the educational system of the recipient country. We present the case of one recipient country, the United States. With the ongoing public outcry regarding the state of the public school system in the United States, several legislative actions have been taken over the decades to address problems in the system. The provision of supplementary educational services, included as one solution in the No Child Left Behind Act, has uncovered opportunities for these offshore online tutoring organizations.

EDUCATION AND LEGISLATION

Education is a word that is fraught with complexities. How can a society effectively accomplish meaningful education of its young people? What does "meaningful education" really mean? In the United States, it is clear that the basic educational system is facing many challenges. Frequent media reports with data showing that American children in the public school systems are falling behind students in the rest of the world have created a sense of concern and urgency regarding the state of the American public education system. Policymakers, parents, and educators in the United States worry about keeping up with other

countries in science, mathematics, and innovation in general. Studies have shown that American children rank below their counterparts in many other countries (PISA Report, 2004).

There have been many attempts at the level of the federal government to address these issues in a legislative way, beginning with Title I of the Elementary and Secondary Education Act of 1965. This Act resulted from a public perception, which had been increasing for decades, that there was something amiss in the public (specifically primary and secondary) educational system in the United States. The 1965 Act was based on the assumption that most public schools did not have problems. Rather, studies showed that problems were concentrated in schools found in poor areas and this was a crisis only for a specific set of disadvantaged students (McGuinn, 2006). There was recognition that education was primarily a local and state responsibility, and this Act carefully limited the role of the federal government in addressing the situation. Some educational and governmental groups encouraged a focus on the "inputs" to the system, specifically addressing the problems of economic disadvantage. Other groups wanted to focus on the "outcomes", measuring performance of teachers, students, and schools and establishing accountability measures.

As decades passed, there was little evidence to show that the Act of 1965 was making a significant difference in the educational attainment of American students. The educational stagnation continued. Public education and its highly visible problems took center stage in the election of presidents beginning in the late 1980's, with George H.W. Bush campaigning with a pledge to be the "Education President" (McGuinn, 2006). The next President, Bill Clinton, expanded the role of the federal government in education. Clinton promoted increased investment to address the issues of the disadvantaged, but also focused on school reform and accountability measures, thus addressing both the "input" and "output" perspectives for educational reform. All of this culminated, finally in Public Law 107-110 signed into law by George W. Bush in 2002 (United States Public Law 107-110, 2002). The law was enacted "to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind" and primarily focused on measuring educational output to assure the accountability of the primary and secondary education process in the U.S. This law led to the development of standards and required measurement of student learning, and consequently school performance, using outcomes-focused testing measures. Individual states were expected to develop detailed methodologies for achieving the goals articulated in what came to be called the "No Child Left Behind Act" (NCLB).

EDUCATION AS A COMMERCIAL VENTURE

For a number of years there have been initiatives to "privatize" to some degree the public school systems in the U.S. Much of this resulted from comparing the academic success of private schools with that of public schools. The latter often paled in comparison and the result was a cry for a better approach to management of public schools. The Edison project, founded in 1992 by a diverse group of committed educators and innovators, rose from this outcry. This organization, through contractual relationships, works closely with public school districts. The Edison Group focuses on "raising student achievement through its research-based school design, uniquely aligned assessment systems, interactive professional development, integrated use of technology, and other proven features" (www.edison schools.com). In 2006-7 Edison served 285,000 public school students in 19 states. Interestingly enough, the NCLB Act, with its emphasis on measurement of student achievement through standardized testing, provided a perfect opportunity to compare

the results of Edison managed schools against typical public schools. The results have been mixed and do not show a strong indication that privatization of public school management yields significant differences (Gill, et al 2005).

The performance of schools, as measured through student performance and other indicators, became a dominant issue in the implementation of the No Child Left behind Act. Schools were to be held accountable for low performing students and remedies were mandated within the NCLB Act. One of these remedies was a requirement that "supplementary educational services" be made available, largely through funding by the federal government, to students in what were judged to be low performing schools. A major service provided was access to special tutoring, with the hope that this would help to raise student performance scores and subsequently raise the performance level of the entire school. Details regarding provision of this tutoring were left up to the states, local school districts, and even individual school administrators. The NCLB Act opened the door to commercial tutoring companies, with assurance of a market identified and funded by the federal government. Existing tutoring and educational skills development companies such as Sylvan and Kumon appeared uniquely poised to meet this new demand for tutoring services.

TUTORING MOVES FROM COMMERCE TO E-COMMERCE

This new market, while it appeared to be very lucrative, brought with it a lot of complexities. It was not always possible to quickly build new facilities and open up new store-front operations to meet the demand for tutoring that was identified and motivated by the NCLB Act. Technology was positioned to offer some answers to this dilemma. Advances in the telecommunications infrastructure had opened the doors to education via the Internet. Several new colleges and universities had opened their "doors" as online institutions offering a range of degree programs. Many established brick-and-mortar institutions began offering online and hybrid/blended coursework via the Internet. It made sense to think of tutoring via the Internet also. The time had come!

SmarThinking quickly entered this market for online tutoring (www.smarthinking.com). SmarThinking, based in Washington D.C., has contracted with over 500 schools, clients and businesses, including the U.S. Army. SmarThinking has emphasized relationships with colleges and universities and has found that this market presented difficulties that transcended the technology itself. Provision of tutoring was an item outside of the typical budget in universities and, in addition, there was often reluctance to take the initial steps to learn how to use the system. SmarThinking executives saw visits to universities to demonstrate the system and train students and professors as a key to their success.

Tutor.com, based in New York, also quickly entered this market with online tutoring offerings (www.tutor.com). Tutor.com has focused almost exclusively on the primary and secondary markets for tutoring and offers sessions "on-demand" rather than requiring scheduled appointments for the service. They have approached tutoring through a "homework help" format. In the early stages of this commercial venture, with companies such as SmarThinking and Tutor.com offering tutoring via the Internet, the primary driver was the new demand fostered by the NCLB. Schools which were low performing, based on the NCLB criteria and standards, were required to make these supplementary educational services available to students. The federal government provided funding to support this tutoring for the affected students. It appeared that online tutoring was a perfect way to meet this demand.

However, reality soon set in. Low performing schools were often located in economically disadvantaged areas and families in these areas had very limited access to the Internet. The response by the early entrants into this market was to develop arrangements with libraries for tutoring using the libraries' already installed base of technology, supported by the taxpayers in local communities. However, even this did not prove to be profitable for the companies involved. It was clear that labor costs were significant. Tutors were degreed people with expertise in their subject matter domains. Providing an hour of tutoring services was an expensive proposition. Lack of profitability was related to the costs of providing the services rather than the lack of demand for tutoring. Furthermore, even though the NCLB Act was a major stimulus to this drive towards online tutoring, it quickly became apparent that there was a real market for these services outside of the low performing schools. Demand for tutoring exceeded expectations driven by the focus on low performing schools.

The technology was clearly mature enough to support successful ventures in commercial online tutoring. There was a pronounced and very clear demand for the services. However, the technology did not do the tutoring; individual employees, degreed and high priced, were the necessary and significant building blocks for tutoring via the Internet. This e-commerce venture required a new model in order to assure commercial success.

A NEW BUSINESS MODEL AS TUTORING GOES OFFSHORE

Labor and facilities costs make a significant impact on the bottom line of any company. Online tutoring companies, once their technology infrastructure is in place, have minimal costs other than labor and facilities to worry about. While this represents a problem for traditional commercial tutoring companies due to their high labor costs, it offers an opportunity for companies that are positioned to utilize lower cost employees to provide this service. These lower cost employees are often found overseas where wages and living standards differ greatly from those in the U.S.

E-Commerce encompasses many concepts, beginning with the idea of buying and selling of goods or services electronically. The vast majority of e-commerce transactions involve business to business (B2B) e-commerce, as part of supply chain technology. Consumer to consumer (C2C) e-commerce is seen with such entities as eBay where consumers sell goods and services to other consumers. Business to consumer (B2C) refers to selling and buying goods and services via the web from commercial entities to consumers. Utilizing low cost employees to deliver tutoring services via the Internet was an idea that seemed to be full of promise as a true B2C e-commerce venture.

Growing Stars is a small tutoring company headquartered in California, that was started by Biju Mathew in 2004 (www.growingstars.com). Growing Stars tutors are based in a teaching center in Cochin, on the coast in southwest India, where they arrive to start their workday in the middle of the night in order to serve their student clients overseas. Growing Stars prides itself on using only teachers who have postgraduate degrees and in working with parents and providing them access to progress reports about their child and his/her work with Growing Stars tutors. Growing Stars pays its tutors $350 to $450 per month for roughly a 40-hour workweek. In 2006, Growing Stars was serving upwards of 400 students, each of whom was paying $21-$25 dollars per hour for the tutoring (Hua, 2006). Growing Stars is currently offering unlimited tutoring for $119.99 per month after the first month of tutoring. In contrast, in-home tutors charge anywhere from $40 to $60 per hour for their tutoring services in the United States.

TutorVista, based in Banaglore, India, was started by successful serial entrepreneur, Krishnan Ganesh, in July, 2005. TutorVista also has California ties, having received a significant $11 million in venture funding from Menlo Park's Sequoia Capital in 2006 (Hua, 2006). TutorVista is on a steep growth curve, moving from about 2,000 students in April, 2007 to a goal of 10,000 by the end of 2007. TutorVista is unique in several ways. With respect to the realm of e-commerce, TutorVista is the first B2C company that directly targets consumers in the United States and United Kingdom from India. Additionally, TutorVista operates almost completely as a virtual company with tutors being recruited, hired, and trained via the Internet. Individual tutors, all possessing post graduate degrees as well as teaching experience prior to their hiring, provide tutoring from their homes. In April of 2007, there were 500 tutors working for TutorVista and they provided their services from their homes in 23 Indian cities (Hamm, 2007). TutorVista tutors earn $300-$400 per month; all while working from their homes, some in small communities far from Bangalore, the company headquarters. TutorVista developed its own highly scalable system for management of the tutoring process and provision of these services to the ultimate customer, the student needing tutoring in a subject. The scalability of this technology has provided a platform for nearly unlimited growth for this company. The fact that tutors work from home minimized infrastructure costs for facilities and allowed TutorVista to enter the market with the first flat rate fee structure for tutoring - $99.99 per month for unlimited services in the U.S. and £50 in the United Kingdom (www.TutorVista.com).

Realizing that TutorVista had developed a profitable business model, new companies are entering the market with similar business models. For example, TutorNext, a Washington D.C. based company founded at the end of 2006 by Anu Bhave, an MIT Sloan graduate of Indian origin, has already raised its first round of funding in April 2007 to develop proprietary software to enhance its learning platform (www.TutorNext.com).

These offshoring efforts, from India to markets in the United States and United Kingdom, present a new model in B2C e-commerce. TutorVista, TutorNext, and other companies have leveraged the highly educated, low cost labor force in India, developed innovative proprietary technology, minimized investment in brick and mortar, focused on a great demand for tutoring services resulting from the educational gaps made visible by the No Child Left Behind Act, and created a future full of possibilities for the students who are served. In addition, this has opened a new future for the Indian tutors who are now able to earn a living wage while remaining in their homes, raising their families, and serving their communities. It would seem that the idea of saving money while maintaining the quality of the educational experience would be nothing but positive for all the parties involved in this e-commerce transaction.

DILEMMAS PRESENTED BY OFFSHORE ONLINE TUTORING

For the United States, one can only wonder about the long term implications of offshoring and outsourcing educational endeavors. American students have a very real potential, through tutoring from India, to solidify their educational foundations and thus enhance their own futures. However, there are also some concerns to address. Did the United States think many, many years ago about the issues and risks involved in their dependency on oil from the Middle East? The American economy was developed on the assumption of inexpensive oil, a faulty assumption that has proven costly for the United States in many ways. The offshoring industry has recently been shaken up by reports of product (toys, pet food, etc.) quality control lapses for items being imported from China. To consumers in many countries, imported products offer

opportunities for cost savings; at the same time, these products present risks since they may not be subject to the stringent standards of quality control measurements these consumers have come to expect. Dependency on products from abroad, such as pet foods, toys, and medicines, brings newfound threats that must be addressed.

With the increasing availability of offshore online tutoring, United States and other countries on the receiver side of the offshore online tutoring industry are entering a new era in the realm of education. Some of the same issues and risks we have discussed above may arise. Therefore, it is necessary to examine what has led to the need for reliance on offshore resources in this realm. It is not like the lack of oil in the United States. In fact, it must be pointed out that United States has plenty of expertise in education. Students come from all over the world to enter American colleges and universities and avail themselves of the innovations and the knowledge that research in American research institutions offer. How then, has the United States, ended up depending on overseas educational support for the students in its primary and secondary school systems?

Teachers unions, such as the American Federation of Teachers, have become cognizant of this issue and are raising questions about the suitability of tutors from other countries. These questions were first voiced regarding the lack of quality control for tutors that were hired under the NCLB Act. The concerns become even more dramatic when the unions speak about offshore tutoring (Das, 2005). Another issue was raised by a ruling of a judge in New York state in 2006 (ZDNet, 2006). This judge ruled that the New York Education Department cannot hire online tutors from India or other nations because it is impossible to conduct meaningful background checks on these foreign tutors. Of course, this ruling fails to recognize the occurrence of negative, often illegal, behaviors of some American teachers right in their classrooms.

It is clear that global educational e-commerce has entered into an area that is quite different from the buying and selling of products or even services such as call centers and offshore programming. We have new educational models built on the e-commerce structure, seen first in the offshoring of tutoring to India. The long-term impacts are unknown. It has been reported that Americans are not willing to take the jobs that may be performed by undocumented immigrants for the low wages that are offered. Will the pursuit of inexpensive education jump from tutoring to full educational services? Public school educators are already among the lowest paid of degreed professionals. With families to feed and bills to pay, American teachers may no longer be willing to work for the low wages that will be offered as they try to compete with even lower salaried offshore enterprises.

Another concern is that the availability of convenient, inexpensive, and good-quality online tutoring may induce parents to keep their children entirely away from the mainstream public educational system. Such home-schooling would reduce the necessity for families to stay in high-priced neighborhoods in 'good' school districts and may alter the demographics in American cities where housing values are so largely tied to the quality of schools in the neighborhoods. Bayoh et al (2006), in a study of residential location choice, found that school quality exerts the strongest influence in the choice of a home.

The offshoring of educational services, made possible by innovations in technology and facilitated by significant developments in the realm of e-commerce, brings many opportunities along with significant risks. The public school systems, in the United States, need to identify and address the deeply embedded and complex social issues that result in low performing students. Readily available and inexpensive tutoring, while appearing to be a good solution to current problems, may also bring challenges that undermine the

future of public education in the United States. It is important that the educational policy makers recognize this potential and address the root causes that are fueling the demand for online tutoring from bases overseas.

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THE OTHER SIDE OF THE COIN: OVERCOMING THE DETRIMENTAL EFFECTS OF SMALL CLASSES IN MANAGEMENT EDUCATION

John A. Parnell, University of North Carolina at Pembroke
William "Rick" Crandall, University of North Carolina at Pembroke
Sharon L. Bell, University of North Carolina at Pembroke

ABSTRACT

A number of recent studies have examined the effect of large class sizes on student performance and teaching effectiveness. However, little attention has been given to challenges associated with small classes. This paper examines problems that are encountered when classes become too small. Suggestions for addressing these problems are presented.

INTRODUCTION

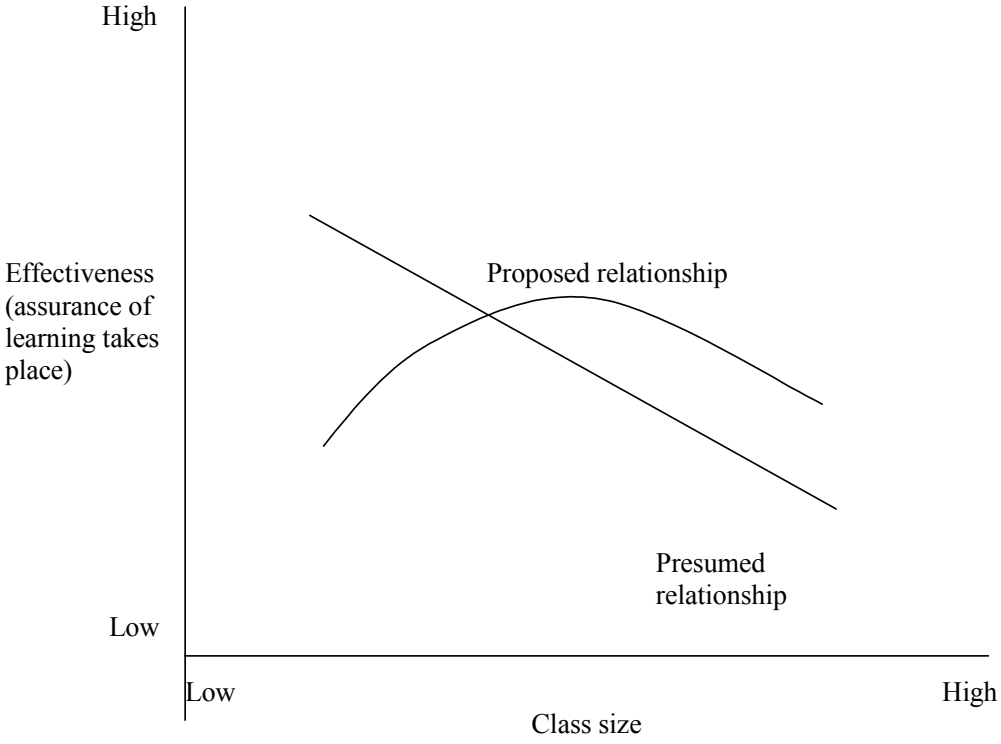
The link between class size and student learning has been a topic of keen interest to educators, politicians, and the general public in recent years. Proponents of smaller classes have argued that learning is enhanced when fewer students are enrolled in a class. While results from empirical studies have been mixed, little attention has been given to the possibility that class sizes can be reduced to the point that effectiveness actually declines (Dommeyer, 1997; Scheck, Kiniki & Webster, 1994; Murdoch & Guy, 2002).

The presumed linear relationship between class size and effectiveness is illustrated in figure 1. In contrast, we propose an inverted-U shaped relationship, acknowledging the general tendency for effectiveness to decline when classes are too large *but also* proposing that effectiveness declines when classes are too small.

This paper addresses a number of practical considerations supporting the contention that classes that are *too small* can present as much of a problem as classes that are *too large*. This paper does not seek to suggest an optimal class size. Indeed, such a number would depend on a number of factors, including but not limited to field of study, level of the course, abilities and personalities of the students, and style of the instructor.

Following an overview of the literature, case studies of three classes with ten or fewer students are presented. Based on these cases, practical recommendations for overcoming problems associated with small class size are presented, followed by an outline of research opportunities.

Figure 1: Proposed Linkages Between Class Size and Learning Outcomes



REVIEW OF THE LITERATURE

What exactly constitutes a "small" class is widely debated. Indeed, some studies have considered a small class to have as many as thirty students (Dommeyer, 1997). In this paper, however, a "small class" refers to one with fewer than ten students. In addition, class size is defined as the ratio of students to instructors (Glass & Smith, 1980). Hence, the reference to fewer than ten students assumes that there is only one instructor in the class.

There are also different definitions of "teaching effectiveness" and "instructor effectiveness" among studies considering class size effects (Baldwin, 1993; McConnell & Sosin, 1984; Hill, 1998). In this study, we link effectiveness to learning outcomes. In other words, instructional effectiveness increases when student learning increases.

