Online Learning: Examination of Attributes that Promote Student Satisfaction

Marianne C. Bickle
University of South Carolina
bickle@hrsm.sc.edu

Ryan D. Rucker
Midlands Technical College
ruckerr@midlandstech.edu

Katherine Annette Burnsed
University of South Carolina
kburnsed@mailbox.sc.edu

Abstract

The purposes of this study were to examine students' satisfaction with online learning and identify attributes that contribute to humanizing the online classroom. A total of 228 students participated in the study, which attempted to determine whether students perceived a social presence in the online course as a result of a variety of communication tools used in group participation assignments. Findings revealed students' perceptions of a high-quality course were dependent upon continual communication with the instructor, a predetermined method of connecting students with one another and students' ability to express their opinions. Different group activities and the use of technology allowed online learners to make humanistic connections with other students and the instructor.

Introduction

Course technology is changing the nature of higher education as most educational systems offer at least a portion of its curriculum through an online format (Kreber & Kanuka, 2006). According to a 2018 report by Babson Survey Research Group, an organization that tracks online enrollment, the following statistics about higher education distance learning in the United States (as of Fall 2016) are known: (1) enrollments have increased for the past 14 years (2002-2016); (2) 70.8% of institutions had at least one distance education student; and (3) 31.6% of all students enrolled in higher education have taken at least one distance education course (Seaman, Allen, & Seaman, 2018). Additionally, the report provided the following about higher education distance learners as of Fall 2016: 68.9% were enrolled at a public institution; 82.62% were undergraduates, while 17.38% were graduate students; and 47.22% were exclusively taking distance courses, while 52.78% were taking a combination of distance and traditional face-to-face courses (Seaman, Allen, & Seaman, 2018). Given the consistent annual increases in enrollment, the numerous benefits that distance education provides learners (e.g., flexibility, no time and location restrictions, no time and costs incurred for traveling), and the fact that it is being widely accepted as a form of formal education (the stigma has diminished), research focused on students' satisfaction with online learning and how to humanize the experience is needed more than ever.

Review of Literature

A critical component to successful online learning is the continual occurrence of interaction toward the fulfillment of learning outcomes (Marshall & Wilson, 2013). Online learning offers an enhanced level of student-to-student and student-to-instructor accessibility throughout the day and often the evening, depending upon the instructor's guidelines (e.g., contact times). Unlike resident instruction, online learning offers students the expectations and ability to communicate with the instructor and classmates and access course materials regardless of the time or day (Solomon & Schrum, 2007). Students are not time or location bound; they are able to expand their learning opportunities regardless of the town they live, the hours they work or the dates committed to travel. While online learning is not expected to replace resident instruction, researchers agree that technology and the Internet play important and integral roles in teaching and learning (e.g., McCormack, 2010).

Memorization and recitation of information is long gone as the primary form of learning. Integration of the Internet and web technologies promotes student education from a higher level of critical thinking, learning and reflection (McCormack, 2010). As such, the purposes of this study are to examine students' perceptions of online learning and identify attributes that contribute to a sense of community and the humanization of the online classroom as a result of group assignments. Three research questions are investigated:

RQ1: Are students satisfied with a feeling of community within their group?
RQ2: Do students perceive the learning in the online course to be of the highest quality?
RQ3: What course attributes contribute to students' satisfaction in an online learning course?

Theoretical Framework: Social Presence Theory

Students' ability to learn, regardless of course content delivery method (i.e., traditional face-to-face or distance education), is dependent in part on a concept known as social presence (Zhan & Mei, 2013). Short, Williams, and Christie (1976) originally defined social presence as "the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships" (p. 65). In 2003, Garrison and Anderson redefined social presence in the context of learning as "the ability of learners to project themselves socially and emotionally as 'real' people into a community of learners" (p. 94). Altogether, social presence focuses more on the feelings of the relationship with others, rather than one's feelings about himself/herself in a specific academic domain (Zhan & Mei 2013). These relationships can be developed and exist between student-to-student interactions, as well as student-to-instructor interactions.

As social presence increases, so does the student's level of satisfaction with the course and his/her academic accomplishments (Zhan & Mei, 2013). Additionally, students are more willing to ask one another questions, share information and assist others with assignments (Yamada, 2009). As such, social presence encourages an active student-to-student and student-to-instructor learning environment.

Given the isolated learning nature of online education, a higher importance on social presence must be incorporated into online learning curriculum. Establishing a strong social presence is critical to the online student's success and satisfaction with a course (Richardson & Swan 2003; Swan, Shea, Frederickson, Pickett, Pelz, & Maher, 2000). Research has shown that shared experiences increase online students' level of satisfaction in the online course experience (Johnson, Hornick, & Salas, 2008). While student-to-student interaction is important for the enhancement of social presence in an online course, this alone will not increase the student's potential for success. For quality online learning to occur, the instructor must also establish a positive and effective social presence via constant discourse (Garrison & Cleveland-Innes, 2005).

