

Blended learning in Undergraduate Education: The relationship between students' perceived course interaction and their satisfaction

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Abstract: New information and communication technologies (ICTs) have provided educators and learners with an innovative learning environment to generate new paths in the learning process. In this context, new educational concepts such as blended learning are being introduced. This style of learning is usually defined as the integration of traditional classroom methods with online activities. The purpose of this study was to examine the relationship between students' perceived course interaction and their satisfaction in a blended learning environment in undergraduate education. Study participants consisted of thirty-one undergraduate students. Ten of the participants were male and twenty-one were female. The participants ranged in age from 18 to 21 years old. At the end of this study, students completed a questionnaire with three sections. The first section included the students' demographic/personal data. The second section evaluated students' perceived e-learner satisfaction from the blended learning course and the third, students' perceived interaction with others. The correlational analyses identified a significant positive correlation between students' perceived course interaction and their satisfaction.

Introduction

New information and communication technologies (ICTs) have provided educators and learners with innovative learning environments to generate new paths in the learning process. In this context, new educational concepts such as blended learning are being introduced. The traditional environment in which Face To Face instruction takes place, typically occurs in a teacher-directed environment with live interpersonal interaction, and no matter how intensively technology is used, has some major restrictions such as the limited one-to-one teacher-student interaction, the delayed feedback that is given to the students and the limitations in visual aids and materials that the instructor can use in the class session (Wong, 2006). On the other hand, the electronic learning (e-learning) environments that have grown and expanded dramatically have created new paths for

communication, interaction and multimedia input. According to Wu, Tennyson, Hsia, and Liao (2008), e-learning suffers from a lack of social interaction between learners and instructors, although it may increase access flexibility for students and educators. In the search for another instructional delivery solution in order to relieve the above problems the term blended learning came along. “Blended learning is the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies” (Garrison & Vaughan, 2008). Blended learning goes beyond barriers of time and location and has created many enhanced opportunities for learners and instructors. Researchers have reported that students who participate in blended learning environments exhibit the same or better learning outcomes compared to traditional teaching (Chen & Jones, 2007; Melton, Graf & Chopak-Foss, 2009).

Students’ satisfaction has been reported to be a very important component for the successful completion of the course (Chang & Fisher, 2003). While a number of advantages have been recognized in employing blended learning, insufficient learning satisfaction appeared to be an obstacle to the successful adoption of blended courses (So 2006). Furthermore students’ satisfaction, attitudes and expectations, play an important role in evaluating the effectiveness of the educational process in a blended learning environment (Akkoyunlu & Yilmaz-Soylu, 2008). Yildiz (2009) reports, that according to social constructivist theory, learning occurs in a context of social interactions through reflection, collaboration, and articulation. In social constructivist learning environments, the teacher becomes a facilitator. One of the advantages of blended environments, which are based on social constructivist theory, is the increase in collaborative activities and interaction between student and student through tasks, and activities in and out of class (Tan, Yeo, & Lim, 2005). According to Garrison (2005) the nature of online interaction in teaching and learning is an aspect that should be studied thoroughly, implying that interaction is complex and has to be investigated deeply. It has been suggested that blended learning environment promotes student-centered learning and enhances teacher-student interaction and interaction between students (Carmody & Berge, 2005; Davies & Graff, 2005)

The purpose of this study was to examine the relationship between students’ perceived course interaction and their satisfaction in a blended learning environment in undergraduate education

Methods

Participants

Study participants consisted of 31 undergraduate students enrolled in the “Motor Learning” course in the Department of Physical Education and Sport Science at the Democritus University of Thrace. Ten of the participants were male and twenty-one were female. The participants ranged in age from 18 to 21 years old. The convenience sample of participants was entered into the study through their voluntary participation.

The blended course

The “Motor Learning” course was designed and developed as a blended learning course for the purpose of this study. The online component was delivered using the asynchronous course management system (e-Class). E-Class included course description, course schedule, documents (course content), announcements, forums, links and student papers. The online environment was used to create active learning opportunities for students that helped them engage with challenging concepts and provide self-assessment and self-reflection opportunities.