The class size-performance nexus has received considerable attention in the literature over the past half century (McConnell & Sosin, 1984; Shane, 1961, Simmons, 1959). In general, studies examining the effect of class size on performance have pitted "large" classes against those of "moderate" size. Following this stream, a number of studies have demonstrated a negative association between class size and performance (Glass & Smith, 1980). In contrast, other studies found no consequential relationship (Byus, Hampton, &

Pratt, 1995; Dommeyer, 1997; Hill, 1998; Laughlin, 1976; Siegel, 1959; Williams, Cook, Quinn, & Jensen, 1985). Differences have also been found across disciplines.

Some studies have also considered the role played by instructor effectiveness in mediating and moderating the relationship. Baldwin (1993), for example, found that any negative effect associated with substantial increases in size could be more than overcome if a highly effective instructor teaches the large class.

Effectiveness aside, research suggests that smaller classes are usually preferred by both instructors and students (Guseman, 1985; McKeachie, 1978; Smith & Glass, 1979). In one study, faculty reported that classes with fewer than thirty students are less stressful, easier to control, and allow for more individualized instruction. Students report that such classes reduce distractions, create less threatening environments, and result in more personal attention from the instructor (Dommeyer, 1997). However, research does not support the existence of these perceptions when class size falls below ten students.

Many faculty members fear that large classes will negatively affect student evaluations of their teaching (Marsh & Overall, 1979). However, this has not always been supported in the literature (Feldman, 1978, 1984). Nonetheless, it is difficult, if not impossible to remove political and personal preference biases from discussions on class size and teaching effectiveness.

Perhaps the greatest problem associated with the literature on class size involves the number of other factors that greatly influence its relationship with effectiveness. Although a number of published studies have addressed the class size-effectiveness relationship, generalizability is usually a key problem. Differences in disciplines, instructor ability and experience, student composition, and the use of various forms of multimedia also appear to play substantial roles (Karakaya, Ainscough, & Chopoorian, 2001).

Although small classes are relatively infrequent in management education, they occur enough to warrant further attention. Some institutions in particular are more likely than others to see small class enrollments in their programs. While many administrators simply cancel a course with small enrollments, such actions can be unpopular with students who need certain courses in order to graduate. The following accounts highlight three classes that were recently taught by the authors at their institution, a state supported university in the southeastern United States that frequently offers small class sizes. Interestingly, small classes with personal attention represent a popular selling point for the university. However, as is illustrated, such small classes do carry with them certain unique problems.

TALES FROM THE CLASSROOM: THREE CASES

Each of the three co-authors of this paper recently taught a small section of a management course. Capsules of these experiences are summarized below and are used as a context and a springboard for developing suggestions for overcoming difficulties in the subsequent section.

Case #1: Nine Students in a Business Strategy Course

One of the co-authors of this paper instructed a business strategy course with nine students in 2004. Business strategy is the capstone course required of all undergraduate business majors and is usually taken in the student's graduating term. The course is largely qualitative and analytical, with an emphasis on a team project. This class met one night a week.

The format for each class was divided into two parts. The first half of the class was devoted to a lecture presented by the instructor. The second half focused on a case discussion, assigned for reading the previous week. In addition, a seminar question assigned the previous week was discussed. The seminar question involved independent research by the student during the week and followup participation was required the following class meeting.

One of the problems encountered with this smaller class concerned classroom logistics, and more specifically an unusual situation that influenced delivery of the course. As a result of a mold outbreak in one of the buildings on campus, a number of classes for this particular semester were assigned to other buildings. As a result, some "lecture" classes—including this particular course—were held in computer labs. This setup proved less than ideal as students sat in long rows with computers often blocking the view of the student from the instructor. To compensate for this dilemma, the professor experimented with moving the class to a conference room when class discussions were being conducted. The lecture segment of the class however, was conducted in the computer lab. This arrangement proved more effective for discussions because of fewer distractions and more conducive seating arrangements. From this experience, the professor concluded that future small classes should consider meeting in conference rooms as opposed to a traditional classroom.

Case #2: Five Students in a Business Strategy Course

A different co-author of this paper instructed a business strategy course with five students and one with eight students in 2004. Although many of the assignments were similar to those elaborated in the aforementioned case, there were some differences.

Students in the course were required to subscribe to the *Wall Street Journal* and discuss articles of interest related to the course during the first 10-15 minutes of each class section. Students were not required to read specific articles, but were allowed to read and discuss the ones they believed to be most relevant to the course. The small class size placed pressure on all students to participate in this activity. Follow-up discussion on the articles was not common, however, as most or all of the other students typically did not read the particular article being presented.

During lectures, examples were frequently cited to support key concepts. Three students had significant part-time work experience in the fast-food and banking industries. As such, these industries were frequently referenced as examples. Without students with experience in other industries, however, it was difficult to develop some of the examples that would have been used in a larger class.

Although a lecture-discussion approach was preferred, the small number of students limited questions and forced a style closer to that of a straight lecture. It is interesting to note that this counters conventional wisdom, whereby discussion is generally assumed to increase when class sizes are smaller.

Case #3: Two Small Classes in Managerial Accounting

third co-author instructed two small classes in managerial accounting, one with six students and one with nine. Managerial accounting is a sophomore level course required for all business majors. The format of the course is lecture-discussion using exercises, problems, and cases. Homework was assigned every class period and was collected on random days for a grade. Solutions were discussed during the following class.

One problem encountered in this class was limited student participation. Lecturing and reviewing homework with this small number of students seemed unnatural to the instructor. More student discussion was expected. To encourage participation, the instructor required homework to be submitted in advance through e-mail. Student errors could be brought to the attention of the class without subjecting individual students to the embarrassment of providing "incorrect" solutions. Reviewing the homework in advance helped facilitate "artificial participation" and provided an opportunity for all students to contribute ideas and acceptable solutions to the discussion throughout the semester.

Another problem encountered was the absence of a critical mass of students for a structured group assembly-line simulation. The class was divided into teams to create assembly lines, each with a manager, timekeeper, quality control inspector and assembly line workers. A debriefing followed with discussion among the participants. Due to the small size of these two classes, the assignment was modified in one section and not used in the other. The debriefing was not effective due to the limited number of students assuming each role. A second group project, that had proven successful in larger classes, was not used in these small classes.

CHALLENGES AND RECOMMENDATIONS

From these three cases, several broad challenges associated with teaching small classes were noted. These are delineated below, along with recommendations for overcoming them.

1. Lack of sufficient participation.

In all three cases additional student participation was desired. Simply stated, unless several highly participative students end up in a small class, this problem is very likely, regardless of the course. To overcome this shortcoming, the instructor can assign a particular student (or students) to develop 3-5 questions from the readings prior to each lecture. Students can be selected on a rotational basis and be required to ask their questions along the way as topics are introduced. Of course, this does not preclude others from adding questions and offering other comments as well.

It is also helpful to elicit participation early in the term on "lighter" or student-related topics to increase student comfort in participation. For example, students are generally interested in discussing their experiences with their university and their daily activities. Sharing perspectives on less controversial topics can serve as a foundation for future participation.

In addition, an instructor can take steps to foster class discussion before the class begins. In larger classes, discussion naturally evolves in an active learning environment. In smaller classes, however, instructors can take steps prior to the class session to ensure that participation occurs and is effective. For example, students can be required to distribute comments on a topic electronically to the instructor and others in the course before the class meets. This process increases student familiarity with a particular topic and can fuel quality discussion in class.

2. Heightened pressure on quiet or less articulate students.

A student who prefers to offer only occasional comments is required to increase his or her participation, which can increase one's stress level. To some extent, this problem cannot be avoided. However, an instructor who makes a special effort to get to know students quickly and put them at ease can help them use the small class as a tool for becoming more expressive.

Even in a small class, an instructor can subdivide students into teams of two or three to discuss issues and/or solve problems. Students tend to participate effectively within small teams, an experience that can heighten participation when the teams share and discuss their findings.

Another option is to offer a simple "ice breaker" before the main part of the class gets underway. In an ice breaker, a simple question is asked to the participants, and each person delivers their response one at a time. The question asked can be varied, and usually does not pertain to the subject matter of the class. For example, one of the authors uses an ice breaker in which each student is asked what they ate for breakfast that morning. The advantage of an ice breaker is that it gets each student participating in the class. By participating once, early in the class session, some students are more likely to participate later in the session. The initial fear of speaking up has been de-sensitized to a degree, and speaking up later becomes easier. In addition, an ice breaker such as this one is fun because it reveals interesting insights about each student.

3. Lack of feedback.

When a difficult concept is presented, students often hesitate to ask for clarification as needed. When there are only several students in a class, the odds that additional explanation will be sought may decline proportionately. Instructors can compensate for this problem by selecting a student at random and asking him or her to summarize the material presented recently. Alternatively, students can be asked to write and submit a brief summary of the lecture near the end of each class session. This activity can result in poignant questions of clarification and can also provide an opportunity for the instructor to identify gaps in student learning that need to be addressed in the subsequent session.

4. Lack of a suitable sample when measuring performance.

In a class of thirty students, for example, average scores on examinations are meaningful forms of feedback for both the instructor and the students. Such scores may be skewed if the size of the student sample (i.e., class size) is very small. In such instances, it is helpful to compare scores on assignments to those in previous or concurrent sections to build a larger population of students.

5. Inappropriate learning environment.

Traditional classrooms with 30 to 40 desks are not conducive to a learning community consisting of fewer than ten students. Whenever possible, instructors should seek to relocate such classes to smaller classrooms, perhaps those with a "roundtable" setting. Laboratory settings such as those found in typical computer labs may not be appropriate. However, if it is possible to relocate the class to a conference room, discussion will be easier. In addition, the more professional environment may act as a motivator to some of

the class members who dislike the aesthetics of the classroom. If appropriate relocation is not feasible, students can rearrange the desks in a small circle to facilitate greater interaction.

6. Inability to implement class activities that require a critical mass of students.

Indeed, it is possible that certain learning activities simply cannot be implemented effectively in extremely small classes. Instructors should recognize, however, that small classes create opportunities to incorporate activities that would not be possible with larger classes. When there are only several students in a class, for example, it is more feasible for an instructor to take students to the library or on a field trip. In addition, small classes provide instructors with a laboratory to test new teaching approaches on a pilot basis. Consequently, new approaches that prove to be successful can be refined and introduced in larger classes.

PROSPECTS FOR FUTURE RESEARCH

This paper has identified key challenges that must be addressed when classes become too small. Suggestions for overcoming these challenges or at least reducing their impact on effectiveness have also been offered. Although anecdotal evidence suggests that classes can become too small, there is a dearth of empirical evidence to either support or refute this notion. As such, four avenues of empirical research may be useful.

First, studies comparing student performance in classes of various sizes, including those below ten students, are needed. When possible, it may be useful to compare classes of different sizes taught by the same instructor.

Second, in addition to performance, studies should consider student and instructor satisfaction associated with various class sizes. While it is not suggested that satisfied students always learn more or satisfied instructors necessarily teach more effectively, satisfaction influences a number of other relevant variables such as student enrollment and faculty turnover.

Third, this study considered the effect of class size on effectiveness in traditional classes, but did not address the relationship in on-line courses. It is likely that the relationship between class size and effectiveness is altogether different in the on-line environment.

Finally, given the influence of content on effectives, research should consider whether "optimal" class sizes differ significantly across disciplines. Specifically, investigations that demonstrate how the relationship between class size and learning effectiveness varies across disciplines would be helpful.

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BODY ADORNMENT: A COMPARISON OF THE ATTITUDES OF BUSINESSPEOPLE AND STUDENTS IN THREE STATES

Larry R. Dale, Arkansas State University
Sandra Bevill, Arkansas State University
Terry Roach, Arkansas State University
Susan Glasgow, Arkansas State University
Courtney Bracy, Arkansas State University

ABSTRACT

This study explored the perceptions of 1,412 students and 581 business persons from Arkansas, Ohio and California, regarding visible tattoos and body piercings, called body adornment, in order to develop recommendations for faculty and students. Using a correlation, the dependent variables that proved significant and positive at the .01 level of testing for both students and businesses included: whether the respondent had visible tattoos or body piercings, whether the respondent would cover up a visible tattoo or piercings for a job interview, the extent to which the respondent used drugs and alcohol, and dealings with the public. The factors that were not significant for students were their gender, school, race, major, GPA, and age. Among business people, minorities and men, particularly older men, tended to be significantly less favorable to body adornment than Caucasians, women and younger business people even though all were negative. Students need to understand that business perceptions about such adornment could hurt their chances of getting a good job. Recommendations are provided for students as well as faculty who are interested in helping students prepare for their careers.

INTRODUCTION

In the 1970s and 1980s, many changes took place in the typical office, but at least one thing was easy: when people went for job interviews prepared for careers in business, they felt comfortable in their conservative business attire. Then came the 1990s, and corporate dress codes began to relax (Zielinski, 2005). Before long, this trend toward casual dress in business offices spread across the country. Originally, companies instituted "casual Fridays" on which employees could dress down. Over the next decade, business attire became more casual every day of the week. Interestingly, one of the things that had increased during this time is the number of people with body adornment (e.g., tattoos and/or piercings) (Smith, 2003, Zielinski, 2005).

Ironically, as the use of body adornment has increased, the return to a more conservative dress code, particularly with employees required to meet the public, has occurred (Drew 2000). Employers want potential employees to "…look professional on interview" (Needleman, 2007). Employees had become too casual.

What began as a day that meant slacks and a blazer rather than a suit had too often morphed into employees who wore jeans with holes, sandals, and t-shirts.

Unfortunately, the younger employees had never known anything but a casual work environment. What would these young people—and other employees—think about the newer, more formal business atmosphere? While changing their manner of dress is one thing, how will they feel about covering their tattoos if they have them or getting tattoos if they don't yet have them? More important is what do employers think about such body adornment? Is there a generation gap with respect to attire? What other factors determine attitudes toward body adornment and dress between students and employers? For example, will attitudes vary among traditionally liberal California, largely rural Arkansas, and Ohio, home of the largest university in the United States? We wished to explore all of these issues and more in this research in order to help us understand if there is a difference in attitude to help our students find work in an ever-tightening job market.

PURPOSE

The primary purpose of this study is to determine the attitudes or perceptions of students and businesspeople regarding visible tattoos and body piercings relative to employment. For the purposes of this study, body adornment includes ***visible*** tattoos and body piercings defined as "tattoos and body piercings—other than one earring per ear for women—that are visible when dressed for work." Another purpose of the study is to develop recommendations for faculty and students regarding tattoos and body piercings in the workplace.

PARTICIPANTS AND METHODOLOGY

Students in selected but varied classes at nine universities in Ohio, California and Arkansas, a well as business people from those same states, were asked to anonymously complete a survey pertaining to visible tattoos and piercings. Of these nine schools, seven were accredited by AACSB and two were not. A total of 1,412 surveys were completed. Schools participating in the survey ranged from Henderson State University in Arkadelphia, Arkansas, with slightly over 3,000 undergraduate students, to Ohio State University, which boasts the highest enrollment in the United States at almost 52,000 students.

In Arkansas, the two schools included Arkansas State University-Jonesboro, with 187 respondents, and Henderson State University, with 155 respondents, which yielded a total of 342 students from 12 different classes. The four California schools were Allan Hancock Community College (with 216 respondents), Cal Poly-San Luis Obispo (223 respondents), Cal Poly-Pomona (221 respondents), and UCLA (157 respondents); these schools yielded a total of 817 student responders from 33 different classes. The three schools in Ohio were Ohio State (79 respondents), The Ohio State University-Athens (43 respondents), and the University of Akron (177 respondents); these schools yielded a total of 253 students from 7 different classes. Of the classes involved, 6 (11.53%) were in history, 1 (1.92%) sociology, 2 (3.84%) nursing, 10 (19.23%) education and 33 (63.46%) business including 4 (7.69%) accounting, 10 (19.23%) economics, and the other 3 (5.76%) in a variety of business courses. Interestingly, based on their responses, the business students did not appear to be any less in favor of tattoos and piercings than the students in non-business classes; however, the number of liberal arts majors was rather small.

The responses to survey questions "What is your attitude toward visible tattoos in the workplace?" and "What is your attitude toward visible body piercings, other than pierced ears on women, in the workplace?" served as the independent Y variable. Most of our survey opinion questions utilized a five-point Likert scale, which became our dummy variable for research purposes.

The business surveys were conducted through lists provided by local Chambers of Commerce in these same cities. The random selection of businesspeople yielded results from 581 individuals representing 501 different business organizations ranging in size from a small restaurant with 12 employees to a manufacturing company in Ohio with 2,000 employees. A total of 188 (32.35% of business respondents) came from California; Ohio yielded 267 (or 45.96%) respondents, and Arkansas had 126 (21.68%) respondents. The average size of the businesses was 272 employees. The businesspeople self-described their businesses as 38.34% retail service; 21.24% manufacturing- Fortune 500 companies; 22.45% manufacturing from smaller companies; and service businesses at 17.97%. Service businesses were slightly more negative than manufacturers which is possibly due to the fact that most of their employees have direct contact with the customers, however, but the difference was not significant at the .01 level of testing.

The 1,412 students were surveyed along with 223 non-students from all three states in the same age group of 19-40 acting as a control group. A regression analysis was conducted to determine which of the dependent variables were significant at the .01 level of testing among the student and business responders. We also looked to see if the null hypothesis was rejected that there would be a difference in attitude between the business people and students from the three states. The responses to survey questions "What is your attitude toward visible tattoos in the workplace?" and "What is your attitude toward visible body piercings, other than pierced ears on women?" served as the independent Y variable. We utilized a regression analysis on the 15 factors and determined that of the dependent variables, 12 proved significant at the .01 level of testing. The dependent variables that proved to be significant and positive at the .01 level of testing for business respondents included the respondent's gender, age, race, whether the respondent had visible tattoos or body piercings, whether the respondent thought it was legal not to hire someone because of body adornment, whether the responded believed people with body adornment are more impulsive, whether the respondent would cover up a visible tattoo or piercings for a job interview, the extent to which the respondent used drugs and alcohol, whether they would hire someone with body adornment, the state in which the business is located, the type of business, and whether the employee has direct contact with the public. The factors that were not significant for business respondents were whether the company had a policy concerning body adornment and whether having body adornment would hinder a person's chance of getting a job. Using a Likert scale for 15 questions, students were asked to indicate their level of agreement with selected questions. On two questions, the students were asked simply Yes or No, and on two other questions they had a selection of three choices which were treated as two or three response dummy variables. The dependent variables that proved to be significant and positive at the .01 level of testing for student respondents included whether the respondent had visible tattoos or body piercings, whether the respondent would cover up a visible tattoo or piercings for a job interview, the extent to which the respondent used drugs and alcohol, whether having body adornment would hinder a person's chance of getting a job, and whether the employee has direct contact with the public. The factors that were not significant for students were the student's race, major, GPA, age, gender, the school they were attending, whether the respondent thought it was legal not to hire someone because of body adornment, whether the responded believed people with body adornment are more

impulsive, whether the company had a policy concerning body adornment, whether they would hire someone with body adornment, and the state in which the school they were attending is located.