The genesis of online courses saw students being identified solely by a name or email address. Today, online students are able to view the instructor and other classmates using a wide variety of technology. As such, social media, video cameras, blogs and Facebook are rapidly enhancing the social presence of online students (Seo, 2016). Facial expressions, reactions and non-verbal behaviors and comments are captured, thereby, allowing students to be identified as 'real' people within the learning community. Given the multitude of technologies available today, online course instructors are better able to create interactive courses and stimulating curriculum, while also fulfilling the course learning objectives (Marshall & Wilson, 2013).

Student Interaction Using Technology

Learning Management Systems (LMS) (e.g., Blackboard, Moodle, Sakai, Chamilo and Litmos) provide students with a wide variety of tools for communicating with the instructor, group members and classmates within a course. The interactive methods range from opaque to transparent. For example, a fairly opaque method of communication is the use of LMS email or discussion boards. Students can provide the necessary information for a course assignment and/or pose questions to other users, but are not required to reveal any visual information about themselves unless so desired.

In contrast, the LMS tool VoiceThread provides for a more transparent mode of class discourse via audio and video recordings. VoiceThread is an interactive, cloud-based, multimedia slideshow tool designed to stimulate student-learning engagement. The user (i.e., student, instructor) can communicate across the Internet, present documents (e.g., PowerPoint files) and demonstrate learning outcomes via the VoiceThread tool (e.g., Brunvand & Byrd, 2011; Koricich, 2013).

VoiceThread enables students to record their assignment via a web camera. Upon completion of the recording, VoiceThread produces a hyperlink to the individual student's assignment/recording, which can then be shared with group members in the class. If a student does not wish to be videotaped, VoiceThread possesses the capability to simply record the student's voice (i.e., a semi-transparent approach to course communications).

VoiceThread enables students to know one another as a community (Koricich, 2013). Viewing one another's video helps learners and instructors to better understand students beyond a name or email. Recognition of a face and hearing the student's recording helps build comradery among group members. Weekly discussions, group assignments and study sessions for exams are also enhanced via VoiceThread. Altogether, VoiceThread meets the needs of different learning styles while building learning communities. It is the researchers' belief that student learning and satisfaction will be enhanced through the inclusion of group assignments and use of a LMS in an online asynchronous course.

Methodology

Data Collection and Study Sample

Students at a major Southeastern university enrolled in a 14-week online course were the sample population. Data were collected among five different online courses (i.e., freshman to graduate level), offered within the same department, via a quantitative online survey based on the Technology Acceptance Model (TAM). The survey consisted of four sections: (1) students' satisfaction with a feeling of community within their group; (2) students' perception of the quality of the course; (3) course attributes that contribute to students' satisfaction; and (4) demographics. Satisfaction, perception, and course attribute variables were measured on a six-point Likert-type scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree, and 6=do not know/not applicable). Demographic data were measured using categorical measures.

All students enrolled in the five online courses were provided the opportunity to participate in the study and earn five extra credit points. A convenience sample of 228 students participated in the study; yielding a 97% response rate. Although the researchers knew which students had completed the survey (i.e., students emailed a snapshot of the final survey page verifying completion), participant responses remained confidential. To avoid any bias with course grading, results were not examined until the completion of the semester (i.e., after grades were submitted to the Registrar's Office). Because the five points were insignificant in relation to the total amount of points required in each course (ranging from 800 to 1000), the researchers do not believe the incentive influenced students' responses to the survey questions.

In order to ensure consistency among the five courses, each course consisted of eight required group assignments. At the beginning of the semester, students were randomly placed into groups ranging from four to five students; composition of groups remained the same throughout the semester. Each group self-selected a leader for the group assignments. The group leader initiated assignment cooperation and followed through to completion.

During the first seven weeks, students completed four group assignments using written technology (e.g., email, discussion board). After the written document was created by each group member, the group finalized the assignment using their desired method of communication (e.g., text, email, phone calls). Once group members agreed upon the conclusion of the assignment, the leader uploaded the written assignment to Blackboard.

In contrast to the written group assignments, students completed the final four group assignments using VoiceThread during the second seven weeks of the course. The primary difference between the first and second set of group assignments was that group members were able to visualize the characteristics and expressions of individual members via VoiceThread recordings. In many cases, group members indirectly revealed their personality by filming their VoiceThread within the confines of their home (i.e., house/apartment/dorm room).

After the initial thread was created, group members collaborated using their desired method of communication (e.g., text, email, VoiceThread, phone calls) until the assignment was completed. Once group members agreed upon the conclusion of the assignment, the leader uploaded the VoiceThread link to Blackboard.