The course duration was 13 weeks, and the students met for a 90-minute lecture with the instructor six times, every second week. The blended learning course required self-paced learning time since the course content was online, resulting in a major reduction in classroom lecture time. The course commenced with a 90-minute Face to Face lecture where the learners had the opportunity to meet each other and the instructor. In this F2F introductory session students were presented with the learning objectives of the course. Students were also provided with an in-class orientation to the online portion of the course which would be an extension of what occurs in the classroom. Still, in the course syllabus students were also provided with all the information they will need to know about working online. Students were expected to log onto the course individually from home, work or a University computing cluster, whichever was most convenient, and read that week’s course material, download resources (such as lecture transcripts and journal papers), and follow instructions to complete tasks. The blended course was structured to include bi-weekly assignments focused on active-learning exercises. Assignments emphasized practical application and authentic tasks all complemented with textbook readings. Students were provided with feedback and correction weekly. Weekly quizzes and self-evaluation questions were given online. Assessments were spaced out throughout the course. Students could communicate and interact with the instructor and with each other by e-mail or over forums. Students were expected to post their comments regularly in an asynchronous online forum and to comment on and generate ideas with other students while the instructor moderated the procedure. Topics of discussions were related with the concepts introduced in the course’s modules. The moderator encouraged online interaction and students were aware that interaction was tied to grades. Also students were provided with guidelines about what constitutes participation. Students’ evaluation was based on their performance to the two weekly assignments and to an exam paper at the end of the semester and also to their participation in a weekly discussion concerning the thematic area of the week.

Data collection instrument

For the data collection at the end of this study, students completed a questionnaire with 3 sections. The first section included students’ demographic/personal data. Demographic information was collected to obtain descriptive characteristics for the students. The second section evaluated students’ satisfaction with the blended learning course and the third section evaluated students’ perceived course interaction. Both scales were adapted from Arbaugh (2000). The satisfaction scale that measured perceived e-learner

satisfaction had seven five point-likert type items, such as: I was very satisfied with the course; I feel that this course served my needs well. The scale focused on students' satisfaction with the course, their perception of its quality, and their likelihood of taking future courses with blended instruction. The course interaction scale included eight five point-likert type items, such as, Class discussions were more difficult to participate in than in other courses (R), I felt that the quality of class discussions was high throughout the course. In the second and third section of the scale there were positive and negative statements. The positive items were coded from 5 (strongly agree) to 1 (strongly disagree), and the negative items were coded from 1 (strongly agree) to 5 (strongly disagree) for each statement.

Reliability

The alpha reliability coefficient of the satisfaction scale was .80 indicating that the instrument was reliable. For the perceived course interaction scale, the alpha reliability coefficients were .71 indicating that the instrument was reliable.

Results

Demographics

A total of 10 (32.3%) of the students were male and 21 were female (67.7%). Overall 25 students reported their age as being 18 years old, 5 were 19 years old and 1 was 20 years old. The percentages of students' prior experience with blended courses are displayed in figure 1.