The only true differences between the two groups of respondents were in race, gender, and age. Businesspeople from minority groups (93.21%) were twice as likely as minority students (51.71%) to have negative attitudes toward body adornment. Women in the business community tended to be significantly less negative at 43% negative than were men at 51% negative. That may be somewhat misleading since women were a smaller part of the business survey at 22% compared to 41% for the student survey. Age was also significant with older workers more negative than younger ones, but it may indicate a more sympathetic "mothering attitude" on the part of the women. The fact that the age of business people was significant, the older were more negative, may be due in part to the "generation gap". There was a wider age spread among business respondents than students. Business people ranged in age from 19 to 57 and averaged 51.71 years of age compared to students who ranged in age from 18 to 47 with an average age of 19.88, a more than 30 year difference. The businesspeople in all three states were more likely to have a negative attitude toward body piercings by over 25% with 67.25% expressing negative attitudes toward most body adornment compared to 41.28% of students. Californians were significantly less negative than the business people in either Ohio or Arkansas by 18.99%. All business people had a negative attitude toward body adornment.

Many of the same factors were significant for both students and businesspeople. There was a significant difference, the null hypothesis was rejected, between businesspeople and students on this issue with 56.68% of the students and 81.92% of businesspeople expressing negative attitudes toward visible tattoos in the workplace.

It is not surprising that people with body adornment were significantly more favorable to the use of such items in the workplace. Also people who thought that prejudice toward people with body adornment was illegal were more favorable to the use of body adornment.

Students and businesspeople alike who believed that people with body adornment were more impulsive were negative toward body adornment. Also if the company had a policy against the use of tattoos and body adornment, the attitude toward body adornment was more negative.

It is also interesting to note that among students and business people the use of drugs and alcohol tended to create a significantly more positive attitude toward body adornment. This fact is born out in other studies including (Carroll, etal., 2002) (Armstrong, 2002) and (Drews, et al., 2000).

The students were asked the extent to which they believe visible tattoos and/or body piercings would affect an applicant's chances of being offered a job. Among the students we surveyed, 32.51% responded that they did think visible tattoos and body piercings would hinder a person's chance of getting a job while 20.01% had no opinion. Compared to a national survey, our student responders appeared to be less conservative or concerned about body adornment and their getting a job. Unfortunately for them both employees and our employers disagree with them on this point. Cho (2007) quotes a survey by a career website, Vault.com, as finding that "85 percent of workers believe that tattoos and body piercings hinder a job seeker's chances of finding employment" (p.1). Our business respondents also had a very different opinion from our students with 81.92% saying that would not hire anyone with visible tattoos or body piercings - even if the job did not require contact with the public. This is supported by similar research conducted by others (Mayers, 2003).

Of the 1,412 respondents, almost nine percent stated that they had at least one visible tattoo, and slightly less than fourteen percent indicated that they had body piercings other than the women who had each

ear pierced one time. Less than one percent of the business people had earrings and only 2.23 percent had tattoos. This group had an obvious positive attitude toward body adornment even though they still stated overwhelmingly that they would keep their body adornment covered at work and in interviews if possible.

Students need to realize that employers from different states who participated in our random survey were all very negative about body adornment of any kind. Seventy percent of the California business people questioned had some negative feelings about body adornment in general. The difference between California and the more conservative states of Arkansas and Ohio was significant at the .01 level of testing.

Businessmen and minority businesspeople were also more negative than women and younger employers.

On the question of whether or not they would hire someone with tattoos and piercings, the business group was more negative than students. That may be due to the fact that several stated that it was not against company policy (24%) nor personal hiring practices (31.1%) as long as it remained hidden at office. A relatively small number (15%) of business persons were concerned about the legality of refusing to hire someone with body adornment. That group tended to be significantly less negative than the group not concerned about legal issues. The significance of all factors tested is shown in Table 3. There appears to be a big gap between the opinions of students and business people. Among the states, Arkansas had the greatest number of students who found it either unacceptable to have body adornment on the jobs where there was public contact (59.40%) and California students had the least (50.93%) giving a negative response to this question. Business people in all states averaged 92.41 percent negative opinions about piercings and a 68.25 percent negative attitudes about tattoos in the workplace. This is compared to an average rating among students with 56.68 percent expressing negative attitudes toward tattoos, a more than ten percent difference between the two groups. The difference in negative attitude toward piercings was even stronger with business by almost fifty percent.

California had the highest percentage of students reporting tattoos at 16.45 percent while Ohio and Arkansas were considerably less at 4.56 percent and 3.83 percent respectively.

The students were asked to indicate the types of body piercing they had. Table 2 shows the responses by states. Arkansas reported the highest percentage of students with body piercings at 9.57 percent with California and Ohio being very close at 7.77 percent and 7.62 percent respectively.

The only variables that were not significant at the .01 level concerning the students' perceptions of body adornment in any of the three states were the school the respondents attended, the respondents' major and GPA. Perhaps the major was not significant due to a lack of a wide assortment of majors. It was not surprising to find that the students with majors in the College of Business were more sympathetic to the rights of the employers regarding body adornment than non-business majors. Obviously, we would encourage further research into this area with a larger population from a broader range of schools.

Freshmen were more likely to have tattoos and piercings than any other classification of students by approximately five percent. These freshmen had an average of 2.71 piercings and 2.26 tattoos per person. The control group was the least likely to have either body piercings or tattoos; this may indicate that there is some pressure to conform to body adornment in college life. Our findings were in line with a national study conducted in 2004 by Dr. Anne E. Lurmann, a dermatologist and associate at the University of Chicago. Dr. Lurmann's study was reported by Guttman (2006). In Dr. Lurmann's study, two-thirds of the respondents had their first tattoos by the age of 24.

Another interesting finding is that a positive attitude toward body adornment was significant among students who reported having used drugs and alcohol recreationally compared to those who did not use either. The percentage of those who reported having used drugs (42%) versus the percentage of those who reported not having used drugs (31%) was significant at the .01 level. These findings match the findings of Dr. Lurmann in her national survey in 2004. Dr. Lurmann found that "drinking status and recreational drug use correlated significantly with tattoo prevalence" and that "ex-drinkers were most likely to have tattoos (38%) followed by current drinkers (25%) and those who never drank (14%)" (Guttmann, 2006, p. 28). On a side note, whether the students had used drugs or alcohol recreationally did not seem to affect their opinions on whether an employer had the right not to hire someone because of body adornment. This group was almost evenly divided over the issue of an employer's right not to hire someone at 35.29 percent versus 35.87 percent.

Of the students responding who had tattoos, 73 percent indicated that they plan to cover their tattoos when going for a job interview.

Regarding gender, females were more supportive toward body piercings while males were more supportive of tattoos. The respondents who were the least tolerant of body adornment were also those who indicated that they viewed people with tattoos as more impulsive than the general population.

Finally, the students were asked whether their current employers (if they had worked in the past three years) had a policy concerning visible tattoos or piercings. Twenty percent of the students reported that there was a policy on tattoos or body piercings while 43 percent said there was no policy and the rest, 37 percent, did not know whether there was a policy.

CONCLUSIONS

The survey of 1,412 students indicated that almost nine percent had at least one visible tattoo and fourteen percent had visible body piercings. Of the students surveyed, 47.48 percent did not think visible tattoos and body piercings would hinder a person's chance of getting a job (compared with 85% of the respondents in a national survey). Almost 23 percent of the students we surveyed plan to cover up their tattoos and body piercings before going for an interview.

California had the highest percentage of students reporting tattoos at 16.45 percent while Ohio and Arkansas were considerably less at 4.56 percent and 3.83 percent respectively. Arkansas reported the highest percentage of students having body piercings at 9.57 percent with California and Ohio being very close at 7.77 percent and 7.62 percent respectively. This was especially true among minority students who averaged 3 percent more piercings in all states. There was a strong correlation between the use of drug and alcohol use and body adornment as confirmed by other research.

Finally, students appear to be about evenly divided relative to the acceptability of body adornment. Furthermore, there seems to be some disagreement over the rights of employers in such matters with the responses being almost evenly divided between those who think discrimination against those who have body adornment is legal or illegal.

RECOMMENDATIONS

1. Additional research with a larger population of businesspeople and students from more states is suggested to ensure that our results accurately reflect the most current opinions on this topic.
2. Efforts should be made to ensure that today's students understand the current perceptions of body adornment, specifically as it relates to employment practices. Students should have the knowledge they need to make an informed decision concerning body adornment. Tattoos in particular are very difficult to remove after the fact.
3. Students should also understand the medical implications of body adornment. HIV, Hepatitis and other health issues may result from receiving tattoos and body adornment. Many of the health issues actually result during the healing process due to lack of appropriate care.
4. Employers may rethink hiring practices and dress codes that strictly prohibit tattoos and body piercings. As body adornment becomes more mainstream, good potential applicants may be overlooked with policies that automatically rule out these candidates.

Table 1
Response to the question "Which of the following best describes your feelings about visible tattoos in the workplace?"*

	Unacceptable in any workplace	Unacceptable in areas with public contact	No opinion	Acceptable no conflict policy	Personal choice
Students					
Arkansas	29.04	21.13	22.51	22.28	5.04
California	20.18	33.66	19.03	21.02	6.10
Ohio	24.43	41.01	14.04	15.21	5.31
Average	24.15	32.53	18.66	19.52	5.14
Business					
Arkansas	70.04	16.13	2.51	6.28	5.04
California	50.19	23.67	9.02	11.02	6.10
Ohio	64.46	21.02	4.01	5.11	5.39
Average	61.46	20.27	5.58	7.48	5.21

* Expressed as a percentage of respondents

Table 2
Response to question "Which of the following best describes your feelings about visible piercings in the workplace, other than pierced ears on women?"*

	Unacceptable in any workplace	Unacceptable in areas with public contact	No opinion	Acceptable no conflict policy	Personal choice
Students					
Arkansas	29.02	10.38	25.86	22.60	12.24
California	18.41	22.52	25.67	22.81	10.29
Ohio	27.31	16.11	32.54	12.98	11.06
Average	24.91	16.37	28.04	19.46	11.22
Business					
Arkansas	47.02	20.38	4.76	12.60	12.24
California	48.41	22.52	5.67	12.81	10.59
Ohio	37.31	26.11	3.04	18.48	15.06
Average	44.24	23.01	4.59	14.63	13.53

* Expressed as a percentage of respondents

Table 3
Business and Student R2 results on each of 15 different factors

Factor	Business Response	Student Response
X1 Gender	9982 * Women significant	.2921 *
X2 Age	.9918*	.3345
X3 Race	.9777*	.7322
X4 Use - Did they have body art	.9991*	.9989*
X5 Legality - Is it legal to deny job based on body art?	.9969*	.6552
X6 Impulsiveness - Perception that people with body adornment are more impulsive	.9299*	.7712
X7 Company policy - Was there a company policy concerning body adornment?	.8989*	.5643
X8 Disguised - Whether the students would cover up their body adornment for job interviews?	.9919*	.9929*
X9 Alcohol use, drug use	.9887*	.9923*

Table 3 Business and Student R2 results on each of 15 different factors		
Factor	Business Response	Student Response
X10 Deny job - Whether they would hire someone with body adornment?	.9912*	.8988*
X11 School	Not applicable	.6234
X12 State	.9881*	.8991*
X13 Type of business	.9812*	Not Applicable
X14 Hinder job	.8881*	.9917*
X15 Customer dealings	.9992*	.9934

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BUSINESS LESSONS FROM CHESS: A DISCUSSION OF PARALLELS BETWEEN CHESS STRATEGY AND BUSINESS STRATEGY, AND HOW CHESS CAN HAVE APPLICATIONS FOR BUSINESS EDUCATION

Robert S. Graber, University of Arkansas – Monticello

ABSTRACT

This paper examines some of the parallels between chess strategy and business strategy, and how chess can provide lessons that have important business applications. In discussing chess strategy, we consider not only the strategy within each game, but a meta-strategy, or strategy of repeated games, as well. In considering the strategy of repeated games, we consider factors that will encourage the other player to want to continue playing with us. This would therefore include such factors as playing in a sportsmanlike manner, encouraging one's opponent, and even giving constructive suggestions. This strategy of repeated games has parallels in business, as conducting business in an ethical manner, making deliveries and payments on time and giving customers the benefit of reasonable doubts will encourage repeat business.

We find that chess rewards, and reinforces, long-term thinking, looking at the "big picture," assessing risks and potential rewards, forming contingency plans, learning from mistakes, perseverance, patience, and other intellectual and character traits that can lead to success in business (and in life in general). As a corollary, we consider the possibility that encouraging business students to play chess, and to learn lessons from chess games, might help them to perform better in business classes and in their future careers.

INTRODUCTION

This paper will seek to demonstrate that there are a number of parallels between chess strategy and business strategy. As a corollary, it is arguable that playing and practicing chess may help business students, and in particular, students of finance and economics, to see issues more clearly, and to improve their academic (and later their professional) performance.

This paper will discuss both the strategy of the chess game itself, as well as what might be called a meta-strategy, or the strategy of repeated games. Components of meta-strategy might include playing in such a way as to cause one's opponent to want to play more games, or even giving one's opponent pointers as the game progresses, in order to make future games more interesting. It also includes playing in a gracious manner, perhaps (except in a tournament where a substantial prize is at stake) allowing one's opponent to take back an occasional careless move.

PLUS-SUM GAME

When one thinks in terms of a meta-strategy, or a strategy of repeated games, chess may be a plus-sum game. Hopefully, the player who loses a game learns from the mistake, and improves his or her ability to think strategically, leading to better play in the future. Business may also be thought of as a "plus-sum game." It is an established principle of economic theory that competition can be beneficial to society, as resources are allocated to their most productive use. It can be argued that even competitors who lose a contract, or lose customers, may benefit in the long-run by being encouraged to improve their products and production processes, become more efficient, improve their customer and employee relations, and provide customers with the goods and services they want at a price they are willing to pay.

Both business and chess rely on exchanges, and successful trades are essential to a successful outcome. In both business and chess, one should only trade when one expects to benefit from the exchange.

ETHICS AND SPORTSMANSHIP

Ethical behavior, and a sense of fair play, is important in both business and chess, especially when thinking in terms of "repeated games." The importance of business ethics cannot be over-emphasized, and a firm that engages in unethical conduct to make a "quick killing" pays for it in the long run. Likewise, in chess (and other competitive games) unethical or unsportsmanlike conduct has consequences.

As a matter of fact, while some chess players would disagree with me, my idea of sportsmanship (in an informal game, although not in a tournament) includes allowing an opponent to undo an occasional careless move. (It should be pointed out that, under the standard rules of chess, a player is obligated to move a piece once he or she touches the piece. Those rules apply in a tournament or inter-collegiate competition.) For one thing, I believe it makes for a more interesting game if one can win as a result of superior strategy, rather than by taking advantage of the other person's careless mistake. Another reason is that I view chess as an opportunity to teach and learn, and if letting the other player undo his or her move, and make a better move helps them improve their skills, it creates a win-win situation. (I should point out that I am the faculty sponsor of the University's Chess Club, and I believe helping students to improve their game will make for a better chess club.) A third reason, and one in which the parallel to business is most apparent, is that playing in a sportsmanlike manner is likely to lead to more enjoyable games in the future. This may be analogous to a business that maintains a generous refund and customer relations policy, and makes a practice of giving customers the benefit of the doubt. This might not be as profitable in the short run as a more rigid policy, but is more likely to lead to repeat business, customer loyalty, and long-term gain.

NO "FREE LUNCH"

Let's consider some of the key ideas of chess, and see how they relate to business, particularly finance and economics. One of the major lessons that we teach in economics, usually around the first couple of weeks in an introductory class, is the concept of opportunity cost, or that "there is no such thing as a free lunch." In fact, we demonstrate this maxim with production-possibility curves, and with equations.

Chess also hammers this lesson home to beginners rather dramatically. One common mistake that beginners make is to take a piece that appears to be *en prise* (up for grabs). That often proves to be a costly

mistake, as it puts them in an awkward position, and may ultimately cost them the game. So one quickly learns to "read the fine print", or check carefully when something appears to be free.

As a specific example, one might often find a pawn that appears to be unguarded, particularly in the opening. However, taking the pawn can often put the player in an awkward position, which can have consequences later in the game. For example, a piece might be over-extended and vulnerable, and the player may have to waste moves retrieving the piece. The concept of opportunity cost manifests itself in chess in more subtle ways. Games are often played with strict time limits, particularly in tournaments. While a player will want to make the best possible moves, he or she also needs to remain aware of the time constraint. Spending too much time pondering a particular move can be costly later on, if the player has very little time left and has to move hastily during the endgame.

The idea that time has an opportunity cost is very important in economics and finance too. Like money and physical goods, time is a scarce resource. Spending too much time on one activity may result in having too little time to devote to other productive activities. So, while trying to make the best decisions possible, the time constraints must be kept in mind.

These examples can provide effective ways of demonstrating to students the nature of opportunity cost, or the idea that there is "no such thing as a free lunch."

LONG-TERM THINKING

That brings us to a very important lesson of both business and chess, which is to think long-term, and not sacrifice long-term well-being for short-term gain. The problem of myopic, or short-term thinking, has been thoroughly documented in the business and financial literature. (Examples of discussions of the importance of long-term thinking can be found in Carter, 1971; Coughlin and Schmidt, 1985; Dechow and Sloan, 1991; Donaldson, 1984; Graber, 2004; Kelm, Narayanan and Pinches, 1995; McConnell and Muscarella, 1985; Pinches, 1981; Porter, 1985; and Reichheld, 1996. Examples of discussions of the importance of long-term planning in chess are found in Euwe and Meiden, 1966 and Shenk, 2006.

One of the most common mistakes made by corporations may be focusing on the short-term "bottom line." This quest for short-term profits has caused companies to cut back on research and development, to "downsize" to cut costs without recognizing the long-term costs in terms of employee motivation, competence, loyalty and morale, to condone unethical conduct, to ignore employee training, and to take other actions that have proven very costly in the long run.

Perhaps one of the most important lessons from chess is the focus on long-term thinking, and looking at the "big picture." Not planning ahead, or focusing on only one part of the board, is a sure way to lose games. Unlike business situations, in which it may take years to experience the consequences of such mistakes, chess quickly teaches the consequences of short-sighted planning. Therefore, chess can be a very effective tool in teaching business students the importance of long-term planning.

INVESTMENT STRATEGY IN BUSINESS AND CHESS

One of the most interesting elements of chess strategy is the gambit, which is the offer of material in order to gain a long-term advantage, usually by positioning one's pieces in a strategic location. I would argue that this is very much like an investment, in which one relinquishes cash in the short-run (forgoing

present consumption or dividends) in order to invest in a project, product, facility, technology, or new market that is expected to offer greater cash flow in the long run. Capital budgeting is one of the key components of a Principles of Finance or Financial Policy and Planning course. Much time is spent analyzing whether an investment, which entails giving up cash (or consumption) in the present is worth the cost. This analysis is also a central component of chess strategy.

Long-term thinking is essential to effective strategy, but in business and chess. What all investments have in common is that they require giving something up in the hope of long-term gain. Another attribute common to investments, and also to gambits, is the element of risk. There is always some chance that things will not work out according to plan. Although financial theory goes a long way toward quantifying risk, it is not always possible to assess exactly how much of an impact risk has on capital budgeting decisions. Both in business and in chess, emotional as well as logical considerations influence one's willingness to take a risk in the hope of a future benefit, and there is a definite psychological component to strategic planning. (The psychological aspects of risk assessment are discussed in detail in Shefrin, 2006.)

A particularly interesting example of investment strategy in chess might be the capture of the king knight pawn with a knight or bishop in the opening. This results in the capture of the knight or bishop by the opponent's king, resulting in being down a piece. But it forces the king out into the open, where it is vulnerable to attack by other pieces, and prevents the opponent from castling, which can be costly later on in the game. This seems very much like investing in a new production process, which can be costly in the short run, but which may position the company for greater success in the future.

