A study of factors affecting online student success at the graduate level

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ABSTRACT

This study examines the effect of variables related to student satisfaction with particular attention to student expected GPA. The study questionnaire included items related to instructor presentation, feedback, caring and instructor rating. The research design used in this study was causal-comparative so that a cause-and-effect relationship could be ascertained. The study surveyed 1438 students taking various courses at a university in southern Texas who completed the study questionnaire over two semesters. Preliminary data in this study pointed towards significant relationships between the variables of presentation, feedback, caring and instructor rating. However, subsequent data pointed toward a single relationship in which students with expectations for a grade of (A) demonstrated higher levels of satisfaction. The data also showed an inclination towards increased satisfaction with increased GPA expectations. This development may point toward an issue of student self efficacy as it relates to both expectations and satisfaction.

Keywords: student satisfaction, online learning, distance learning, student GPA

Effective online learning and teaching are complex practices, with many measures of success. The Sloan Consortium identified student satisfaction as one such measure of success and quality for online education (Lorenzo & Moore, 2002). Student satisfaction studies are numerous for online education and have been performed from various perspectives including instructor immediacy (Arbaugh, 2001), faculty workload (Di Biase, 2004) overall student satisfaction (Dziuban, Moskal, Brophy, & Shea, 2007), student interaction (Picciano, 2002), and social presence (Richardson & Swan, 2003) among others. Much of the current research focuses on the importance of community to online learner satisfaction (Garrison & Arbaugh, 2007; Richardson & Swan, 2003; Rovai, 2002), and teaching presence is a large component of creating a successful community in the online learning environment (Blignaut & Trollop, 2003; Dixon, Kuhlhorst, & Reiff, 2006; Garrison & Cleveland-Innes, 2005; Shea, Li, & Pickett, 2006). Since students' satisfaction with online learning relates to the community environment created for a course (teacher presence is a significant factor in creating community), it is not a leap to consider the correlation between students' satisfaction with the instructor and students' overall satisfaction with online learning.

There are a wide variety of variables that potentially impact student satisfaction in graduate programs. These factors may be common to both online and traditional graduate settings to varying degrees. In a study examining factors impacting graduate school success in a hybrid environment offering both online and face to face instruction at Texas A&M – Kingsville, the strongest factors identified were increased self esteem due to graduate school success experiences, the interest of professors in student success and the presence of a knowledgeable advisor. More importantly, the study found that establishing a sense of connectedness to the academic community was a key factor to success and student satisfaction (Bain, Fedynich, & Knight, 2010).

Another study focusing exclusively on factors impacting student satisfaction in online graduate environments found that variables such as the student's physical distance from the university effects their perceptions regarding satisfaction with online instruction (Beqiri, Chase & Bishka, 2010). The authors noted that other factors such as gender and age impact satisfaction. It was concluded that online course instruction is most appropriate at the graduate level. However, they recommended that a blended program incorporating both online and traditional approaches might be most effective (Beqiri, Chase & Bishka, 2010).

Several studies have indicated that the quality of academic advising is a critical factor for academic success and satisfaction in graduate school (Ferrer de Valero, 2001; Earl-Novell, 2006; & Lovitts & Nelson, 2000). If one can assume completion rates within graduate programs have an effect on student satisfaction with their experience, it is then interesting to note the findings of a 2001 study of factors impacting completion rates of doctoral students indicated that the style of advising provided and whether or not the advisor offered structured timelines as guidance for students were important variables (Ferrer de Valero, 2001). Additionally, in a study examining the effects of program structure on doctoral persistence, Earl-Novell found that the accessibility or lack of accessibility of the advisor was a key element in student persistence (Earl-Novell, 2006). Indeed, the literature tends to indicate that the most important factor impacting student satisfaction and decisions on whether to continue in graduate studies is their relationship with their faculty advisor. Students who work with their advisor to successfully complete their degree express higher levels of overall satisfaction (Lovetts & Nelson, 2000).