Descriptive Statistics of Study Sample

The majority of the sample consisted of females (n=198; 88.8%) residing in the same city as the university (n=217; 95.2%). Five students did not indicate his/her gender. Approximately 87% (n=194) were between the traditional college age of 18-22 years old, while 12% (n=28) were 23 years or older. Six students did not provide their age. The ethnicity of the sample included: African American (n=20; 9.0%), Bi-racial (n=4; 1.8%), Caucasian (n=178; 79.8%), Hispanic (n=6; 2.6%), Native American (n=3; 1.3%) and other (n=12; 5.3%). Five students did not indicate their race.

Data Analyses and Results

Stepwise regression analyses using a Sl-entry of 0.05 and Sl-stay of 0.10 was conducted to test each research question. This method of analyses was selected because the analysis provided the ideal model for each research question; therefore, supplying the researchers with the most significant predictors (Ott & Longnecker, 2010). SPSS was the tool utilized for all statistical analyses.

RQ1: Are students satisfied with a feeling of community within their group?

Stepwise regression analysis was conducted to test RQ1. The dependent variable was students' level of satisfaction with a feeling of community within their group, while the independent variables consisted of the following: (1) ability to interact with other students in the course; (2) I am comfortable interacting with other participants in the course; (3) introductions enabled me to form a sense of online community; (4) I am able to form distinct individual impressions of some students in the course; and (5) I am comfortable conversing through this medium. Results reveal two significant predictors of students' satisfaction with a feeling of community within the group: (1) the ability to interact with other students in the course and (2) introductions enabled me to form a sense of online community (see Table 1). The R2 value for the model was 0.69, which revealed that 69% of the variation in students' satisfaction with a feeling of community within the group was explained by the two predictors. Support for RQ1 was provided.

Table 1

Regression: Students' Satisfaction with a Feeling of Community within the Group (RQ1)

Predictors & Model		*R*	R^2	*Sum of Square*	*df*	*Mean Square*	*F*
1	Regression	.79	.62	190.87	1	190.87	363.93***
Ability to interact with other students in the course.	Residual			112.76	215	.52	
	Total			303.64	216		
2	Regression	.83	.69	210.90	2	105.45	243.33***
Ability to interact with other students in the course.	Residual			92.73	214	.432	
The introductions enabled me to form a sense of online community.	Total			303.64	216		

Note. ***p≤.000.

RQ2: Do students perceive the learning in the online course to be of the highest quality?

Stepwise regression analysis was conducted to test RQ2. The dependent variable consisted of students' perception that the learning in the online course was of the highest quality, while the independent variables included students' level of satisfaction with (1) their ability to reach/communicate with the instructor; (2) the announcements provided by the instructor in relation to the group assignments; and (3) the student's perception that their point of view was being acknowledge by other students in the group. Results revealed two significant predictors of students' perception that the learning in the online course was of the highest quality: (1) I feel that my point of view is acknowledged by other students in this course and (2) announcements enhanced my level of learning in this course (see Table 2). The R2 value for the model was 0.60, which revealed that 60% of the variation in students' perception that the learning in the online course was of the highest quality is explained by the two predictors. RQ2 was answered in the affirmative.

Table 2

Regression: Students' Perception of Learning in the Course is of the Highest Quality (RQ2)

Predictors & Model		*R*	R^2	*Sum of Square*	*df*	*Mean Square*	*F*
1	Regression	.68	.46	140.57	1	140.57	191.72***
I feel that my point of view is acknowledged by other students in this course.	Residual			159.10	216	.73	
	Total			299.67	217		
2	Regression	.77	.60	180.64	2	90.32	163.91***
I feel that my point of view is acknowledged by other students in this course.	Residual			119.02	215	.55	
Announcements enhanced my level of learning in this course.	Total			299.67	217		

Note. ***p≤.000.

RQ3: What course attributes contribute to students' satisfaction in an online learning course?

Stepwise regression analysis was conducted to test RQ3. The dependent variable was students' overall satisfaction with the course, while the independent variables consisted of the student's (1) ability to reach/communicate with the instructor; (2) ease of uploading assignments into Blackboard; (3) quality of information provided by the instructor; (4) ability to interact with other students in the course; (5) feeling of a community within the group; and (6) response rate of the instructor in getting back to the student. Results reveal five significant predictors of students' overall satisfaction with the asynchronous online course: (1) quality of information provided by the instructor; (2) the ability to interact with other students in the course; (3) the response rate of the instructor in getting back to the student; (4) the ability to reach/communicate with the instructor; and (5) the feeling of a community within the group (see Table 3). The R2 value for the model was 0.82, which reveals that 82% of the variation in students' overall satisfaction with the course is explained by the five predictors. RQ3 was answered in the affirmative.