Of course, there is no assurance that this strategy will result in a win. There is risk involved, and the success of this approach depends on having positioned other pieces so that they can easily check the king, and keep the king vulnerable. This is true in business also. Just because one has invested a large amount of money in research and development, or in the establishment of a new production facility or process, is no assurance that the company will be successful. Risk assessment and careful planning are important for the long-term success of any major business venture.

Once again, demonstrating an "investment" in chess may be helpful in showing students the importance of long-term planning and risk assessment, and of giving up something in the short term (e.g., sacrificing a dividend increase in order to make an investment) is necessary for long-term success.

FLEXIBILITY

Another lesson of both business and chess is to be flexible, and have contingency plans. It is not sufficient to have only one plan, and to assume that everything will work out according to the original plan. A great number of things can occur that might thwart one's plan. In business, some examples are strikes, loss of a key supplier or customer, a competitor coming out with a better or cheaper product, or a process that can produce the product faster or at a lower cost, the entry of new competition, currency fluctuations, new government regulation (or deregulation), changes in the tax laws, and myriads of other possibilities. In addition to possible threats, new opportunities are frequently presenting themselves. Some of these opportunities might include new technologies, deregulation, availability of a new source of raw materials, the development of a new market, and a host of others. Business strategy entails constantly looking for new opportunities, as well as being on the outlook for new threats. Flexibility might include maintaining lines of credit with banks, or having sufficient cash or cash equivalents (e.g., money market funds) available for

both opportunities and threats (the speculative and cautionary motives for holding money).

Likewise, in chess, every move one's opponent makes may create new threats, but also present new opportunities. A good chess player is constantly looking for new opportunities, rather than just forging ahead with the original plan. Likewise, he or she is constantly on the lookout for new threats, and therefore must consider the reason behind every move an opponent makes. In general, one cannot expect to correctly anticipate one's opponent's responses to every move. Flexibility at chess might include positioning pieces at strategic locations, where they can respond to a variety of moves by ones opponent. Flexibility also includes having contingency plans in case an opponent thwarts one's primary plan. Such flexibility is important for success, both in business and at chess.

PATIENCE

Another business lesson one can learn from chess is the importance of patience. While there is certainly a time for bold, decisive action, it is equally important to know when to wait. A common mistake is acting impulsively rather than waiting and considering all the possibilities. Of course, there is a time when the "first mover advantage" can be important, and it is critical to think and act quickly. But there are also many situations in which it is important to remain flexible, and to wait for the competition to commit to a course of action.

Chess provides opportunities to teach both patience and flexibility, as the consequences of acting hastily are quickly experienced. In fact, this is one of the common mistakes that inexperienced players often make. A novice player will often take aggressive action without taking the time to consider the possibilities. A good example is using a piece to attack one's opponent without a plan for withdrawing the piece if the attack does not succeed.

PERSEVERANCE

Another important lesson is not to give up when things don't go well. Chess can be instrumental in teaching that lesson. In my opinion, it is a mistake to give up just because one has lost a piece, or gotten into an awkward position. Personally, I find it more gratifying to reverse a bad situation, such as fighting on when one is behind in material, than to simply win an easy victory. Learning to "snatch victory from the jaws of defeat" can be a very valuable life lesson, and certainly one that is important in business situations. There will often be setbacks, and changing circumstances can mean that things will not always go as planned. Learning to keep on going and continue doing one's best in the face of adversity is a valuable life lesson, and one that chess can quickly demonstrate.

A corollary is that one cannot afford to get complacent or over-confident just because things are going better than expected. Chess can provide eloquent demonstrations of the consequences of over-confidence. Likewise, the literature on behavioral (e.g., Shefrin, 2006) tells us that over-confidence is one of the major causes of bad financial decisions. Just as chess can teach one to persevere when things do not go well, it can teach one to remain diligent even when things go better than expected.

TEAMWORK

Perhaps one of the most prevalent negative stereotypes about chess is that it is a solitary activity engaged in by introverted people. Those who believe that have apparently never observed a brainstorming session at a chess club, in which people work together to figure out responses to complex situations. As a matter of fact, working on chess problems together is an excellent opportunity for business students to develop their ability to work as a team in developing a strategic plan or responding to a setback. By each individual bringing his or her particular problem-solving skills to the situation, and discussing possible counter-strategies the opponent (or the competition) can take, the group is likely to develop a more effective strategy than any individual member of the group could.

CHESS AS A TEACHING TOOL

Given the parallels between business and chess, and the plethora of life lessons that chess can provide, it seems that chess can be a useful teaching tool in helping business students to develop strategic planning skills. As the above discussion indicates, many parallels exist between business and chess, and chess can be used help students to develop intellectual skills, such as the ability to plan, to think long term and consider long-run consequences, to weigh the advantages and disadvantages of a course of action, to assess risk and form contingency plans, and to continuously evaluate the opportunities presented by a situation. In addition, chess can be useful in helping to develop character traits or life skills that should prove important in one's career. Among these traits are ethics (or a sense of fair play), perseverance, patience, self-control, and a spirit of cooperation as well as competition.

CONCLUSION

This paper has attempted to demonstrate that there are a number of parallels between chess strategy and business strategy, and that chess can provide a number of important lessons. Perhaps most important are the importance of thinking long-term and looking at the "big picture", assessing the risks as well as the upside potential of different courses of action, the importance of giving something up in order to position oneself for a future gain (investments, gambits or sacrifices), and forming contingency plans. It also appears that encouraging students to play chess may help them to develop better habits of thinking, as well as character traits that can enhance academic and business success.

Future research might look at the academic averages of college students who are members of a chess club, perhaps broken down by academic major. It might also be instructive to compare students' academic performance after they are active members of the university chess club for at least one year with their performance before they joined the chess club. (For the comparison to be statistically significant, especially when other variables are taken into account, it would probably be necessary to include results from a large number of schools.) Based on the similarities in business and chess strategy, we may well find that business students who play chess perform better in their business classes.

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MARKET ORIENTATION AND PROFESSIONALISM IN HIGHER EDUCATION

Gerald M. Hampton, New Mexico State University
Marco Wolf, University of Southern Mississippi
Pia A. Albinsson, Appalachian State University
Shaun McQuitty, Athabasca University

ABSTRACT

The benefits of a market orientation are widely recognized, yet service institutions such as universities typically have not implemented the marketing concept. There are many types of service employees at universities. We focus our study on professors as a group of service professionals. Much has been written about market orientation and professionalism in institutions of higher education but little is known how the two constructs relate to each other. We conduct an empirical study to examine the relationship between market orientation and professionalism of university professors, and find a medium strength relationship between the two constructs with this group of professionals. Implications and suggestions for future research are discussed.

INTRODUCTION

Environmental changes are creating pressure for institutions of higher education in America and around the world. Cuts in government funding and increased competition require universities to consider their markets and competitive environments further. A logical response by universities is to adopt a market or customer oriented approach that focuses primarily on students to improve the customer – service provider relationship. The goal of market oriented organizations is to satisfy customers by coordinating activities around their needs (Levitt, 1960; Boyd & Walker, 1990). A market orientation reflects an organization's culture, shared values, and beliefs about putting the customer first (Desphande, 1999). Furthermore, a market orientation can be a source of competitive advantage if it produces value for customers and is difficult to imitate (Slater & Narver, 2000). Consequently, organizations that implement a customer focused strategy typically enjoy improved performance (Narver & Slater, 1990; Hult, Ketchen & Slater, 2005).

With strong evidence of the benefits accruing to organizations that adopt a market orientation, it is important for employees to understand and embrace the marketing concept. We examine this issue in the context of university professors, who are important front-line employees at any university. Professors also are examples of a specific type of service employee: namely, professional service employees. Professionals are atypical employees because of the tasks they perform and their profession-derived beliefs and behaviors that include a high level of expertise, freedom to manage the task, task commitment, identification with peers, a system of ethics, and a means to maintain standards (Realin, 1987; Wallace, 1995b).

Universities are organizations that provide a specialized service not available elsewhere. An important feature of universities is that the task of educating students is in the hands of professionals known as professors (Miner, Crane, & Vandenberg, 1994). Professors are teaching and research professionals who are highly educated and independently fulfill their teaching and research responsibilities. Professors typically hold a Ph.D. or equivalent and their education trains them to develop certain norms and values. Although members of this profession often work independently from one another, one common focus is students (Chapman & Pyvis, 2005; Voon, 2006).

Little has been written about the relationship between professionalism as an attitude and market orientation as a belief of the importance of customer satisfaction, but understanding this relationship is critical for the development and implementation of marketing programs in professional service organizations. In the increasingly competitive environment faced by universities it may be necessary for professors to have a market orientation (e.g., Flaviane & Lozano, 2007; Soonhong, Mentzer & Ladd, 2007). In this article we examine the relationship between professionalism and the acceptance of a market orientation in a university setting. The next two sections discuss the professionalism and market orientation constructs, and then we describe a study of academic professionals. A positive relationship between professionalism and market orientation is found with the data collected from professors. This result is discussed, as are suggestions for future research.

PROFESSIONALISM

The U.S. and other developed economies are increasingly driven by service industries rather than by manufacturing (Fisk, Brown & Bitner, 1993). Many service industries are classified as professional, including such examples as accounting, legal, or medical services. How professional service providers interact with their customers is critical for customers' evaluations of service quality (Brown & Schwartz, 1989), and it is important that service providers adopt a customer orientation (Bitner, 1995). If service providers do not become client-centered and adopt a customer or market orientation, then they are not practicing the marketing concept (Joseph, 1996; Trustrum, 1989).

Professions possess the following attributes: 1) a body of specific knowledge that is imparted through formal education; 2) a developed level of skills; 3) some form of entry requirements; 4) a certification or licensing process; and 5) a set of behavioral norms (Wilensky, 1964; Hall, 1968; Cullen, 1978; Fitzpatrick, 1983). These attributes can be characterized as either structural or attitudinal, and they distinguish members of a profession from other occupations. Structural attributes lead to the creation of the profession and include entrance requirements, a formal education, mandatory skill development, and licensing or certification. Professionalism is the attitudinal component or behavioral orientation that conditions how individuals think about, believe in, and behave toward their occupation or profession, including a sense of calling, job autonomy, and a commitment to a professional association (Wilensky, 1964; Hall, 1968; Cullen, 1978; Fitzpatrick, 1983).

Keer and Jermier, (1978) identified two dimensions of professionalism that include occupational and individual attributes. The development of high skills through education, formation of certain entry requirements, and the existence of professional associations are known as occupational attributes. Individual attributes are expertise, desire for professional autonomy, commitment to the profession, a professional code of ethics, identification with the profession, and the collegial maintenance of professional standards.

Professionals have certain standards and requirements that largely are the reasons for being considered a professional. For example, university professors experience an intense education and training program and engage in academic research. Like other professionals, professors work in institutions that can be characterized as autonomous professional organizations (Scott, 1965). In such organizations the professional is highly educated, skilled, motivated, exhibits high levels of professionalism, and expects little external supervision (Miner, Crane & Vandenberg, 1994). As a result, professional employees like university professors are given considerable autonomy, authority, and responsibility for setting goals, defining tasks, setting performance standards, and evaluating their own performance. Under these conditions, professional employees typically are more committed to and guided by their profession rather than by the employing organization (Wallace, 1995b).

Most professionals work in individual private practice, group practice or professional organizations, although in recent years professionals increasingly work in professional organizations or in professional units of larger organizations (Wallace, 1995a). The task orientation and high level of training ensure transformation of skills and knowledge into products or services that meet professional performance standards. To determine whether a professional demonstrates professionalism, Hall (1968) and Snizek (1972) proposed a multidimensional perspective with the following five dimensions:

- *Use of professional organization as a major referent.* Professional organizations set standards and entry requirements, and foster the values, beliefs, and identity of the profession. By belonging to the professional organization, reading its journals, attending meetings, workshops and conferences, members develop a level of professional consciousness and become socialized into the profession.
- *Belief in public service*. Most professionals believe that their occupation is important and beneficial to society.
- *Belief in self-regulation*. This factor concerns the belief that the people best able to judge the work of a professional are fellow professionals or colleagues. This belief follows from the high level of education, knowledge, and training required to become a professional, and such judging is considered both desirable and practical.
- *Sense of calling to the profession* . This is the dedication of the professional to his/her work, primarily for psychological satisfaction and secondarily for monetary rewards.
- *Autonomy*. Autonomy, as a professional attitude, is the ability and desire to practice in an independent manner.

One example of a profession that possesses the above requirements is that of university professors. The distinction between professionals and professionalism is important, because membership in a profession is objectively determined by the structure of domain, while professionalism is more subjective and personal (Lusch & O'Brien, 1997). The extent to which professionalism is expressed by professionals defines how they behave on the job, and may also mirror the degree of acceptance of a market orientation. For example, professionalism in higher education should reflect how professors view their work as defined by the profession and how they will act on the job, and may also govern whether professors accept or reject a market oriented approach to education.

Treating a university degree as a product in a competitive environment may damage the ability of universities to serve society and preserve the quality of higher education (Clayson & Haley, 2005). Furthermore, the nature of professions can act as a barrier to the implementation of a market orientation in professional service organizations (Morgan & Pierce, 1991), because a market orientation can conflict with the established values of professionals (Whittington & Whip, 1992). For example, health care professionals prefer a product orientation to a market orientation, and are less likely to favor a market orientation than hospital administrators (Hampton, 1992). However, service customers frequently discuss their service experiences, particularly when they are dissatisfied or when a service provider is deemed unprofessional (i.e., negative word-of-mouth), so it is clear that customers' perceptions of customer oriented professionals can be important for organizational performance. This is why we examine the relationship between market orientation and professionalism in higher education.

MARKET ORIENTATION AND PROFESSIONAL EDUCATORS

The notion of a market orientation derives from the marketing concept, which is a business philosophy advising that if a firm wants to maximize its profits, then it must satisfy its customers' needs and wants (Kohli & Jarworski, 1990). By shifting the focus to the customer, firms are implementing a strategy that creates value for customers and, consequently, creating a sustainable competitive advantage that typically improves an organization's financial and sales performance (Deshpande, Farley & Webster, 1993). Modern marketing theory recommends the acceptance and implementation of the marketing concept; doing so indicates that the organization has a market or customer orientation or, in the case of higher education, a student orientation. The implication is that by satisfying students' needs, educational institutions can attract and retain students and better meet the university's goal to survive and grow in a competitive environment. For example, accreditation standards implemented by the Association to Advance Collegiate Schools of Business (AACSB) respond to environmental changes in the business education marketplace and facilitate continuous improvement; such standards emphasize the importance of a marketing orientation in universities (Hatfield & Taylor, 1998).

To properly implement the marketing concept in a service organization it is critical that service providers adopt a customer orientation (Bitner, 1995). This maxim applies in higher education, where professional educators are the essential service provider in an industry where service production and consumption occur simultaneously (Zeithaml, Parasuraman & Berry, 1985). Such inseparability, as it is known, further suggests that educators not only are the producers of educational services, but they also act as an important marketing force for these services. Consequently, it is important that professional educators (professors) accept and practice a market orientation (Trustrum, 1989).

Although it is understood that a market orientation can improve services, the implementation of this philosophy can be difficult. The high degree of professionalism, the very individualized service, and the complexity and scope of higher education all can impede the successful implementation of a marketing orientation (Bloom, 1984). The professional culture itself can be a barrier to the implementation of a marketing orientation in professional service organizations (Morgan & Piercey, 1991) and notions of marketing and the marketing concept do not match well with traditional values of professionals (Whittington & Whipp, 1992). In other words, the notion of satisfying customers' needs and wants challenges professional

service providers because they are guided by their professional judgment and professionalism, and customers often are viewed as not knowing what they need or want (Hampton, 1992).

Marketing beliefs and practices are valuable tools for any professional service industry; this includes higher education, which is one of the largest professional service industries (Bruker & Tallians, 1985; Kotler & Conner, 1977). However, the majority of the literature has focused primarily on how to help students adapt to the campus environment, rather than forming the campus environment based on students' needs and wants. From a marketing perspective, it seems important to emphasize customers and their evaluations of service quality (Hampton, 1993). Unfortunately, other than student evaluations, universities typically have no way to measure students' needs and wants in educational services (Shank, Walker, & Hayes, 1995).

Universities have been criticized for not adopting a marketing orientation that focuses on students' needs and wants (Comm & LaBay, 1996), perhaps because education does not have the characteristics of a traditional product. Education is an example of a service where customers (students) must rely on a service provider's expertise because the service is intangible and it can be difficult for customers to evaluate the product (Clayson & Haley, 2005; Licata & Frankwick, 1996). However, an organization's market orientation influences the customer orientation of its employees (Siguaw, Brown & Widing, 1994). Professional employees tend to focus on the product rather than the customer and assume that this approach is best for customers (Obermiller, Fleenor & Raven, 2005; Stratemeyer & Hampton; 2001). Consequently, a market orientation could be seen as being at odds with a professional ideology, self direction, and the view that customers do not possess the ability to judge what they really need or want (Hampton, 1992). On the other hand, professionalism and a market orientation both focus on the customer, patient, or client with the intent of providing a valuable service experience that creates satisfaction (Hampton & Hampton, 2004).

We next describe a study that permits us to evaluate the relationship between professionalism and a market orientation in a university setting, using professors as respondents. The implementation of a market oriented approach in universities seems logical, but may be a challenge due to the professionalism of professors. In other words, in the case of university professors, a market orientation is—to some degree—confronted with professional ideology, professional self direction and leadership, and a view that the majority of customers (students) do not know what they really need or want (Hampton, 1992). This issue makes the study of the relationship between professionalism and a market orientation interesting, because we are uncertain as to what the direction such a relationship will take.

STUDY METHODOLOGY

To test the relationship between professors' professionalism and their market orientation it is first necessary to select measurement scales capable of assessing the degree to which academic professionals possess these qualities. Rather than developing new measurement tools, we used Snizek's (1972) professionalism and Matsuno, Mentzer and Rentz's (2000) market orientation scales for our study. Modifications were made to both scales to make them suitable for academic professionals. Seven-point Likert scales anchored by "strongly agree" and "strongly disagree" responses were employed for answers to questionnaire items relating to both the professionalism and market orientation scales. Items were randomized across factors to minimize a common method bias based on item ordering. Demographic questions were included at the end of the questionnaire.

Six humdred and ninety-two (692) professors from a medium sized university in the southwest U.S. were asked if they would participate in a panel study comprised of several questionnaires. One hundred and eighty-one 181 (26%) agreed to be part of the survey panel, and a series of questionnaires was sent to every panel member. To preserve anonymity, each panel member was assigned a coded number from 001 to 181; these numbers permitted us to match responses from different scales to individual respondents. Each questionnaire included a cover letter informing participants about the subject of the questionnaire and a return addressed envelope. A total of 150 (83%) and 120 (66%) usable responses were received for the professionalism and market orientation questionnaires, respectively.

The majority of the questionnaires were completed by males (59.9%), which reflect the gender structure in the academic profession. In addition, 86.1 % of respondents identified themselves as Caucasian, 9.5 % as Hispanic, 1.5% as African American, 2 % Asian, and below one percent as Native American. Thirty two departments provided responses to our questionnaire and there was no tendency for a specific department to give significantly more responses than others. 22% of the respondents have been professors from 1 to 5 years, 19% from 6 to 10 years, and 59% from 11 and more years. Most of the surveyed professors (82 %) hold a Ph.D., 12 % hold a Master's degree, and 6 % possess a degree other than a Bachelor's, Master's or Doctorate.