Other research has pointed to the quality of the match between the academic program and the social-personal aspects of the program. When these factors are in synch with the student's

needs, students are more likely to persist in their doctoral program. Conversely, when students experience unexpected changes in the program requirements, faculty turnover, or program focus they began to perceive a mismatch between the program and their goals and persistence in the program was adversely impacted (Hoskins & Goldberg, 2005). The social-personal aspects related to student persistence were supported by a study of graduate student retention in 2008 in which it was noted that the provision of structures for graduate school students to interact with peers and faculty were an effective key to improving student retention and satisfaction (Gross, Lopez, & Hughes, 2008).

The most common method of measuring students' satisfaction with teaching is a survey. The research and literature on students' evaluations of teaching (SETs) dates back to the 1920s, and consists of thousands of studies (Marsh & Bailey, 1993; Marsh, 1987). Evaluations typically consist of questions that ask students to rate a professor's communication skills, knowledge of subject, organizational ability, and fairness in grading, among other questions (Marsh & Bailey, 1993; Wilson, 1998). Marsh concludes that SETs are: a) multidimensional, b) reliable and stable, c) primarily a function of the instructor who teaches a course rather than the course itself, d) relatively valid against various effective teaching indicators, e) relatively unaffected by various potential biases to the ratings, and f) seen to be useful by faculty as feedback about teaching, by students in course selection, and by administrators for personnel decisions (Marsh & Bailey, 1993).

Although in 1973 only about thirty percent of colleges and universities used SETs, it is difficult to find an institution today that does not use them (Wilson, 1998). Further, SETs are the primary measure of teaching performance of college and university faculty (Campbell, Steiner, & Gerdes, 2005). Included in standard SETs will be a question concerning the student's expected grade in the course. Many early empirical studies found a positive correlation between a student's perceived grade and the overall rating given to the instructor (Mirus, 1973; Nelson & Lynch, 1984; Zangenehzadeh, 1988). Yet, Mirus (1973) noted that expected grades can be influenced by factors such as design and timing of exams, grades on early exams, and the timing of the evaluation itself. Also, the average expected grade was not found to be an explanatory variable of the average teacher evaluation In addition, there is not a simultaneous relationship between expected grade, instructor rating, and course rating (Nelson & Lynch, 1984).

However, many studies question the validity of SETs in measuring faculty effectiveness and student achievement (Carey, 1993; Goldman, 1993; Kishor, 1995; Wilson, 1998; Yunker & Yunker, 2003). The increased use of SETs in administrative areas led to concerns about the relationship between SETs and content debasement accompanied by grade inflation (Goldman, 1985; Greenwald & Gillmore, 1997; Langbein, 2008; Stratton, Myers, & King, 1994; Wilson, 1998, Zangenehzadeh, 1988). According to Zangenehzadeh (1988), "grade inflation is usually attributed to the introduction of student evaluations of teachers. Teachers are said to give higher grades to increase their evaluation ratings by students, for these ratings are used as a justification to grant (or deny) tenure, promotion, and salary increases" (p. 217). Further, grade inflation is present at nearly all higher education institutions, but is especially noticeable at private institutions (Langbein, 2008; Rojstaczer, 2003). Private institutions have greater grade inflation because of their increased dependence on tuition revenues (Langbein, 2008).

Grade inflation may be more multidimensional than much of the research allows. Stratton, Myers, & King (1994) found that typical studies cannot differentiate between instructors who change their teaching methods to become more effective, thus raising students' grades by increasing learning efficacy and those instructors who lower grading standards to

achieve higher evaluation scores. Further, the research design of many studies prevents examining changes in the behavior of instructors in response to SETs (Stratton, Myers, & King, 1994). Thus, a research design controlling for as many instructional variables as possible is needed to illuminate the actual relationship among expected grades, SETs, and overall student satisfaction with a course.