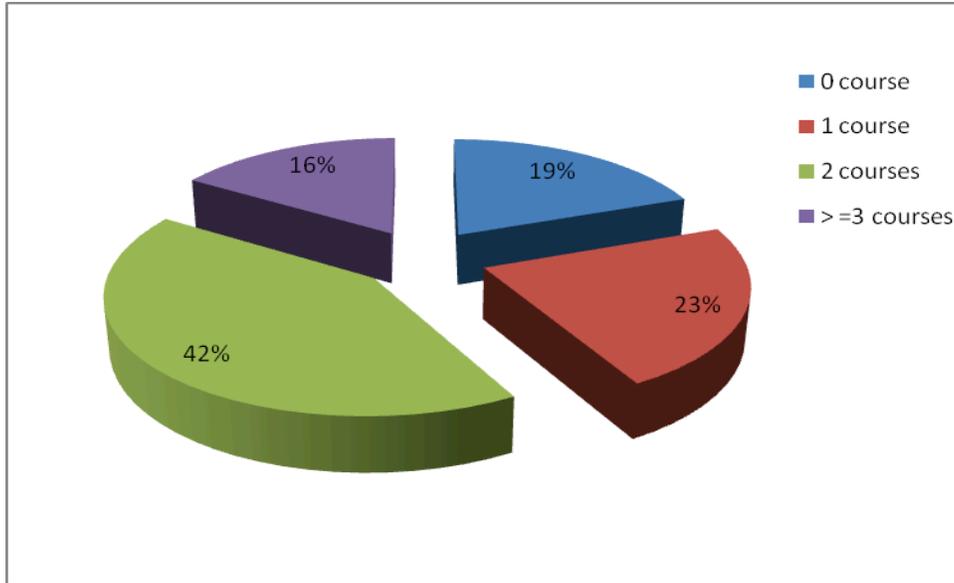


Figure 1. Percentages of students' prior experience with blended courses.

Relationship between students' perceived course interaction and perceived satisfaction toward blended learning

In order to investigate the relationship between students' perceived course interaction and perceived satisfaction toward blended learning, Pearson correlation coefficient was used. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The results of the correlational analysis have revealed a strong, positive relationship between the two variables ($r=.55$, $n=31$, $p<.001$), with high levels of perceived course interaction associated high levels of perceived satisfaction.

Means and standard deviations of students' attitudes and satisfaction are presented in table 1. There were no significant differences in satisfaction between male and female students.

Table 1. Means and standard deviations of students' perceived course interaction and satisfaction toward blended learning

	N	Average	Standard Deviation
Interaction	31	3.13	.44
Satisfaction	31	3.69	.69

Discussion

Blended learning endeavors to purposefully integrate online and traditional learning in order to create an innovative approach with its own merits (Allen, Seaman, & Garrett, 2007). According to the Centre for Educational Research and Innovation (CERI, 2005), blended learning courses are becoming increasingly significant to complement, not replace, traditional forms of teaching (Mitchell & Forer, 2010). While blended learning environment has been recognized as having a number of advantages, insufficient learning satisfaction is still an obstacle to its successful adoption (So & Brush, 2008). It has been suggested from the literature review that interaction between student and student through tasks, and activities in and out of class would be increased in a blended learning environment. According to Garrison (2005) the nature of online interaction in teaching and learning is an aspect that should be studied thoroughly, implying that interaction is complex and has to be investigated deeply. The purpose of this study was to examine the relationship between students' perceived course interaction and their satisfaction in a blended learning environment in undergraduate education.

Data analysis revealed that students were quite satisfied with the overall learning experience. Although students' satisfaction hadn't necessarily been associated with achievement, satisfied students seemed to be more motivate and are more likely to accomplish their cognitive goals. Also results indicated that the levels of students' perceived course interaction was quite high. Students seemed to have quite positive perceptions of their interaction in this course. Consistent with previous studies in the literature (Woods, 2002; Chen, & Chen, 2007) data analysis indicated that there was a significant positive relationship between students' perceived course interaction and their satisfaction. These findings seem to underline the importance of promoting interaction in blended settings. Specifically, when implementing the blended learning environment, instructors should motivate the positive interaction publicly to encourage collaborative learning interaction. This increase in the interaction could lead to higher level of satisfaction and learning (Swan, 2001; Chen et al, 2007).

In conclusion blended learning environment has been presented as a promising alternative learning approach (Graham, 2006) and may be capable of improving, expanding and even transforming FTF learning (Donnelly, 2010). Educators should embrace it and help students develop the necessary skills in order to demonstrate higher levels of interaction. Furthermore, obtaining student feedback about student's perceptions of blended learning environment is crucial for the successful design and implementation of the educational process.

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