DESCRIPTION OF MARKET ORIENTATION SCALE

There are several market orientation scales, each with different concentrations. For example, Narver and Slater (1990) focus on firms' desire to create superior value for clients as the motivating force for market orientation. By their definition, market orientation has three dimensions that include a customer orientation, a competitor orientation, and an inter-functional coordination. Kohli and Jarworski (1990) describe three different dimensions of market orientation that include: (1) monitoring customer needs and how they are affected by outer environmental factors (market intelligence); (2) intelligence dissemination, which is described as sharing market intelligence information with others in the organization; and (3) the ability of the firm to take action based on the information collected and disseminated (responsiveness). Kohli, Jaworski and Kumar (1993) use this work to develop a 20 item scale based on the three components of market orientation identified by Kohli and Jarworski (1990). Matsuno, Mentzer, and Rentz (2000) refined Kohli, Jaworski and Kumar's 20-item market orientation scale to improve its psychometric properties. The resulting 22-item scale shows a higher level of reliability with more distinct dimensions than the Kohli, Jarworski, and Kumar (1993) scale (Matsuno, Mentzer, and Rentz 2000).

We use the 22-item scale developed by Matsuno, Mentzer, and Rentz (2000) to measure professors' market orientation. The scale has been used in a variety of service and non-profit environments, and we now apply it in an academic setting. We added the following three items to more fully address the nature of the academic organization: (1) Professors in our department spend time discussing students' future needs with other professors and staff in the college; (2) In my department, we meet with the organizations that hire our students at least once a year to find out what courses or services they think students will need in the future; and (3) We periodically review our course development effort to ensure they are in line with what industry and organizations want who hire our graduates. The first two items address the intelligence generation factor whereas the third new item addresses responsiveness in the academic setting.

DESCRIPTION OF PROFESSIONALISM SCALE

Professionalism is viewed by Hall (1968) as having five dimensions: (1) the professional organization is a major referent; (2) a belief in public service; (3) a belief in self-regulation; (4) a sense of calling to the profession; and (5) autonomy. These five factors were described earlier and have been used to measure professionalism in numerous professions, including physicians, nurses, lawyers, accountants, marketing researchers, managers, librarians, engineers and advertising managers (Hall 1968; Snizek 1972). Hall's scale contained 50 items and was refined by Snizek (1972) so that just 25 items measured the same five factors. We dropped two of these items prior to data collection due to their lack of any association to an academic setting, and the remaining 23 items were modified to reflect the needs of the current study.

SURVEY RESULTS

As noted above, the Matsuno, Mentzer, and Rentz (2000) market orientation scale and Snizek's (1972) version of Hall's (1968) professionalism scale were employed to measure these constructs with a sample of university professors. We begin our analysis by attempting to validate these scales through confirmatory factor analysis. Unfortunately, the scales do not validate well. Items do not always load where they are supposed to, more than the expected numbers of factors are derived, and some items have very low communalities. In short, with these data the solutions do not support the factor structures theorized by the Matsuno, Mentzer, and Rentz (2000) market orientation scale and the Snizek (1972) professionalism scale.

When compared to their original application and development, scales often do not validate well with different respondents and settings. In this case, the lack of scale validation is assumed to result from the sample used for data collection and the adaptation of the scale items for use with university professors. We plan to use a structural equation model to estimate the relationship between the professionalism and market orientation scales using all the scales' items, but there is little point to proceeding to a structural equation model with the current scales and some scale modifications are necessary. Fortunately, the factor structures essentially recreate the original scales, although some items do not behave as expected. Therefore, for both scales, we concentrate on selecting subsets of items that we subsequently use to evaluate the strength of the relationship between professionalism and market orientation. All items used for the analysis are listed in the Appendix.

Matsuno, Mentzer, and Rentz's (2000) Market Orientation Scale

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity indicate that factor analysis of the data collected using Matsuno, Mentzer, and Rentz's scale is appropriate. Factor analysis is performed using direct oblimin rotation and estimated by maximum likelihood in SPSS. Pairwise deletion is employed to handle missing data although there are very few missing values (results using listwise deletion provide an identical interpretation). As already explained, a confirmatory factor analysis does not validate the original scale, but identifies several items that load highly on each of the three factors assessed by the Matsuno, Mentzer, and Rentz scale. We retain these items and report the factor loadings, communalities, and factor reliabilities in Table 1. All of the reliabilities exceed the 0.70 cut-off

recommended by Nunnally and Bernstein (1996), and none of the cross loadings exceeds 0.30. Items that did not conform to the factor loadings of the original scale were dropped from further analysis.

Table 1: Market Orientation Factors

Factor	Item	Loading	Communality	Alpha if Item Deleted
Intelligence Generation Alpha=0.85	MKOR8	0.539	0.481	0.85
	MKOR9	0.733	0.564	0.83
	MKOR10	0.695	0.645	0.81
	MKOR11	0.1919	0.842	0.75
Responsiveness Alpha=0.84	MKOR2	0.678	0.591	0.80
	MKOR6	0.525	0.451	0.84
	MKOR7	0.860	0.712	0.77
	MKOR22	0.802	0.633	0.79
Intelligence Dissemination Alpha=0.79	MKOR17	0.753	0.521	0.78
	MKOR19	0.469	0.436	0.75
	MKOR20	0.828	0.825	0.68
	MKOR21	0.496	0.438	0.76

A second-order structural equation model representing market orientation was developed using the items listed in Table 1 and the three first-order factors identified by Matsuno, Mentzer, and Rentz (2000). Maximum likelihood estimation and a covariance matrix were used to estimate the model, which produced fit statistics as follows: $\chi^2(50)=108.25$, RMSEA=0.088, SRMR=0.067, CFI=0.96, and NNFI=0.94 (N=120). These figures suggest an acceptable fit of the model to the data, and we assume that a valid measure of professors' market orientation exists despite the imperfect validation of Matsuno, Mentzer, and Rentz's scale.

Snizek's (1972) Professionalism Scale

Snizek (1972) refined Hall's (1968) professionalism scale and reduced the number of items on the scale from 50 to 25. These 25 items are modified to reflect the needs of the current study. A factor analysis of the data collected using Snizek's (1972) scale is appropriate as indicated by the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. The factor analysis is performed using an oblique rotation (direct oblimin in SPSS) and estimated by maximum likelihood. Pairwise deletion is employed to handle missing data although there are very few missing values (again, results using listwise deletion provide an identical interpretation). As already stated, an unconstrained confirmatory factor analytic solution fails to validate Snizek's scale because seven factors are produced, some items do not load where expected, and some of the communalities are low. However, it would be very unlikely that a test of Snizek's scale will cross-validate perfectly given the specific nature of the sample and the modification of the original

questions. We made the decision to retain only the items that produce factors as described by Snizek (1972) and exclude the remaining items that do not form factors consistent with the original scale. This solution produces three factors, and the factor loadings, communalities, and dimensional reliabilities are reported in Table 2. All factors have reliabilities that meet or exceed the 0.70 cut-off recommended by Nunnally and Bernstein (1996), and no cross loadings exceed 0.20.

Table 2: Professionalism Factors

Factor	Item	Loading	Communality	Alpha if Item Deleted
Autonomy Alpha=0.74	PROF3	0.786	0.763	0.56
	PROF8	0.727	0.567	0.64
	PROF18	0.553	0.305	0.76
Calling to Profession Alpha=0.77	PROF10	0.479	0.322	0.74
	PROF17	0.465	0.219	0.77
	PROF20	0.858	0.707	0.68
	PROF21	0.568	0.361	0.73
Professional Association as Reference Alpha=0.70	PROF1	0.587	0.391	0.63
	PROF9	0.770	0.640	0.66
	PROF16	0.621	0.360	0.52

A second-order structural equation model representing professionalism is tested using the items listed in Table 2 and the three first-order factors derived from Snizek (1972). Maximum likelihood estimation and a covariance matrix are used to estimate the model, which produces fit statistics as follows: $\chi^2(40)=61.82$, RMSEA=0.061, SRMR=0.019, CFI=1.00, and NNFI=0.99 (N=150). These figures suggest an excellent fit of the model to the data, and we assume that we have a valid measure of professors' professionalism despite the lack of validation of Snizek's scale.

THE RELATIONSHIP BETWEEN PROFESSORS' PROFESSIONALISM AND MARKET ORIENTATION

The purpose of the modeling discussed thus far is to obtain reliable and valid measures of professionalism and market orientation so that the relationship between these constructs can be evaluated with a sample of university professors. Because a canonical correlation between the two constructs is unwieldy with so many items in both scales, we use another structural equation model to provide an estimate of the overall correlation between the professionalism and market orientation constructs. This is accomplished by simultaneously modeling the professionalism and market orientation scales, then allowing the two second-order factors to correlate. Because the data collected for both scales are from the same respondents it is possible to estimate this model.

With a large and complicated model (22 observed items, six first-order factors, and two-second order factors) the estimation easily can produce an improper solution or will not converge. Nonetheless, the model converged with a proper solution and provided an estimate of the relationship between professionalism and market orientation. A model estimated with maximum likelihood and pairwise deletion (N=120) produces a good fit ($\chi^2(223)=302.94$, RMSEA=0.055, SRMR=0.083, CFI=0.94, and NNFI=0.93). When these fit statistics are interpreted in light of a statistical power that exceeds 0.95 (MacCallum, Browne & Sugawara, 1996; Kaplan, 1995), the fit of this model is deemed acceptable and the model cannot be rejected based on these data.

The fit of the model is somewhat secondary to its estimate of the correlation between the professionalism and market orientation constructs for professors. With these data the correlation is estimated to be 0.48 (t=3.03), which supports Hampton, McQuitty, and Hampton's (2000) finding of a positive correlation between the two constructs. We believe that the finding of a positive correlation between professionalism and marketing orientation is intuitively correct and has face validity, although this result is not always obvious from past research.

DISCUSSION AND CONCLUSION

The relationship between professionalism and market orientation has received little attention, perhaps because there is reason to predict both a negative and a positive relationship between the two constructs. The nature of professional jobs and professionalism could hinder a market orientation, and Hampton (1992) finds that health care professionals prefer a product orientation over a market orientation and are less likely than hospital administrators to favor a market orientation. Moreover, health care professionals believe that they are much more capable of determining what patients need than are the patients themselves. This view makes a negative relationship between professionalism and market orientation seem likely.

Conversely, when examining certified nurse-midwives, Hampton, McQuitty, and Hampton (2000) find a positive relationship between professionalism and a market orientation (r=0.41, p. 88). Similarly, we also find a positive relationship between the two constructs with our current study of university professors (r=0.48). In both cases, the professionals (certified nurse-midwives and university professors) are trained to serve customers (either patients or students), and it seems reasonable that these professionals will have the best interests of their customers in mind. Service professionals who do not care about their customers might be thought unprofessional, so a positive relationship between professionalism and a market orientation should be expected and that certainly is the case with the university professors we surveyed.

In an academic context, increased competition for students and other resources, both from other departments within a university and from other universities, should result in an increased appreciation of marketing concepts. University departments seek outside funding by private sponsors and industry to replace state and federal funding. Also, departments and universities increasingly are making student retention a major goal, and state funding typically is based on student enrolment. Students can choose to continue their education at one university or switch to another, which results in a loss of revenue through tuition fees and through reduced enrolment and government funding. Only by recognizing the importance of students as paying customers with specific needs and wants can institutions of higher learning overcome funding shortages and increased competition.

Previous studies find a positive relationship between an organization's market orientation and its performance. Perhaps the most important implication of this study is that if market orientation and professionalism are positively correlated, then the professionalism of professors likely is related to a university's performance in a variety of ways, including such examples as university reputation, student retention, and student satisfaction. Consequently, the question of which construct (a market orientation or professor professionalism) is more important for student retention should be raised. Are universities using the best criteria for evaluating professors and their contribution to the university? Professors' market orientation may be important, but the values that underlie professionalism may contribute even more to a university's performance in terms of student retention and student satisfaction.

According to the Association to Advance Collegiate Schools of Business (AACSB) requirements, business degree programs must be supported by continuing resources as part of AACSB eligibility. No particular practice is required, but business schools must demonstrate sustained excellence and continuous improvement in business education. Achieving these goals should improve student retention and satisfaction. This is important because, federal and state funding of universities typically is based on student retention and enrolment. Resources for continuing improvement in education also are provided directly by the student through paid tuition. If professionalism is related to a market orientation, then both of these constructs likely are important for student retention and satisfaction.

If professionalism enhances a market orientation in universities, then stressing high levels of professionalism could contribute to fulfilling AACSB requirements, as well as, have an effect on student retention and satisfaction. These may include, but are not limited to, fostering research and publications, incorporating the participation in professional organizations in faculty evaluation, organizing workshops, and inviting paper presentations of visiting faculty. Faculty should also be encouraged to take sabbaticals that enhance their professional knowledge (i.e., at a research university or a company's research department). In general, to implement a professional culture within universities the college deans and the department heads must provide the leadership and support necessary.

In conclusion, based on this study there is a strong positive relationship between university professors' professionalism and their market orientation. This finding is consistent with an earlier study of the same relationship (Hampton, McQuitty & Hampton, 2000). It seems reasonable to assume that the relationship between these two important constructs should be positive because a significant part of professors' duty is serving students, and the degree to which a professor demonstrates professionalism will be reflected in a market orientation.

LIMITATIONS AND FUTURE RESEARCH

There are a few limitations associated with this study. Structural equation models are best used with sample sizes of N>200, but the sample we used to test the relationship between professionalism and a market orientation was N=120. However, we obtained as many responses possible from our population of professors at a single university. That we did not obtain a large random sample of U.S. professors is a weakness of our study. Another limitation is the failure of our data sets to validate the scales used to collect data (Matsuno, Mentzer and Rentz's (2000) market orientation scale and Snizek's (1972) professionalism scale). It typically is difficult to validate multi-dimensional scales when they are used with different samples and adapted for use in different contexts, although the measures of these constructs are assumed valid.

Our study suggests opportunities for future research. One idea from the earlier discussion is to determine which of market orientation and professionalism is more highly related to organizational performance. A related idea identified by Hampton, McQuitty, and Hampton (2000) is the nature of the relationship between organizational performance (e.g., profitability) and professionals' market orientation. In other words, is a market orientation desirable for professionals and does it translate into improved organizational performance? Similarly, in a university setting, what are the relationships between market orientation or professionalism and student retention or satisfaction?

Other suggestions for future research include examining the relationship between professionalism and a market orientation in professions other than certified nurse-midwives and professors, where a positive relationship was found in both cases. Yet another idea concerns the creation of market orientation and professionalism scales that are valid in a variety of contexts. As noted, Matsuno, Mentzer, and Rentz's (2000) market orientation scale and Snizek's (1972) professionalism scale were not validated perfectly by our respondents. This could reflect a problem with either the scales or our data collection procedures. Lastly, and to extend the previous idea, a market orientation should not be perceived as the final level or exclusive approach to successfully operating a professional organization. For example, service quality has a greater impact on customer satisfaction and loyalty than on a market orientation (Voon, 2006), which implies that institutions of higher learning need to emphasize and ensure a high level of service quality. Future studies could expand the constructs we study to better understand their relationships.

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APPENDIX

Items Used in MARKET ORIENTATION Scale (items that did not form factors consistent with the original scale are not included.

Responsiveness

MKOR2	We periodically review the likely effect of changes in the education environment on students.
MKOR6	When we find students who would like us to modify a course or service, the staff members involved make concerted efforts to do so.
MKOR7	For one reason or another we tend to ignore changes in our students' course or service needs.
MKOR22	Student complaints fall on deaf ears in this department.

Intelligence Generation

MKOR8	Academic staff in our college spends time discussing students' future needs with other staff in the college.

MKOR9	In this department we meet with those who hire our students at least once a year to find out what courses or services students will need in the future.
MKOR10	We periodically review our course development efforts to ensure that they are in line with what industry or those who hire our graduates want.
MKOR11	Academic staff in our department spend time discussing industries' future needs with other staff in the college.

Intelligence Dissemination

MKOR17	Data on student satisfaction are disseminated at all levels in this college on a regular basis.
MKOR19	The activities of professors in this college are well coordinated.
MKOR20	Data on industry satisfaction with our graduates are disseminated at all levels in this college on a regular basis.
MKOR21	We survey industry at least once a year to assess the quality of our courses and services.

Items used in the PROFESSIONALISM Scale (items that did not form factors consistent with the original scale are not included

Autonomy

PROF3	Professors should be allowed to make significant decisions without the intervention of those outside the department.
PROF8	Professors in my field should have the opportunity to make their own decisions in regard to their work.
PROF18	The judgment of professors in my position should not be second guessed by the department head or other administrators.

Calling to Profession

PROF10	It is easy for professors to believe in the work they do.
PROF17	I would stay a professor in my field even if I had to take a slight pay cut to do so.
PROF20	Enthusiasm for my profession is easy to maintain because we have wide latitude in what we do.
PROF21	It is encouraging to see a professor in my field who is idealistic about his or her work.
PROF23	It is easy to be enthusiastic about the kind of work I do.

Professional Association as Referent

PROF1	I systematically read professional publications in my field.
PROF9	I often engage in the interchange of ideas with professors in my field from other universities.
PROF16	I attempt to attend and participate in meetings sponsored by my professional organizations.

STRATEGIC POSITIONING IN HIGHER EDUCATION

L. Jean Harrison-Walker, The University of Houston - Clear Lake

ABSTRACT

As competition among academic institutions for students, faculty, and financial support has increased, so has the application of marketing in the field of higher education (Kotler, 1994; Kotler & Andreasen, 1991; Kotler & Fox, 1985). One critical application of marketing that is all too often neglected, misunderstood, and mismanaged is positioning. As noted by Kotler and Fox (1994, p.229), "Many schools and institutions of higher education are fundamentally good and worthy, but they have done little to forge strong, individual identities for themselves." The positioning decision is often the crucial strategic decision for a company or a brand because the position can be central to customers' perception and choice decisions. To date, little has been published regarding the application of positioning strategy to higher education.

The purpose of this paper is to enrich the marketing practices of academic institutions as they face increasing competition for students, faculty and funding by presenting a discussion of strategic positioning. This paper defines the concept of positioning, explains its importance, distinguishes positioning from the similar psychological constructs of image and reputation, and discusses the application of positioning strategy as it pertains to institutions of higher education.

INTRODUCTION

For many years, colleges have enjoyed a seller's market (Absher & Crawford, 1996). The baby boomers of the late 1940's through the early 1960's provided a large population from which to draw (Absher & Crawford, 1996). The shrinking supply of first-year college students, coupled with increased competition, led to a buyer's market in the 1990's (Lovelock & Weinberg, 1989). Since the 1990s, the situation has worsened. Addressing the University Board of Regents in August 2003 (Patton, 2003), outgoing University of Houston President Art Smith conceded, "There is a shift ongoing at this institution, in Texas, and across the nation concerning who pays for higher education. The move is away from taxpayers and state legislators to users."

It is widely acknowledged that today's environment is becoming more and more intensely competitive (Richardson, Nwankwo, & Richardson, 1995). Industries, like higher education, once considered safe from competitive forces are now finding themselves subjected to competition for the resources they once took for granted (Richardson, Nwankwo, & Richardson, 1995). Competition among academic institutions for students, faculty, and financial support is increasing (Karapetrovic, Rajamani, & Willborn, 1999). Furthermore, new non-university competitors in the form of industry and non-university educators have entered the higher education market (Friga, Bettis & Sullivan, 2003).