Table 3

Regression: Students' Overall Level of Satisfaction with the Course (RQ3)

Predictors & Model		*R*	R^2	*Sum of Square*	*df*	*Mean Square*	*F*
1	Regression	.85	.73	190.27	1	190.27	610.16***
Quality of information provided by the instructor.	Residual			67.67	217	.31	
	Total			257.94	218		
2	Regression	.88	.78	201.85	2	100.92	388.61***
Quality of information provided by the instructor.	Residual			56.09	216	.26	
Ability to interact with other students in the course.	Total			257.94	218		
3	Regression	.88	.80	208.38	3	69.46	301.32***
Quality of information provided by the instructor.	Residual			49.56	215	.23	
Ability to interact with other students in the course.	Total			257.94	218		
Rate of the instructor in getting back to you.							
4	Regression	.90	.71	210.27	4	52.56	235.96***
Quality of information provided by the instructor.	Residual			47.67	214	.22	
Ability to interact with other students in the course.	Total			257.94	218		
Rate of the instructor in getting back to you.							
Ability to reach/communicate with the instructor.							
5	Regression	.90	.82	211.56	5	42.31	194.30***
Quality of information provided by the instructor.	Residual			46.38	213	.21	
Ability to interact with other students in the course.	Total			257.94	218		
Rate of the instructor in getting back to you.							
Ability to reach/communicate with the instructor.							
Feeling of a community within your group.							

Note. ***p≤.000.

Discussion

Student-to-student and student-to-instructor interactions are essential for a feeling of social presence and community within the classroom (e.g., Zhan & Mei, 2013; Short *et al.,* 1976). As students' feeling of community increases, their willingness to ask questions, participate in class assignments and share information increases (Yamada, 2009). The isolated nature of an asynchronous course places an increased level of importance on the integration of socialization and community building activities within the course. Results of this study demonstrate that the integration of a variety of technologies (e.g., email, discussion board, Voice Thread) assisted students in feeling a sense of community within their groups.

Within the confines of the five courses used in this study, students were required to complete a variety of assignments using various forms of technology. The findings supported previous research that state the use of various forms of technology and assignments can be used to promote critical thinking, learning and reflection in an online learning classroom setting. This form of learning promotes quality learning (McCormack, 2010).

This study demonstrates that students felt (a) a sense of community and (b) the courses offered the highest level of learning. In other words, the asynchronous online course did not place them at a disadvantage from working and meeting with their classmates or learning about the course subject matter. From an instructor point of view, it is imperative to understand which attributes are important from the student's point of view in the learning process.

Results of the study revealed an overarching theme, that of communication and availability, through the use of technology. Students were satisfied with the online course when they had a sense of connection to the instructor, other students and the course material. Timeliness of response rate of communication and ability to obtain information were paramount to student satisfaction. These results were to be expected. Prior research demonstrated that interaction and availability were key components to student satisfaction with online learning (Marshall & Wilson, 2013). Furthermore, different forms of technology, when used appropriately, enhance communication (e.g., McCormack, 2010).

Conclusions, Limitations, and Future Research

An increasing number of institutions of higher education are offering synchronous and asynchronous online courses. This form of learning is becoming increasingly common due to rising popularity among students, limited physical space among institutions and the flexibility it offers students and professors alike. When offered in a quality manner, online education provides students

with an avenue to earn a higher education degree while continuing to work, care for family members and/or reside at home.

The examination of coursework at the various levels (i.e., freshmen to graduate level) are encouraging. The predominately female population residing in the same city as the University suggests that students enrolling in the major are a result of the flexibility offered by online education. The quality offered by online courses provides students with the same content and learning outcomes as residential instruction. While the percentage of students enrolled in the online courses living outside the city (n=11; 4.8%) and state (n=1; .04%) is small, this group lends strengths to the necessity of infusing methods of social presence into an online learning format. Online learners may not know students on the campus and have a feeling of logistical exclusion. Technology that enhances their feeling of social presence in the classroom and with other students in the course may improve their overall enjoyment of the course and learning opportunities.

This study consisted of data collected from students enrolled in five different retailing related asynchronous online learning courses offered over the course of two semesters. These courses were included because the major offers more online learning courses than any other major within the college. The primarily female sample may lend a particular view toward completing group projects and/or communicating via technology. Further research on social presence is warranted whereby a more male-dominant college major is surveyed. Future research will also be conducted on the influence visual identification of group members has on the socialization of the online classroom.

Similar to most social science research, this study is not generalizable to the entire online learning community. The findings, however, are important and make headway into understanding how to improve the asynchronous classroom. The researchers plan to continue researching the important topic of social presence. As such, future research will examine social presence based on the number of online learning courses taken and requirement for taking online learning. The researchers plan to examine social presence using longitudinal data and a larger sample size.

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