

STUDENT ENGAGEMENT IN ONLINE BUSINESS CLASSES: COMPARING QUANTITATIVE AND NON-QUANTITATIVE CLASSES

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ABSTRACT

Although online learning is a relatively new phenomenon in the arena of higher education, its impact is measurable. U.S. based institutions of higher education began introducing their first online courses just over a decade ago. Yet, today, more than fifty percent of U.S. based degree granting postsecondary institutions currently have online course offerings, and many have fully online degree programs. The most recent estimate for Fall 2007 indicates a growth rate of 12.9 percent for online enrollment, which far exceeds the 1.2 percent growth rate of the overall student population (Allen and Seaman, 2008).

As with traditional face-to-face learning, stakeholders in higher education expect certain outcomes to be met with online learning in order to demonstrate its effectiveness. Previous studies examining traditional student outcomes based on test scores and grading, student attitudes and learning, and overall student satisfaction indicate learning outcomes of students in the online setting are similar to those in face-to-face settings (Palloff and Pratt, 2001).

In addition to these objective outcome measures, stakeholders continue to seek further evidence of meaningful learning with online education in part due to its relative newness as well as its departure from the traditional learning environment. Measuring student engagement in online learning has emerged as a potentially viable indicator of the quality of the learning experience. Student engagement consists of two key components of the student's educational experience. The first component is the amount of time and effort that a student expends on academic activities and experiences. The second component accounts for how the institution allocates resources, learning opportunities, and services to assist and encourage students to participate and benefit from their academic activities and experiences (Laird, Chen, and Kuh, 2008). As Carini et al. (2006) point out, the premise behind student engagement is deceptively simple: the more effort students put forth studying and practicing a subject the more they tend to learn. Further, as students practice and receive feedback about their writing, analyzing and problem solving, the more proficient they should become. Chickering and Gamson's (1987) widely cited report "*Seven Principles of Good Practice in Undergraduate Education*" suggests that the level of academic challenge, time spent on task, and participation in educational activities directly influence the quality of a student's overall educational experience. Thus, as Kuh (2001) reasoned, these indices of good educational practice can serve as an important proxy for quality in undergraduate education.

Although Chickering and Gamson's "*Seven Principles of Good Practice in Undergraduate Education*" were created for use in the traditional classroom setting, their application to the virtual classroom has been widely accepted. In 1996, Chickering and Ehrman published guidelines on how online education can remain consistent with the original seven principles. Thurmond, Wambach, and Connors (2002) later verified that these guidelines indeed apply to online education.

To measure student engagement, student surveys are often utilized for several reasons. First, they tend to be easier to develop and implement than tests of student knowledge and proficiency. Second, they are relatively cost-effective to administer and analyze. Third, student surveys can offer insight into the student experience—a central component of student engagement—more so than other sources (Carini, Kuh, and Klein, 2006).

Several studies have demonstrated that student questionnaires are likely valid and reliable, provided specific

conditions are meant: (1) the information requested is known to the respondent, (2) the questions are clearly worded and unambiguous, (3) the questions pertain to recent activities, (4) the respondents think the questions merit a thoughtful response, (5) the information requested is potentially verifiable, and (6) the question asks information that is known to those answering the questions and does not threaten, embarrass, or violate their privacy or encourage the respondent to respond in socially undesirable ways (Baird, 1976; Carini et al., 2006; Pace, 1984; Pohlman, 1974).

As an alternative measure of college quality, an annual assessment known as the National Survey of Student Engagement (NSSE) was developed using Chickering and Gamson's seven principles of good educational practice to evaluate different dimensions of student engagement. The five benchmarks that the NSSE was built around emphasize the significant link between effective educational practice and collegiate quality. The five benchmarks are: level of academic challenge, student-faculty interactions, active and collaborative learning, enriching educational experience, and supportive campus environment (Kuh, 2001). Robinson and Hullinger (2008) recently utilized a student questionnaire based on four of these five benchmarks to evaluate student experiences in online learning environments.

Within online business education, and perhaps online education in general, there are some educators who think that any subject can be successfully taught online while others think that the online medium lends itself to some subjects better than others. Among those who favor the second train of thought, skeptics claim that teaching quantitative classes online is "difficult, problematic, and substandard" (Adams, Glenn, and Adams, 2006, p. 129). Core classes such as operations management and management information systems are among the quantitative business classes cited as potentially problematic for online delivery (Adams et al., 2006; Piccoli et al., 2001).

For the present study, the level of student engagement is compared for quantitative and non-quantitative undergraduate online core business classes using self-administered student surveys that examined four of the five benchmarks of student engagement: level of academic challenge, active and collaborative learning, student-faculty interaction, and a supportive campus environment. Data was collected for all online core business classes at a mid-sized U.S. university from Fall 2005 to Fall 2008. Core business classes are required of all business majors, which improves the generalizability of results across various student demographics. By analyzing this data, this study makes an effort to further evaluate the effectiveness of online learning as well as to examine trends between and among online classes over time.

Confirmatory factor analysis will be used to verify the relationships between survey items and the underlying student engagement constructs. Once the survey instrument has been validated, analysis of variance will be used to compare student engagement between quantitative and non-quantitative courses. Additionally, correlation analysis will be used to assess relationships between student engagement and student perceptions of online education. Further, the longitudinal nature of the data will allow for comparisons across academic years.

The anticipated contributions of this paper include direct comparison of student engagement in online quantitative and non-quantitative core business classes, as well as insight into the relationship between student engagement and student perceptions of online business education. These findings add to the growing body of literature on student engagement in online education. Educators can use the results of these analyses to improve the quality of online core business classes.