As competition has increased, so has the application of marketing in the field of higher education (Kotler, 1994; Kotler & Andreasen, 1991; Kotler & Fox, 1985). One critical application of marketing that

is all too often neglected, misunderstood, and mismanaged is positioning. As noted by Kotler and Fox (1994, p.229):

> *Many schools and institutions of higher education are fundamentally good and worthy, but they have done little to forge strong, individual identities for themselves. The institutions should strive to have a clear, positive image and a distinctive memorable identity.*

The purpose of this paper is to enrich the marketing practices of academic institutions as they face increasing competition for students, faculty and funding by presenting a discussion of strategic positioning. Specifically, this paper defines the concept of positioning, explains its importance, distinguishes positioning from the similar psychological constructs of image and reputation, and discusses the application of positioning strategy as it pertains to institutions of higher education. The six-step process introduced by Aaker and Shansby (1982) is used to illustrate how universities should go about developing an effective positioning strategy to help them compete more successfully over the long term in an increasingly competitive marketplace.

POSITIONING AND ITS IMPORTANCE

Positioning has long been acknowledged as a core branding activity (Ries & Trout, 1981; Aaker & Shansby, 1982; DiMingo, 1988). Positioning is the act of designing an organization's offering and image to occupy a distinctive place in the target market's mind (Kotler, 2000). For example, Charmin is positioned as the soft bathroom tissue. Excedrin is positioned as the headache medicine. Nyquil is positioned as the nighttime cold medicine. MaltoMeal is positioned as the economy cereal brand. Grey Poupon is positioned as the expensive, top of the line mustard. Each of these brands holds a distinct position in its product category and the organization's product, promotion, distribution and pricing strategies are designed to communicate and support the brand's unique position.

> *The positioning decision is often the crucial strategic decision for a company or a brand because the position can be central to customers' perception and choice decisions. Further, since all the elements of the marketing program can potentially affect the position, it is usually necessary to use a positioning strategy as a focus for development of the marketing program. A clear positioning strategy can ensure that the elements of the marketing program are consistent and supportive. (Aaker & Shansby, 1982, p.56)*

A university that has a distinct position is able to convey to prospective students what it is and what it stands for (Lowry & Owens, 2001). By directing all of its marketing efforts towards a desired position, a university maintains a coherence and unity in its activities and establishes a specific image (Lowry & Owens, 2001). Effective positioning focuses in what the target market perceives is important and not necessarily what university administrators believe is significant (Lowry & Owens, 2001).

POSITIONING VERSUS IMAGE AND REPUTATION

Positioning (or rather, the related construct, position) is often misused interchangeably with the psychological constructs of image and reputation. While there are similarities among the constructs, there are also very important differences. Both "images and reputations are each formed through a continuous and multifaceted process and are the products of a multiple-variable impression formation process located at the interaction among an institution's issued signals or texts, as well as contextual and personal factors (Cornelissen & Thorpe, 2002, p. 175; see also Fombrun & Shanley, 1990; Williams & Moffitt, 1997). However, despite the similar process through which both images and reputations are formed, the two constructs are not the same. Images concern immediate impressions while reputations are more enduring over time (Grunig, 1993; Williams & Moffitt, 1997).

"An image is the immediate set of meanings inferred by a subject in confrontation/response to one or more signals from or about an institution. Put simply, it is the net result of the interaction of a subject's beliefs, ideas, feelings, and impressions about an institution at a single point in time." (Cornelissen & Thorpe, 2002, p. 175) "Corporate image is the immediate mental picture that audiences have of an organization," (Gray & Balmer, 1998, p.687). Wilbur (1988) confirmed that most institutions have distinguishable images.

"A reputation, on the other hand, is a subject's collective representation of past images of an institution (induced through either communication or past experience) established over time" (Cornelissen & Thorpe, 2002, p. 175). Corporate reputations typically evolve over time as a result of consistent performance, reinforced by effective communication, whereas images can be fashioned more quickly through well-conceived communication programmes (Gray & Balmer, 1998).

A brand's position is how it is perceived in the minds of consumers, relative to competitors. The characteristics of a good position for the brand are thought to be (1) perceived uniqueness (e.g. different from competitors), (2) prevalence (e.g. how many customers are aware of it), and (3) strength (Aaker, 1991). Unlike image, position evolves and, if managed effectively, becomes stronger over time. Furthermore, position differs from image in that it implies a frame of reference, the reference point usually being the competition (Aaker & Shansby, 1982). This is an important distinction since it is not sufficient for an organization to have a positive image; in order to be successful over the long term, the organization must be perceived more favorably than the competition. The concept of reputation is closely related to the marketing concept known as positioning in that both are enduring over time and difficult to change.

APPLICATION OF POSITIONING TO INSTITUTIONS OF HIGHER EDUCATION

Positioning results from the specific way in which the four key marketing variables of product, price, promotion, and place (referred to as the 4 Ps) are managed (Lowry & Owens, 2001). In a collegiate environment, product becomes academic programs, price is tuition and financial aid, promotion is the communications program, and place refers to the delivery system for academic programs (Lowry & Owens, 2001). The size of a school, class sizes, and the student faculty ratio are important elements of the academic delivery system (Lowry & Owens, 2001). The advertising, public relations, admissions materials, and other promotions of the institution should be coordinated to make a unified positioning statement (Lowry & Owens, 2001).

Aaker and Shansby (1982) identify a number of ways in which a positioning statement can be conceived. The six approaches to positioning are: (1) by attribute, (2) by use, (3) by user, (4) by product category, (5) by price/quality, and (6) competitive positioning. In the following paragraphs, each of the six approaches is illustrated first by using popular brand examples and then by providing examples from academia.

Positioning by Attribute

The most frequently used positioning base is associating the brand with a particular attribute, product feature, or user benefit. For example, Charmin is the soft bathroom tissue and Viva is the durable paper towel.

Rensselaer Polytechnic Institute in Troy, New York determined that technological creativity was the core value that made its school unique. Brown University positions itself as the relaxed, open-minded Ivy League college (Lowry & Owens, 2001). Columbia College of Chicago positions itself on the attribute of innovation in the arts with its positioning slogan "create…change"

Organizations are often tempted to position themselves along multiple attributes. However, positioning strategies that involve a number of attributes can lead to a diluted brand position and confusion in the minds of consumers.

Positioning by Use

The second positioning base is by use. Nyquil is the nighttime cold medicine and Excedrin is the headache pain reliever. In academia, Cornell has distinguished itself as the university-of-choice for majors in hotel administration (Lowry & Owens, 2001).

Positioned by User

Positioning by user is the third positioning base. For a long time, Schaeffer beer was positioned for the heavy beer drinker. Pepsi distinguishes itself from Coke by positioning itself for the young at heart (the Pepsi generation).

Florida's St. Leo College is positioned as the weekend college. Its target market is working adult students who have not finished college (Lowry & Owens, 2001). Heritage College (Toppenish, WA) focuses on multicultural populations that have been educationally isolated – notably, the Native Americans who live in the Yakima Valley (Sevier, 2002).

Positioning by Product Category

Some brands position themselves as belonging to a product category that they really do not belong to. I Don't Believe It's Not Butter positions itself as a butter. Seven-Up began associating itself with cola beverages in an effort to break free from consumer perceptions that Seven Up was a mixer rather than a soft drink.

The University of Phoenix is a corporate university that positions itself as a member of the university community. In fact, the University of Phoenix is a for-profit organization owned by Apollo Communications, a distance learning company.

Positioning by Price/Quality

In many product categories, some brands offer more in terms of service, features, or performance; a higher price and prestigious communication strategies serve to signal this higher quality to the customer (Aaker & Shansby, 1982). For example, Grey Poupon distinguishes itself as the top of the line mustard. Other brands distinguish themselves as the no-frills, low price alternative. Taking this approach, Malt-o-Meal is recognized as the economy brand among cereals.

In the academic world, the University of Michigan is often called "The Harvard of the Midwest." The University claims to be the largest pre-medicine and pre-law university in the country and to have the largest yearly research expenditure of any university in the United States. It is one of two colleges to have both engineering and medical schools ranked in the U.S.'s top ten. Michigan also has the highest tuition of any American state school.

Competitive Positioning

In all positioning strategies, the position implies a frame of reference, the reference point usually being the competition (Aaker & Shansby, 1982). However, some brands choose to make a successful competitor the reference point as the positioning strategy. The classic example of competitive positioning is the one used by Avis rental cars. Avis positioned itself as "number 2." Consumers fully understood that the number 1 company in rental cars was Hertz. Avis wanted to make sure that when consumers thought about Hertz as a provider of rental cars, they would also consider Avis. Being number 2 meant that Avis would try harder to please the customer.

On occasion, universities may use this positioning base as a means of associating themselves with more prestigious institutions. In 1988, Marion College in Marion, Indiana changes its name to Indiana Wesleyan University to associate itself with other elite Wesleyan Universities, such as those in Connecticut, Illinois, and Ohio (Lowry & Owens, 2001).

THE USE OF MULTIPLE POSITIONS

Just as with the temptation by organizations to position themselves along multiple attributes, organizations are also tempted to use multiple positioning bases. In other words, there is a tendency to try to be all things to all people. Not only would such an approach be difficult to implement, but it leads to a confused perception in consumers' minds. Effective positioning requires perceived uniqueness (the one and only brand associated with the particular positioning base), strength (a strong and clear association with the positioning base), and prevalence (whereby the majority of targeted consumers are aware of the brand's position.

MANAGERIAL IMPLICATIONS

In order to develop a positioning strategy, institutions must (1) determine what key attributes students use in comparing institutions and which attributes are most important and (2) identify the relative positions of the institution and its competitors on the important attributes (Kotler & Fox, 1994). In keeping with this general approach, Aaker and Shansby (1982) present a six-step process for developing a positioning strategy. The first step is to identify the competitors. An institution's competitors are anything that might receive the attention of a potential student as an alternative to the institution's offer (Kotler & Fox, 1994). In most cases, there will be a primary group of competitors and one or more secondary competitors (Aaker & Shansby, 1982). For example, a particular university often competes with other local colleges and universities. They may also compete with distant domestic and international universities as well as online programs that are targeting the same student populations. One way to identify competitors is to ask students what other academic institutions they considered. For example, Boston College asked all accepted applicants to list all the schools to which they applied (Kotler & Fox, 1994).

> *For each school listed, students indicated whether or not they were accepted. Students who decided against attending Boston College were asked the name of the school they planned to attend. The researchers focused on college choices of students who were accepted at both Boston College and a competitor and who thus had a real choice. (Kotler & Fox 1994, p.175)*

The second step is to determine how each of the competitors is perceived and evaluated. In other words, what product associations (expressed as product attributes, user groups, and use contexts) do students use in evaluating the different academic institutions? For example, universities may be considered formal and impersonal or friendly and personal, safe or vulnerable, attended by socialites or attended by partiers, used for advancing knowledge or used to get paper in hand, diverse or homogenous, rigid or accommodating, used as an end in itself or used as a stepping stone, and so forth.

The next step is to determine the positions currently held by all competing institutions, including the institution conducting the research. For each institution, students may be asked to respond to questions such as: (1) With respect to other academic institutions, I would consider ABC university to be (list attributes identified in step 2); (2) I would expect the typical student at ABC university to be (list user groups identified in step 2); and (3) ABC university is most appropriate for (list uses identified in step 2). The institution would also want to determine which of the attributes, user groups, and uses are considered important and which serve to effectively distinguish one institution from another. However, planners must keep in mind that students enrolled at their institution are likely to rate their school higher than those institutions they did not choose to attend (Kotler & Fox, 1994).

The fourth step is to analyze the student base. Subgroups within the student population may hold different perceptions of the institutions. Students may be classified into segments defined by the product associations they consider most important. Next, the institution must decide on its positioning strategy.

> *Positioning usually means that an overt decision is being made to concentrate only on certain segments. Such an approach requires commitment and discipline because it is not*

> *easy to turn your back on potential buyers. Yet, the effect of generating a distinct, meaningful position is to focus on the target segments and not be constrained by the reaction of other segments. (Aaker & Shansby, 1982, p.61)*

Because choosing a position is generally tied to the target market decision, an economic analysis that takes into account the potential size of each segment, the probability of penetration, and the projected contribution dollars that may be derived from each segment should be conducted. A second critical consideration in selecting a position for a university is to make sure it can deliver what it promises – and commit to doing so over the long term. For example, a university that positions itself as the personal university where students feel at home and develop personal relationships with faculty cannot then increase class sizes or move to online classes. Such moves would destroy the institution's unique position (and often it's competitive advantage), and have a negative impact on the institution's reputation for integrity.

The final step is to monitor the organization's position over time and make adjustments to the marketing strategy as may become necessary. In some instances, companies find it necessary to reposition their brands when either the company fails to achieve the desired position in consumers' minds or when the positioning base is no longer important to consumers. Crest toothpaste, originally positioned as the number one cavity fighter, likely found that cavity fighting became less an issue for consumers as fluoride was added to public supplies of drinking water and twice-yearly fluoride treatments became the norm at children's dental visits.

When it comes to marketing in any organization, there is always the money issue. Positioning -- and the marketing plan necessary to develop and support the positioning strategy -- takes up a large amount of organizational resources, in both management time and money (Romaniuk, 2001). According to John McGualey, president of Ghehrung Associates in Keene, New Hampshire, "Many universities make the mistake of spending too little on marketing…A moderately sized corporation spends more on marketing than any college or university. It's endemic to higher education institutions to spend very little on marketing," (Bisoux, 2003). As explained by Firstenberg (1991, p.33), "For decades the driving force in designing a university program has been its internal sense of the educational value of its components. Shaping a university to compete more effectively against specific competitors is rarely factored into the decision making."

Furthermore, spending money on marketing in higher education can be highly controversial. One political issue for universities is the potential backlash of diverting scarce funds into a positioning 'exercise' rather than improving other resources (see Firstenberg, 1991; Lewis, 2003). University stakeholders must be made to recognize the crucial aspect of effective positioning and its long-term implications in this increasingly competitive academic marketplace – and the catch-22 situation they will likely face by not developing, implementing and supporting an effective positioning strategy.

> *Institutions that fail to secure a strong competitive position will lose funding and in turn, will be forced to slash their academic programs, facing diminishing quality with little room for maneuver. But institutions that take competitive positioning seriously will find their market niche and be able to offer quality educational services. (Firstenberg, 1991, p.33)*

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THE GAME: A BUSINESS LAW CLASS COMPETITION

S. Andrew Ostapski, Valdosta State University
Donna J. Cunningham, Valdosta State University
Jane Williams, J.D., Attorney-at-Law

ABSTRACT

Educators often encounter varying levels of interest from their students as they encourage them to participate in the learning process. Experiential learning offers a way to go "outside of the (traditional learning) box" to heighten student interest by offering simulated "real-life" experiences which serve as learning tools.

THE GAME was designed to reflect real life challenges and to provide a series of competitive activities which would motivate students to seek knowledge. While playing THE GAME, students learn the importance of knowledge, skills, documentation, teamwork, strategy, timing and decision-making. Students also experience the competition of THE GAME as a precursor to the competition of the business world.

INTRODUCTION

In recent years, business law and legal environment instructors have left the comforts of the traditional lecture-based style of teaching to explore a variety of innovative teaching techniques that emphasize student experiential learning. These include writing exercises in which students take a few minutes before the end of class to jot down reflections about what they have learned in class that day (Sparrow, 2001), simulations in which students use role playing to understand the relationship between legal concepts and procedures (Corrada, 1996), and games in which students answer substantive law questions in an activity modeled after a popular game show (Rosato, 1995).

There are several reasons for this pedagogical transition from purely lecture-based teaching. Studies have shown that certain students are more motivated to learn when they are active participants in the educational process. (Rosato, 1995) The students attend class more frequently when there are course activities that must be done in class. (Friedman, Rodriguez & McComb, 2001) Perhaps, most importantly, through learner-centered activities, students can practice such necessary business skills as resource management, interpersonal communication, information management, systems management, and the use of technology. (Kendall, 1999) "Practical learning enables young people to enter the world of work with the confidence to tackle everyday problems." (Powell, 2005) Given the positive response of students to these alternative student-centered teaching methods, it should come as no surprise that students categorize teachers as "best" or "worst" based in part on whether the professor utilizes a variety of teaching methods. (Brown & Tomlin, 1996)

One way to think (and teach) outside of the traditional teaching box is to incorporate into business law and legal environment courses (referred to hereinafter as legal studies courses) a content-based, semester-long learning activity called THE GAME. Similar to a board game or quiz show in which participants must

perform various tasks and answer questions in order to outsmart each other and be declared the winner, THE GAME motivates students to seek knowledge, document their work, strategize, and cooperate as a team in a way that reflects real life business challenges. And, as in real life, THE GAME also teaches that, despite a person's best efforts, the results may not be as anticipated, and the expected rewards may not materialize.

The instructor's goals of THE GAME are to encourage students to (1) read their textbooks and supplemental materials in preparation for class; (2) work together as accountable team players within an organized structure; (3) use web-based technology to research assigned problems and communicate among the team members to formulate solutions; (4) follow the technical rules of THE GAME as carefully as businesses are required to follow statutes and agency regulations; and (5) keep a detailed record of their activities by means of a LOGBOOK.

THE GAME is designed so that its implementation and administration will not suffer from the negative aspects of most experiential learning activities, such as the sacrifice of substantive learning time, administrative headaches, and unrealistic teacher preparation requirements. (Dallas, 1995) In fact, experience gained over several years with both undergraduates and graduates showed that THE GAME worked best when the instructor allowed the teams to manage themselves and develop their own style of learning.

DESCRIPTION OF THE GAME

An Overview

Student teams will draw at random a card which will assign a task to be performed. This is accomplished by the instructor's preparation of five playing-card-sized index cards which either assign a legal research project, or require the team to create or to answer questions regarding assigned reading materials, or present other options. As they carry on the activities of THE GAME, the teams are responsible for dividing the work among their members, earning points by successfully accomplishing the task assigned, and by recording their activities in a LOGBOOK. Learning activities and record-keeping activities each constitute about half of the team's ultimate score. THE GAME concludes with a FINAL CONFRONTATION, in which all questions are presented and answered, and a winning team is declared.

Group Size

The class is divided into three approximately equal sections. For optimum results, each section should consist of three to sixteen members. A smaller section does not have enough team members to do the work; a larger section becomes unwieldy.

Within the optimum sized sections, smaller or larger-sized groups encounter the kinds of issues which similarly sized businesses encounter. Smaller group sizes are usually easier to manage, but the group members' workloads are greater. In larger groups, the team members' individual workloads decrease, but leadership, communication, and management of human resources become much more important concerns. These are skills that some businesses have sought to develop in employees through the use of games and simulation activities. (Brotherton, 1999) THE GAME also serves this purpose.

The Cards

There are 5 types of cards:

THE PROJECT CARD

THE PROJECT CARD represents a research project involving a humorous, hypothetical legal dispute to be assigned by the instructor to the team drawing the PROJECT card. The team must propose a solution, and present it to the class on the due date a few days in the future (Game Day). THE PROJECT presentation has a scoring value of zero to ten points, in the discretion of the instructor.

Strategy

The PROJECT CARD TEAM's presentation may be challenged by another team, and if that team's presentation is better, some or all of the points awarded for the PROJECT TEAM'S presentation may be taken away. This gives the PROJECT CARD team a great incentive to create an excellent presentation. Just as in business, even a likely sale may be lost to a competitor.