Given the concerns about grade inflation and research design, SETs are generally found to be consistent and valid measures of teaching effectiveness (Arreola, 1995; Boex, 2000; Cohen, 1981; d'Appollonia & Abrami, 1997; Marsh & Bailey, 1993). Of these studies, Boex (2000) reports the most thorough explanation of students' expected grades and SETs. Although Boex used simplified variables of good grade and bad grade, he found statistically significant impact on the instructor's effectiveness rating. If the expected grade was below the student's GPA (bad grade), the likelihood of receiving an excellent effectiveness rating was reduced. An expected course grade above the student's GPA (good grade) improved the effectiveness ratings of instructors, but only in undergraduate courses. Further, although expected course grades had a statistically significant impact on the instructor's effectiveness rating, the direct impact was relatively small, approximately five percent. However, this study could not specify whether the findings resulted from grade inflation, selection bias, or misspecification of the model.

No studies were found that looked for a correlation between student satisfaction and expected grades in online courses. With the pervasive use of SETs, the increase in online learning, and the number of studies devoted to student satisfaction as it relates to the university as a business, research of expected grades and student satisfaction according to SETs could play a distinct role in the bodies of evidence for online learning, the validity of SETs, and overall student satisfaction and learning. Further, the implications for this research in the areas of teacher presence, online community, and successful online learning are vast if one considers the importance of the multidimensional aspect of SETs, online learning, teaching and education in general.

The focus of this study was to examine the impact of several variables related to student satisfaction with particular focus on student expected GPA. The study questionnaire included items related to instructor presentation, feedback, caring and instructor rating.

RESEARCH DESIGN

The following research question guided the study:

What is the difference among the expected GPA levels on total satisfaction score, presentation, feedback, caring, and instructor rating.

The hypothesis that guided the study was:

H_0: There is no statistically significant difference among the expected GPA levels on total satisfaction score, presentation, feedback, caring, and instructor rating.

The research design applied in this study was causal-comparative so that a cause-and-effect relationship could be identified. The study surveyed 1438 students taking various courses at a university in southern Texas who completed the satisfaction survey over two semesters. Of these, 28% were male and 72% were female; 5.7% were Freshmen, 14.9% were Sophomore, 31.6% were Junior, 38.4% were senior, and 9.4% were graduate or other.

RESULTS

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effects of 4 levels of expected grade (A, B, C, D)* on the five dependent variables: total satisfaction score, presentation, feedback, caring, professor rating. Significant differences were found among the four levels of expected grade on the dependent measures, Wilks's lambda= .93, $F(3,1342) = 8.035$, $p = .000$. The multivariate partial eta squared based on Wilks's lambda was quite weak at .023, indicating 2.3% of multivariate variance of the dependent variables is associated with the group factor. Descriptive Statistics table contains the means and the standard deviations on the dependent variables for the three groups as indicated in Table 1 (Appendix A).

Analyses of variances (ANOVA) on each dependent variable were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .025 level. The ANOVA on the presentation scores was significant: $F(3, 1338) = 28.28$, $p = .000$, partial eta squared = .06. The ANOVA on the Feedback scores was significant: $F(3, 1338) = 23.8$, $p = .000$, partial eta squared = .05. The ANOVA on the caring scores was significant: $F(3, 1338) = 18.3$, $p = .000$, partial eta squared = .04. The ANOVA on the professor rating scores was significant: $F(3, 1338) = 28.15$, $p = .000$, partial eta squared = .06. The ANOVA on the total satisfaction scores was significant: $F(3, 1338) = 27.16$, $p = .000$, partial eta squared = .06.

Post hoc analyses to the univariate ANOVA for the expected GPA scores consisted of conducting pairwise comparisons to find which GPA score has the strongest effects as measured by the satisfaction test and subtests tests. Using the Levene's test of homogeneity as a measure of equal variances, the hypothesis of no difference in variance was rejected and the Dunnett T3's was selected as a post hoc analysis. Each pairwise comparison was tested at the .05 divided by 5 which equals .01. The group of students who expected a grade of (A) scored significantly higher on the satisfaction questions in comparison with any of the other three groups. No other significant differences were found. This is particularly evident in the box plot as indicated in Figure 1 (Appendix B).

DISCUSSION

While preliminary data in this study pointed towards significant relationships between the variables of presentation, feedback, caring and instructor rating; subsequent data obtained using MANOVA pointed toward a single relationship in which students with expectations for a grade of (A) demonstrated higher levels of satisfaction. Additionally, the box plot indicated a trend towards increased satisfaction with increased GPA expectations. This finding may point toward an issue of student self efficacy as it relates to both expectations and satisfaction.