THE TEN QUESTIONS CARD

The team that draws THE TEN QUESTIONS card must create a set of ten objective questions derived from the assigned reading, to be approved by the instructor. (In order to accomplish this, the team prepares twenty questions, and the instructor uses discretion to choose the ten most appropriate ones.) The questions will be administered as a quiz to be answered on Game Day by another team (or possibly two teams; see i*nfra*). The TEN QUESTIONS have a scoring value of up to ten points for correctly answered questions.

Strategy

The team drawing the TEN QUESTIONS card does not earn points for creating the questions. The TEN QUESTIONS team may earn points only if the team answering the questions fails to "pass" the test. (In order to "pass" a test, 70% of the team members must earn 70% or more. However, the team of test-takers will always earn the average score of its members, expressed in whole numbers, even if they "fail" the test.) If the team answering fails, all points that team could have earned will be awarded instead to the TEN QUESTIONS team. The objective, then, for the TEN QUESTIONS team is to make the questions challenging. The instructor must make certain that the questions are fair.

THE O CARD

The team that draws this card must answer the TEN QUESTIONS. The TEN QUESTIONS will be administered in writing, as a quiz, which takes about five minutes. If at least 70% of the O CARD team members earn 70% or more, the O CARD team will have "passed" the test, and will earn up to 10 points. The O CARD team's score is computed by taking the average of the scores for each team member. However, if

the O CARD team does not meet that passing threshold, it "fails" the test, and earns only the average of the team members' scores. In that case, ten points are awarded to the TEN QUESTIONS team.

Strategy

If the O CARD team is to earn any points, it must be well-prepared. In addition, for the O CARD team, a complication arises if the X CARD team also decides to answer the TEN QUESTIONS, as is their right (see i*nfra*). In that event, each team may earn up to ten points, but the failing team can only lose 5 points. If both teams fail, the total points lost would be ten. Thus, the O CARD team is competing not only with the TEN QUESTIONS team, but also, perhaps, with the X CARD team.

THE X CARD

The team that draws the X CARD may answer the TEN QUESTIONS, challenge the team that has made THE PROJECT presentation, or do both. If the X CARD team chooses to answer the TEN QUESTIONS, the members must "pass" the test to prevent the TEN QUESTIONS team from scoring. (Recall that to "pass" the test, at least 70% of their members must earn at least 70% on the test). If they fail, they will nevertheless earn the average of the scores earned by their team members, expressed in whole numbers.

If the X CARD team instead chooses to challenge the presentation made by the PROJECT CARD team, they must work to deliver a better presentation at the next class meeting. If the X TEAM's presentation is better than that of the original PROJECT team, the X team may be awarded some or all of the points awarded to the original PROJECT team, in the discretion of the instructor, up to a possible ten points. It is possible for a team to have a total negative number of points.

Strategy

If the team's members decide to answer the TEN QUESTIONS, they may earn up to ten points. If they decide to challenge the PROJECT team, they may earn up to ten points. Their first strategic decision is to decide which task(s) to undertake, or to undertake both at the cost of additional time and effort. In making that decision, they must consider not only the potential points to be made, but the strengths and weaknesses of their team members, the workload involved and the time available. Just as in business, a multitude of factors must be considered in making a strategic business decision.

THE WILD CARD

If a team first draws THE WILD CARD, the instructor turns over the remaining cards, and the team may choose from among those. The team will then have the option(s) presented by that card, along with its scoring possibilities.

Time Required

The luck of the draw determines the number of activities to take place on Game Day but both THE PROJECT and the TEN QUESTIONS quiz can be easily completed within a half hour, leaving enough time for lecture or other activities.

Presentation of THE PROJECT should be limited to twenty minutes. The TEN QUESTIONS test should last no more than five minutes. Administrative issues concerning THE GAME, such as discussion of the rules, may consume an additional five to eight minutes. In a typical Game Day class period, the total time commitment should be less than thirty minutes. The term's FINAL CONFRONTATION, the activity that reviews all of the sets of TEN QUESTIONS used throughout the term, should stop after one hour or when all the questions have been correctly answered.

Physical Setting

Ordinarily, a regular classroom should be sufficient for conducting THE PROJECT or THE TEN QUESTIONS exercises. For the FINAL CONFRONTATION, it may be helpful to use a lecture hall, which would allow the instructor to segregate the teams into different sections of the hall, and also to designate an area as the PIT. (See *infra*.)

E. Materials & Equipment Needed

Students may require a computer station with appropriate software and Internet access to make PROJECT presentations in the classroom. If they are unavailable, an overhead machine or handouts for each student would be adequate substitutes.

THE PROGRESS OF THE GAME

Formation of Teams

First, the instructor reads the rules of THE GAME. (The SHORT FORM rules of THE GAME, to be distributed to class members, may be found in Appendix 1.) Next, teams are formed. Students are asked to divide themselves into three more or less equally numbered teams: THE RED, THE WHITE, and THE BLUE teams, within two minutes. After the time elapses, the instructor randomly assigns any participants without a team in order to equalize the groups. Then, each team must elect a leader and a co-leader within two minutes. After the time elapses, any team without a leader or co-leader will have one randomly assigned by the instructor. Leaders can be removed and their replacements elected at any time by majority of the team members.

The Game Begins

The instructor brings the five "task" cards (PROJECT, 10 QUESTIONS, X, O and WILD), and lays them face down on a desk or table.

THE GAME begins when a representative of each team chooses one of the cards. The card drawn will determine the team's first assigned task. However, if a team draws the WILD CARD, then the instructor will turn over the cards remaining, and the team will choose from among those.

The Game Progresses

PROJECTS are presented and perhaps challenged, and X and/or O teams answer the TEN QUESTIONS, each team improving its score with good presentations and correct answers, losing points to better presentations, or failing to earn points because of incorrect answers. If a PROJECT challenge is successful, the instructor will award to the challenging team some of the points previously awarded to the original presenting team for its presentation. If a team fails the TEN QUESTIONS test, then the TEN QUESTIONS team will earn ten points. The team of test takers will always earn the average score of its members expressed in whole numbers. THE GAME continues in this fashion throughout the semester, addressing each topic chosen by the instructor.

THE FINAL CONFRONTATION

Lessons learned throughout the term are put to the test during the final phase of THE GAME. In open class, the instructor will verbally ask a question drawn from the pool of all of the sets of TEN QUESTIONS used during the course of the term. Any member from any team may answer. The first person to respond to a question gets the opportunity to answer verbally. If the student answers correctly, the student becomes a WINNER; the WINNER's team earns one point and the WINNER gets a token reward, such as a penny.

If the student answers incorrectly, the student giving the wrong answer becomes a LOSER and is held in the PIT (an area designated by the instructor), isolated from his or her teammates. The LOSER may not participate in THE GAME until the student's release is earned. If the LOSER's team subsequently answers a question correctly, then the LOSER may be released, but no points will be earned. However, the team may make the strategic decision to leave the team member in the PIT and instead earn points.

A question which is answered incorrectly may be asked repeatedly until it is correctly answered. If one team is completely eliminated, then the remaining two teams may continue to compete until (1) all the questions in the pool have been asked, (2) only one team remains, or (3) the instructor decides to end the game.

FOR THE INSTRUCTOR: OPERATIONAL DETAILS OF THE GAME

The Project Card

One or two legal issues are contained in THE PROJECT scenario, which is a humorous, hypothetical situation relating to the recently covered material. THE PROJECT, researched and presented by the team that draws THE PROJECT card, should demonstrate, within twenty minutes, how the legal issue may be practically resolved. Legal and business issues should be presented in a humorous way to maintain the interest of the students. However, the more practical the situation presented is, the more immediate and effective are

the learning results. (Smith, 2005) Hypothetical situations for undergraduate and graduate PROJECTS may be found in Appendix 2.

THE GAME SUPPLEMENTS LECTURE

Anecdotal evidence, derived mostly from students' comments, supports the conclusion that greater learning takes place when students experience THE GAME along with traditional lecture. (See BUSINESS LAW: THE GAME Message Index at http://www.valdosta.edu/cgi-bin/sostapsk/classbbs/thegame/config.pl for a partial list of comments. One student stated, "The ten questions helps me stay on top of my reading in class." Another student commented, "The Game has helped me learn and prepare for the tests better than just reading the book. I have learned to apply the information in real life situations (sic)."

Scheduling; Frequency

No fixed schedule is required for playing THE GAME. Based on class considerations, the instructor decides how to integrate THE GAME into the course curriculum to achieve the objectives stated in the syllabus. THE GAME may be played when a key topic is discussed in class. If a structured time frame is important, the instructor may schedule each round of play every other week, or some other period, during the semester to maintain a learning momentum. THE PROJECT and the TEN QUESTIONS exercises may cover the same material to reinforce students' understanding or may be applied to different topics for increased coverage of the materials.

Topics

Absent special circumstances, THE GAME may be played whenever a new area of law is covered. A group of suggested topics would be, for example, the Judicial System and Litigation, Contract Law, Negotiable Instruments and Secured Transactions, Agency and Private Employment Law, Non-Corporate Business Entities, Corporate Law, and Securities Regulation. On the average, THE GAME may be played, time permitting, about seven times during the academic term.

THE LOGBOOK

At the inception of THE GAME, no particular instructions are given for maintaining the logbook. However, the instructor makes a preliminary review of each team's log within the first three weeks of class and issues a brief memo to each group as to how it may be improved. Students learn that adequate documentation must be created to build team unity and to properly record events pertaining to THE GAME, including individual student contributions to game play. Accomplishing this task is a significant learning activity. Unlike other exercises, THE GAME stresses the importance of effective documentation, which can be crucial in real business situations.(Kreiter, 2006; Morris, 2006; Wagner, 2006) The students' efforts to prepare complete documentation pertaining to THE GAME provide experience which may help them to better document during their business careers. The importance of documentation cannot be understated. To emphasize this point, the LOGBOOK accounts for about one-third of each student's possible score.

Graded Activity & Scoring

A student's individual grade for THE GAME is determined from the average of (1) the score for PROJECTS and TEN QUESTIONS, (2) the LOGBOOK grade, and (3) the score for the evaluation done by the leader and the assigned peer. However, the instructor may award extra credit points.

Scores earned by a team for PROJECTS and TEN QUESTIONS are averaged, and then converted to a scale of 100 points. After the FINAL CONFRONTATION, the overall point standing among the teams may be used as the basis for awarding extra credit points. For example, a distribution could be as follows: third place would earn no points; second place would result in one extra point; the winning team would earn two extra points to each member's final grade.

The team's LOGBOOK, both hard-copy and on disk, along with each student's documented contributions, are graded on a 100 point scale, awarding individual grades to each team member based upon participation, and then this individual grade is assigned to the respective team member.

Peer and instructor evaluations make up the third main component of a student's score. Each team leader makes random evaluation assignments within the team, so that each team member evaluates the leader and one other assigned peer on a scale from 1-10. The leader evaluates everyone in the group on that same scale. In addition, the instructor assigns grades to all the leaders on a scale of 1-10. These scores are then averaged on a scale of 100 for an evaluation score that is assigned to each individual player.

The scores for PROJECTS and TEN QUESTIONS (including any extra credit points), for the LOGBOOK, and for the evaluations, are averaged to determine each student's final grade for THE GAME.

DEBRIEFING AND ASSESSMENT

At the conclusion of the FINAL CONFRONTATION, the instructor should solicit student comments concerning THE GAME, either in writing or orally, or both. What were the lessons learned, the values taught, and what was the nature of the experience? The players should also honestly assess themselves, each other, and their leadership. The discussion of all of these matters should emphasize how the experience parallels real life and all of its complexities.

RESULTS

THE GAME has been used in both the graduate and undergraduate classes of the first author of this paper since the summer semester of 1999, with positive results. Overall, students were better prepared for class, performed better on tests, and seemed to have a greater appreciation of class time. Graduate students generally outperformed the undergraduates as to content and presentation, but both groups displayed creativity in dealing with the assigned tasks. Undergraduate night students, who worked full-time, did not particularly like THE GAME because they perceived it as overly time consuming in relation to the time available for study and meeting with teammates.

Over time, experience with THE GAME has led the first author, as instructor, to allow the team's group development to progress with little interference. As procedural issues arose, the instructor referred the students to the handout (Appendix 1), which contained the short form rules of THE GAME. On substantive matters, the instructor refrained from correcting erroneous information on minor issues during PROJECT

presentations. However, corrections were immediately made concerning key points stated erroneously where accurate understanding by the class was vital.

The perceptions of the students regarding THE GAME changed over the course of the semester. Initially, some students resisted playing THE GAME because they perceived the rules as complex and too work intensive. But, they soon realized that teamwork was the key to efficiency and that the rules, just like other directions, became more familiar the more they were applied. Many of the key legal concepts that appeared as part of the TEN QUESTIONS also later became a part of a regular test. Because of this consistency, the great majority of students viewed the TEN QUESTIONS as a useful tool for test preparation. Individual test scores generally improved since students made more effort to study the assigned material because of peer pressure to improve the score of their team.

The classroom analysis that followed the evaluations and discussion of THE GAME itself provided a form of debriefing in which students were able to synthesize what they learned through playing THE GAME. They came to realize, both in terms of content and of personal characteristics, the kinds of attributes that were necessary for success in the business world. In many respects, this debriefing analysis was just as important as taking part in the experience itself. (Dennehy, Sims & Collins, 1998)

CONCLUSION

Use of THE GAME in the classroom provides a way to increase student interest in the course material, promote better study habits, and offer an experiential learning process with simulated "real life" challenges. THE GAME has been utilized over several years, with positive results. Students are motivated to excel in ways that traditional lecture cannot achieve. Students gain experience in and learn the importance of knowledge, skills, documentation, teamwork, strategy, timing, and decision-making, and THE GAME exposes them to competition, in preparation for careers in a business environment. The spirit of competition will encourage students to learn from themselves and from each other. A post-competition discussion of the nature of the experience is just as vital as undergoing the experience itself.

Although THE GAME, as developed above, was applied to a legal studies course format, it may easily be altered to be specific to other disciplines.

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APPENDIX 1
SHORT FORM RULES OF THE GAME

THE GAME is a learning exercise which demonstrates how law or any set of regulations effects business activity. Everyone in the classroom is in THE GAME regardless of choice. So get ready to play.

When we begin, class members will divide themselves within two minutes into three, more or less, equally numbered teams: THE RED, THE WHITE, and THE BLUE. After the time elapses, the instructor randomly assigns those participants without a team to one of them so that everyone is a member of a team.

Next, each team must elect a leader and a co-leader within two minutes. After the time elapses, the instructor will randomly select a leader and a co-leader for any team that has failed to select one. Leaders can be removed and their replacements elected at any time by majority decision of members within the individual group.

Teams are responsible for determining their own work assignments. Teams must keep a concise written LOGBOOK of their activities. The team must submit THE LOGBOOK for review during the semester, and in hard copy and on disk at the end of the semester for final grading. THE LOGBOOK score will constitute one-third of the grade for THE GAME.

THE GAME begins when each team, through its representative, receives its first task by selecting a card from among five cards presented face down. The card drawn may be any of the following:

THE PROJECT CARD: Due on the assigned date, a project on a given topic is assigned by the instructor. After it is presented, the instructor rates this effort on a scale of 1 to 10.

THE TEN QUESTIONS CARD: The group with this card creates twenty objective questions, ten of which will be approved by the instructor on the assigned reading for those teams that have selected the O or the X cards. If 31%

of the test takers get below 70% on the test, then the team producing the questions gains a total of ten points from the sole group taking the test or five points taken from each group, if both teams are involved.

THE X CARD: The group selecting this card can challenge THE PROJECT presentation and deliver a better product at the next class meeting. The X group can take some or all of the points awarded to THE PROJECT team for its presentation, in the discretion of the instructor. As test takers in answering THE TEN QUESTIONS, the X team will be given the average test score from one to ten, expressed in whole numbers.

THE O CARD: Members who hold this card can take the TEN QUESTIONS test but are powerless to do anything else. The average test score in whole numbers will be assigned to the group.

THE WILD CARD allows the team to chose within two minutes what role it will play from the remaining turned over cards. If a choice is not made within two minutes, the instructor will make the choice for the group.

Absent special circumstances, THE GAME will be played whenever possible. At the end of the term, grades for (1) THE PROJECTS and TEN QUESTIONS, (2) the LOGBOOK, and (3) the evaluations will be averaged based on 100, for a final grade for each team player. Extra credit points to the final grade may be awarded by the instructor to the teams in relation to the final score among them.

APPENDIX 2
UNDERGRADUATE PROJECT 1

Temper Tantrum, who lives in Valdosta, Georgia, has a dispute with Loathsome Mind over the value of Target, Temper's hunting dog, who was run over and killed by Loathsome on New Year's Day. Tell Temper how to find the courthouse and advise him as to what legal steps he should take.

PROJECT 2

Sandy Locks drove from Hahira to Valdosta, Georgia, in order to get a haircut from Plenty Scissors at the Bon Salon. When the time comes, Sandy quietly takes a seat in Plenty's chair and ends up with no hair. Sandy refuses to pay and sues for breach of contract. Plenty defends by saying that there were no contractual terms in the first place. Will Sandy recover from Plenty or end up with nothing?

PROJECT 3

Bummer Joke lives and works at the YMCA extension in Lake Park, Georgia. Trip Switch orally offers Bummer free rent and a lousy salary for work at the Power Outage Apartments, a small complex in Valdosta. Joke orally agrees to manage the property for six months. Two months later, on Sadie Hawkins Day, Bummer gets a better deal when Francis Looney, who is sweet sixteen, proposes marriage. He relocates to Quitman where Francis and the entire Looney family live. Bummer is now out of work but desperately in love. Trip is bummed out. What are the legal implications?

PROJECT 4

Idio T. Lee, who does not know how to write, decides to trade his hunting dog, Runaway, to Over Thear for an old pick up truck worth about $600.00. Two days later, Runaway gets away from Thear and causes an accident. To avoid Runaway, Tremont Driver veers off Bemiss Road and hits a tree near Moody Air Force Base. Tremont wants the damage recovery to go to Opportune Pawn for a preexisting $10,000 debt. Over wants the old truck back to bargain with Tremont. In any case, Over wants to end his deal with Idio and give Runaway the boot. Discuss the legal implications.

PROJECT 5

BJ Mower cuts Leslie's lawn every few weeks. This week BJ found mole crickets all over Leslie's yard. Leslie wants some pesticide applied right away. That afternoon, BJ buys two cans of BugGone from the hardware store in downtown Valdosta. The product comes with a full warranty stating it safely eliminates pests. After reading the instructions, BJ applies BugGone according to the directions. The next day, Leslie finds her pet, Tabby, dead in the grass among the busy mole crickets. What can Leslie legally do?

PROJECT 6

After winning the Georgia lottery, Lucky decides to share the wealth with the people he encounters in his hometown of Valdosta. He has no checkbook but on any scrap of paper, he writes "pay to" with the person's name and tells that payee to receive payment at the Park Avenue Bank, the place where he deposited his money. Will Lucky's payees be as lucky as him? Does it make any difference if the scrap of paper indicates "pay to bearer?"

PROJECT 7

Tia Maria, the richest and busiest person in Valdosta, gives a power of attorney to her alcoholic accountant, C.P. Able, to make sure that her bills get paid on time. After passing out in his office, he goes into intensive rehab for two months. At the clinic, Able fails to pay Tia's bills but uses the power of attorney to transfer funds to his pretty therapist, Siam Sober. Tia's creditors think she is an irresponsible deadbeat. What can Tia do?

PROJECT 8

After finding an empty lot, Season Cook pitches a tent on St. Augustine Road in Valdosta and operates an open-air grill and barbecue stand. The food and business are both good. One of the customers, Honey Loaf, decides to help Season without objection. After two weeks, Honey asks for a share of the profits. Season insists that she is not a partner and is entitled to nothing. Adding to this unsavory trouble, Season is told by local authorities that he is in violation of Valdosta's zoning laws. Discuss the legal issues at stake.

GRADUATE PROJECT 1

According to Paul Simon, "There are at least 50 ways to leave a lover." Detail all the ways you can leave the other contracting party holding the bag of obligation while you suffer little, if any, consequence for your failure to perform fully. If you can walk away from completing your agreement, why is it not an illusory promise? Can the lover in the Paul Simon song sue for any kind of recovery?

PROJECT 2

Ever Cash Poor has just discovered that UCC Articles 3 and 4 facilitate the flow of what he likes best -- money. He wants to know all the slick ways that the bank uses the law to get and keep money at his expense.

PROJECT 3

Over the years, Claire D. Lune has offered anyone willing to join her somewhat strange business opportunities such as earthworm farms, prints of artistic works, and other get-rich schemes. Val D'osta just lost her life savings of

$3000 after getting involved in one of Claire's loony deals. Are Claire's business ventures subject to regulation? What kind of government response can Val expect?

PROJECT 4

Terry Ball is bad to the bone. He studied the bankruptcy code and Georgia's list of exemptions so he could take full advantage of creditors, family and friends within the letter of the law while minimizing his own personal liability. For example, among his many dealings, his rental property on Patterson Street is a fire hazard because of poor wiring. Instead of fixing the premises, Terry merely increased his fire insurance coverage with the hope that a blaze would soon occur. Detail the ways that Ball can reach his objectives legally.

EVALUATING THE ASSESSMENT OUTCOMES IN THE PRINCIPLES OF MARKETING COURSE

R. Nicholas Gerlich, West Texas A&M University
Marc Sollosy, West Texas A&M University

ABSTRACT

In recent years assessments have become increasingly prominent fixtures in colleges of business seeking to attain or reaffirm their accreditation. Much work has been done to study assessments at the program level, primarily with the ETS exam serving as a dependent variable. These studies have provided statistical models that demonstrate the importance of such predictor variables as ACT/SAT scores, GPA, gender, etc. This study seeks to build on prior research by examining one of the foundations courses (Principles of Marketing) and modeling the factors that predict outcomes assessment scores at the course level, as well as to try to account for student differences resulting from using multiple professors across different course sections taught in multiple formats (online and on-campus). This study found that gender and course professor were significant, and GPA marginally significant, predictors of assessment scores. Most significantly, the study highlights the need for departments and colleges of business to be aware of the potential impact of instructor traits on student outcomes

INTRODUCTION

Increasingly, academic programs look to assessment as an important vehicle in determining the overall veracity of a program. It is a means by which the deliverer (instructor) of an academic program can determine if the goals and objectives of the program have been achieved by the recipients (students). Institutional effectiveness is concerned with the extent to which intended outcomes are being achieved (Black & Duhon, 2003). There are two (2) fundamental schemas of assessment delivery. The first employs an instrument developed externally and is standardized across a multitude of dimensions, like the Educational Testing Service's (ETS) exam in business. The second approach employs an embedded, internally developed, instrument that explicitly measures the specific outcomes associated with a program or course.

The purpose of this paper is to examine the various factors or drivers that influence a student's performance on an embedded, course specific assessment (local). These factors or drivers are described along two (2) dimensions, environmental or external, and internal student drivers. The assessment was administered to multiple sections of students in the same foundation or principles level course. The delivery of the actual course material was done both in the traditional in class model, as well as the increasingly popular Online delivery method. The results of this study are derived in the College of Business at a public university located in the Southwestern part of the United States. The institution is mid-sized with a total enrollment of approximately 7,500 total students, 1,000 undergraduate business students, 350 graduate business students.

This manuscript is organized as follows: First, a literature review is provided. The second section of the manuscript describes the data and the model. The next section provides empirical results testing the performance of students on the assessment exam while controlling for format of delivery, professor, student grade point average (GPA), international vs. domestic status, standardized test scores (ACT), transfer students, and gender. The final section offers conclusions and implications.

LITERATURE REVIEW

Research abounds on the subject of program assessment. Assessment is a "systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development" (Palomba & Banta, 1999). Collegiate business programs are increasingly tasked with the need for ongoing assessment of student performance in their programs (Adams, et al, 2000; Bagamery, et al, 2005; Martell & Calderon, 2005; Terry, et al, 2008; Trapnell, 2005). Increasingly, since the mid-1980s, there has been a shift towards student-centered and learning-oriented assessments and accreditation (Lubinescu, et al, 2001). In fact, the AACSB imposes standards for program learning goals upon collegiate business programs aspiring to attain or maintain AACSB accreditation. These programs utilize direct measures in order to demonstrate student achievement of the stipulated goals (Martell, 2007; Pringle & Michel, 2007).

As assessment increases to build momentum, it is important to identify the internal and external audiences who will utilize the results in shaping and refining the assessment process. A comprehensive assessment process provides an institution with information that can be both shared and utilized to satisfy the needs of internal and external constituents. The internal audience (faculty, students, assessment committees, administrators and alumni) benefits by helping to define successful ongoing programs, implementing similar programs, and for improving less successful programs. Externally, the assessment data are used to demonstrate to accreditation organizations, government officials, government boards and other constituents the institution's effectiveness and accountability (Aloi, et al, 2003).

There are two principle types of assessment tests, standardized and local. Of the two, local tests require more faculty effort and other resources for test development, scoring, reporting, and improving. However, the advantage to the local instrument is that it can be tailored to a specific course or program so that the actual scores more accurately reflect the extent to which specific learning objectives are being met (Black & Duhon, 2003), along with impact of local and specific influences or drivers.

An important aspect for any instrument involves validity. Validity exists when the scores on the instrument accurately reflect achievement along the various dimensions the institution is seeking to evaluate. Validity has several dimensions, including content and context. Content validity exists when the test or instrument covers and measures the specific program or course curriculum. Context validity examines the extent to which scores (outcomes) logically correlate with other, external, variables expected to be associated with student achievement. An additional facet to validity is criterion validity, the extent to which scores of the test correlate with other variables one would expect to be associated with test performance (Black & Duhon, 2003).

The Educational Testing Service's (ETS) exam in business has become, to many, the de facto standard of standardized assessment instruments in collegiate business programs. The literature reveals an almost universal agreement as to the principle variables examined as predictors of student performance on the ETS

exam. These variables include: grade point average (GPA), standardized test scores (ACT/SAT) and gender. In addition to these variables, Mirchandani, et al, (2001) include transfer GPA and student grades in quantitative courses.

It is possible to extrapolate and utilize the same variables when examining the results on a local instrument. Terry, et al, (2008) developed a model based upon a production view of student learning to examine the determinants of performance on the business major field achievement ETS exam. Their model controlled for grade point average (GPA), standardized test scores (SAT/ACT), junior college transfer students, gender. Their findings were consistent with much of the previous research in this area, that academic ability as measured by grade point average (GPA) and scores on standardized tests (SAT/ACT) are the primary determinants of student performance on the ETS exam.

Black and Duhon's (2003) study of ETS scores conducted during three (3) semesters in 1996-1997 included an examination of an incentive as a driver in student performance. In that study, students scoring at the national 50th percentile, or better, were given an extra-point bonus, which was used in the calculation of the student's final course grade. The exclusion of this, or some other, form of incentive is not used; some students may not take the test seriously and by extension, the results may be misleading (Allen & Bycio, 1997). Terry (2007) included the impact of course formats, traditional campus courses, online courses and the newer hybrid courses on ETS scores.

METHODOLOGY

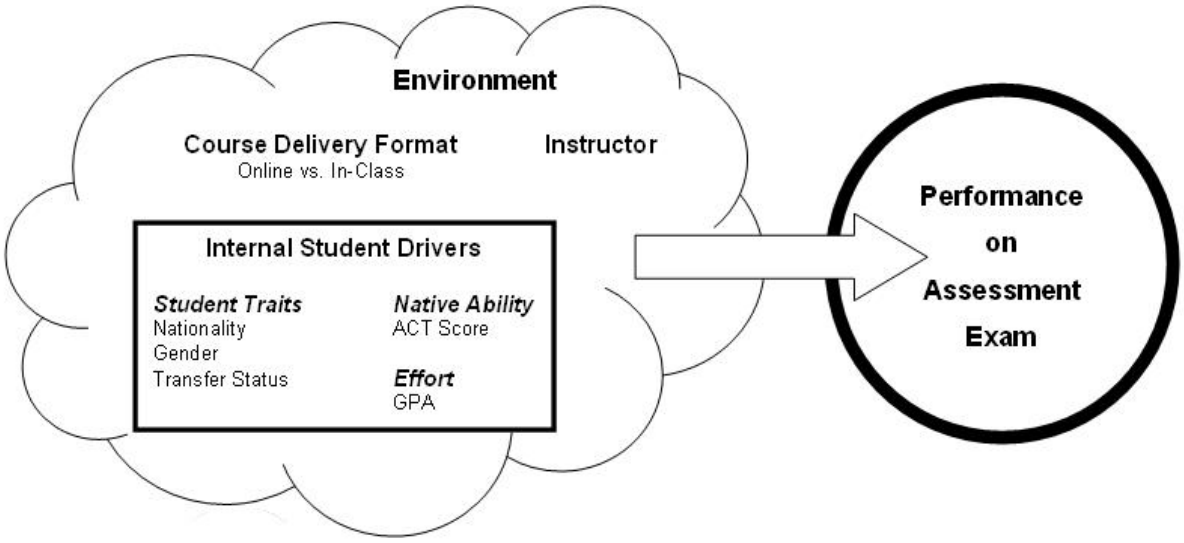
A 20-item multiple-choice comprehensive examination was given to students in each of three sections of the Principles of Marketing course at a regional university in the Spring 2008 semester. This exam was one component of a two-part final exam administered at the end of the semester, and was incentivized to motivate student preparation. The results for the three sections appear in Table 1.

The instrument was a series of questions that cover the entirety of topics presented in a typical Principles of Marketing course. The entire Marketing faculty agreed upon the corpus of questions in Fall 2007. Each of the questions were mapped to specific learning objectives for the course.

Two professors taught this course during the Spring 2008 semester. Professor 1 is a tenure-track professor with a PhD, and taught sections 1 (on-campus) and 3 (online). Professor 2 is a PTI (part-time instructor) with an MBA and 18 graduate hours of study in Marketing, and taught section 2.

Numerous studies have sought to map the relationship between student input variables and outcome assessments. Generally speaking, these models delineate multiple factors (or internal student drivers) impacting assessment scores, including Native Ability (intelligence, often measured by ACT and/or SAT scores), Student Effort (often measured by the student's cumulative GPA), and Student Traits (a vector of categorical demographic information, including gender, transfer status, and nationality). A fourth set of factors include Environment Variables, which accounts for course format (online, campus, etc.) and the individual professor of record. Figure 1 illustrates the relationships of this model. Four models were calculated in this study based on these relationships, with the broadest model specified as follows. The inclusion of specific variables is based on the work cited above in predicting ETS exam scores, with the exception of the Professor variable. This variable was included in an effort to extend the research and to search for possible hidden influencers.

Figure 1: Model of Assessment Inputs



SCORE(i) = B(0) + (B1)ACT + (B2)GPA + (B3)TRANSFER + (B4)NATIONALITY + (B5)GENDER + (B6)FORMAT + (B7)PROFESSOR + e(i)

The dependent variable in this study was the student's score on the 20-item exam, with each correct response earning five points. Scores could thus range from 0 to 100. Independent variables were compiled from the university Registrar's database after the semester ended, and included a variety of internally-scaled and binary variables. Cumulative GPA is on a scale from 0 to 4.00, and represents only the student's GPA since the time of their matriculation at this university. The ACT score is the student's composite score on the national entrance exam, and ranges from 1 to 36. The remaining independent variables (student nationality, transfer status, gender, course format, and professor) were binary variables coded as either a 0 or 1.

Based on upon the prior research of Terry, et al (2008), Mirchandani, et al, (2001), and Black & Duhon (2003), we hypothesize the following relationships:

H1: ACT will have a significant positive influence on a student's outcome assessment score. Terry, et al, and others are in unison in finding that ACT (or SAT), as a measure of native ability, is a strong predictor of student assessment outcomes.

H2: GPA will have a significant positive influence on a student's outcome assessment score. Similarly, student effort, as measured by cumulative GPA, is a strong predictor. Terry, et al, and numerous others concur that this variable will yield a positive and significant influence on outcomes scores.

H3: Transfer status will not have a significant influence on a student's outcome assessment score. Transfer status has been included in prior research, but has not yet been found to be a significant predictor. We thus do not predict any significant influence in either direction.

H4: Nationality will not have a significant influence on a student's outcome assessment score. Terry, et al, also included student nationality as a dichotomous variable, and found no significant influence. We likewise have no reason to predict any significance from this variable.

H5: Class Format will not have a significant influence on a student's outcome assessment score. While much research has been done comparing online and -on-campus outcomes, no trend has emerged favoring one over the other. We thus propose no significant influence from this variable.

H6: Gender will have a significant influence on a student's outcome assessment score. Terry, et al, found that females scored significantly higher on their ETS exam, and we likewise propose a similar significant relationship.

H7: Professor will not have a significant influence on a student's outcome assessment score. This variable has not been included in the prior cited work, but given that many schools employ multiple professors to teach their foundational courses, it is possible that an "instructor effect" may be apparent. In the absence of prior research, we posit there will be no difference, assuming similar effectiveness across instructors.

RESULTS

The initial sample was comprised of 151 students who took the assessment exam; this group was labeled the "full" model. The "partial" model was comprised of 63 students for whom the university had an ACT score on record. Since the university does not require an ACT score for incoming transfer students, and because a large percentage of students are transfers, the "partial" model was based on a much smaller sample.

Tables 1 and 2 contain course section means for the full and partial (ACT) groups. The overall mean score for the full group was 72.58, while the overall mean among those with ACT scores was 72.85. Given that the majority of students reporting an ACT score were four-year students at the university (and the non-ACT students were transfers), it can be concluded there is no difference in mean score between these two student groups.

Table 1: Exam Scores by Section, Format, and Professor: Full Sample (161)				
Section	Avg. Score	Class Size	Format	Professor
1	79.06	53	Classroom	1
2	60.27	55	Classroom	2
3	81.32	53	Online	

Table 2: Exam Scores by Section, Format, and Professor: ACT-Only Sample (68)				
Section	Avg. Score	Class Size	Format	Professor
1	80.96	31	Classroom	1
2	60.83	24	Classroom	2
3	80.38	13	Online	

Four linear regression models were then calculated, as summarized in Table 3. A 2 X 2 matrix of the models includes both "full" and "partial" models, as well as those with and without the effect calculated for the professor.

The first model (Basic Model; top-left) is built on the full data set and contains the basic vector of variables (GPA, Transfer, Nationality, Gender, and Format). In this model both Format and GPA were significant predictors at the Prob.=0.05 level, suggesting that the online format and higher overall student GPAs were positively related to student scores on the assessment exam. Only 25% of the variance is accounted for by the model, though. The data for the three sections suggested, though, that the explanatory power of Format may not be sufficient to capture other nuances of the data. A categorical "dummy" variable was created to account for the professor of these three sections, the results indicating in the second model (Basic Model + Prof; lower-left) that GPA and Professor are now significant at the Prob.=0.05 level. This manipulation resulted in the model accounting for 39% of the variance, a substantial improvement over the first model.

Of the four models created, the Partial + Professor model resulted in the highest R^2 (0.458). In this model only the Gender (H6) and Professor (H7) variables were significant at the Prob.=0.05 level. GPA (H2) was marginal at Prob.= 0.06, and thus conditionally retained. Surprisingly, ACT (H1) was not significantly related, in spite of the findings in prior research. In this instance, it is possible that the Professor effect was more profound and offset any native ability students may have possessed going into the course.

Of particular interest is the effect of Gender. While we affirm the findings of Terry, et al, Gender did not appear as a significant variable in the Full Model (column 1), but did so in the Partial Model (column 2). A Key Influencers analysis of the variables revealed that female students were tightly clustered in the 76-84 score range, and once the Professor variable was added to the equation, Gender emerged as a very strong predictor.

Further analyses were conducted by calculating t-tests in both the Full and Partial models using the dichotomous independent variables with the dependent variable (test score). These results are summarized in Table 4, indicating Format and Professor yielded significant differences in test scores. The models above, though, indicate somewhat different results when variables are not isolated.

Table 3:: Model Comparison					
Full Model (all cases) **Basic Model** n= 161 R^2 = .206 Adj R^2 = .181			**Partial Model (ACT score available)** **Basic + ACT** n= 68 R^2 = .274 Adj R^2 = .203		
IV	**t**	**prob**	**IV**	**t**	**prob**
Format	4.724	0.000	Format	2.087	0.041
GPA	3.124	0.002	GPA	3.249	0.002
Nat	1.303	0.194	Nat	1.046	0.300
Transfer	-0.869	0.386	ACT	0.953	0.344
Gender	.895	0.372	Transfer	-0.643	0.532
			Gender	2.334	0.023
Basic Model + Prof Effect n= 161 R^2 = .397 Adj R^2 = .374			**Partial Model + ACT + Prof Effect** n= 68 R^2=.458 Adj. R^2=.395		
IV	**t**	**prob**	**IV**	**t**	**prob**
Format	1.116	0.266	Format	0.617	0.540
GPA	2.402	0.017	GPA	1.910	0.061
Nat	0.715	0.476	Nat	0.826	0.412
Transfer	-0.435	0.664	ACT	0.901	0.371
Gender	1.276	0.204	Transfer	-0.279	0.781
Prof	6.988	0.000	Gender	2.624	0.011
			Prof	4.520	0.000

Table 4: T-Tests					
Full Model			**Partial Model**		
IV	**t**	**prob**	**IV**	**t**	**prob**
Format	-4.747	0.000	Format	-1.674	0.099
Gender	-0.555	0.580	Gender	-0.587	0.559
Transfer	0.411	0.682	Transfer	0.500	0.619
Nat	-1.624	0.106	Nat	-1.243	0.218
Prof	-9.423	0.000	Prof	-6.044	0.000

CONCLUSIONS AND FUTURE RESEARCH

The statistical models presented above illustrate the differences in outcomes scores that can accrue in one topical area in multiple format/professor situations. In this particular case, the most significant predictor was the professor, not the format. The implication of these findings is that departments and colleges engaged in the assessment process need to be cognizant of influences from different sources that may not otherwise have been observed or isolated.

In this particular study, differences in outcomes assessment were not so much a factor of course delivery format as they were who was teaching the course. The difference in scores may be attributed to the differences between a full-time doctorally-qualified professor and a part-time adjunct with a master's degree. This is not to say that non-PhD instructors are less effective than those with a PhD; rather, it illustrates the need for departments and colleges of business to carefully dissect the data when analyzing assessment scores.

This research is intentionally narrow in scope, and is thus not necessarily transferable across disciplines or schools as it stands. With only a small matrix of course sections, formats, and professors included in the study, there is room for further exploration by applying this model across disciplines, time, and more faculty. Of greater potential importance is the possibility of tracking these students through the remainder of their academic program, including their outgoing assessment exam in the capstone Strategy course.

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