If self efficacy is indeed a significant variable as indicated by the results of this study, there are important implications for both research and practice. With regards to research, the authors believe there is a need for further study to confirm the relationship between self efficacy and student expectations and satisfaction. Such research might incorporate a quantitative study with pre-assessment of student self efficacy and grade expectations and post assessments of student satisfaction with instructor and actual GPA. Implications for practice might include counseling freshman and perhaps including initial student instruction designed to positively impact student self efficacy and belief in self. Such practices could have a direct impact on student performance and satisfaction with instruction.

APPENDIX A

Table 1

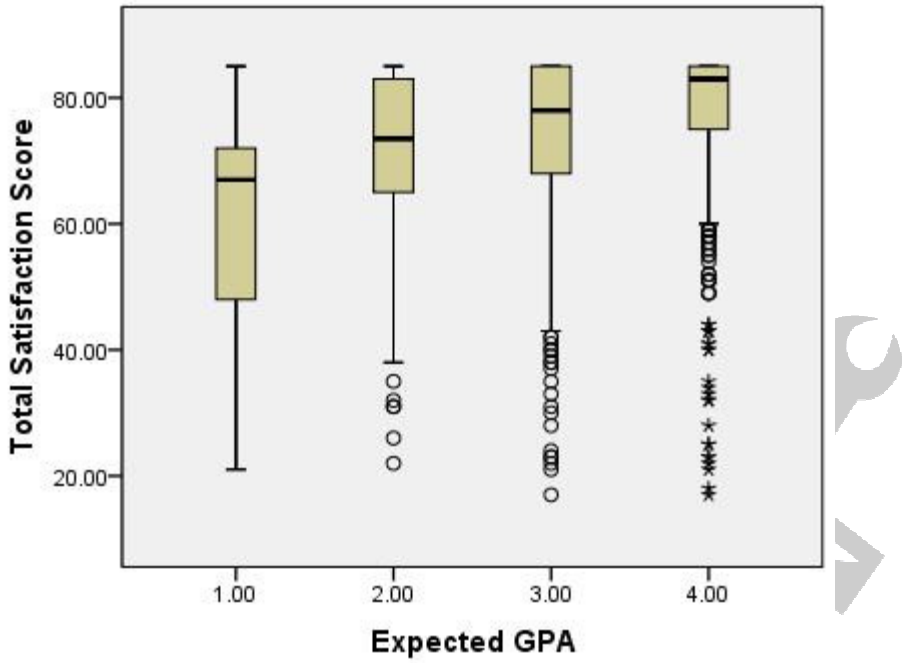
Descriptive Statistics

	Expected GPA		Mean	Std. Deviation	N
Presentation		1.00	16.5882	5.89554	17
		2.00	20.0636	5.05616	110
	dimension1	3.00	21.2091	4.36410	483
		4.00	22.5902	3.67247	732
		Total	21.8100	4.21288	1342
Feedback		1.00	18.2941	5.40561	17
		2.00	20.9545	4.39430	110
	dimension1	3.00	21.8986	3.68017	483
		4.00	22.9863	3.21332	732
		Total	22.3689	3.61623	1342
Caring		1.00	14.1176	4.92294	17
		2.00	16.5455	4.06515	110
	dimension1	3.00	17.3416	3.44808	483
		4.00	18.2090	3.11631	732
		Total	17.7086	3.41457	1342
Profrating		1.00	10.6471	3.69021	17
		2.00	12.4818	2.85982	110
	dimension1	3.00	13.2857	2.40011	483
		4.00	13.9699	2.00865	732
		Total	13.5596	2.32785	1342
Total Scores		1.00	59.6471	18.66461	17
		2.00	70.0455	15.48861	110
	dimension1	3.00	73.7350	13.15090	483
		4.00	77.7555	11.37648	732
		Total	75.4471	12.87992	1342

APPENDIX B

Figure 1

Box Plots Displaying the Effects of Students' Expected Grade on Satisfaction



* D and F were collapsed into D as there were insufficient numbers in F

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