STUDENTS' PERCEPTIONS OF ONLINE LEARNING AND INSTRUCTIONAL TOOLS: A QUALITATIVE STUDY OF UNDERGRADUATE STUDENTS USE OF ONLINE TOOLS

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ABSTRACT
The purpose of this study was to describe undergraduate students' experiences and perceptions of online courses based on interviews, observations, and online focus groups. I describe (a) motivational and learner characteristics within online classes, (b) the positive and negative aspects of online courses as experienced by students, (c) what instructors can do to improve the teaching of online courses, and (d) how undergraduate students' perceptions of the online learning environment and the tools used affects the selection of their approach to learning.

Data analysis from this study produced five primary findings across the four research questions. The first finding is the role of communication in shaping students' perceptions and approach to learning. The second finding is that participants did not perceive the negative attributes of technology to be inherent to the technology itself but in its use and implementations. Included in this second finding is that the tools used were not as important as the quality of communication and that the value assigned by students to any tool is influenced by the way the tool is implemented. The third is that course organization is key to student learning and success. The fourth is that student' approaches to learning appeared to be shaped by both the structure of the learning environment and the nature of assessments used in the online environment. Included in this fourth finding is students' perceptions of online learning as being less academically rigorous than their experiences in face–to–face education. The fifth is that students use nonacademic resources to locate information rather than the university library.

Presentation will consist of a summary of students' perceptions and an overview of methodology, including the movement from face-to-face focus groups to an online model and the use of think-aloud observations and interviews in collecting data on online student learning.

INTRODUCTION

The number of students taking at least one fully online class from an accredited university in the United States has grown significantly over the past decade. Between 2002 and 2007, the number of online students jumped 145%, from 1,602,970 to 3,938,111. Moreover, of the 17,975,830 students enrolled in degree–granting postsecondary institutions in the US in 2007, 21.9% were taking courses online (Allen & Seaman, 2008). This upward trend in online enrollment, which is expected to continue well into the second decade of the 21st century, clearly poses a number of challenges to the education community (Allen & Seaman, 2008). How will universities handle such a rapid increase in the number of online students? What alternative course delivery methods will best meet online students' needs? To date, much research has been focused on the former question and, in particular, on the technical aspects of online education such as access and information delivery. Research in the area of the latter subject is growing but has overlooked one critical aspect that needs to be understood if electronic learning (e–learning) is to be made more effective in the future: how do student perceptions impact their actions, approaches, and learning within the online educational environment?

PURPOSE

The purpose of this study was to describe undergraduate students' experiences and perceptions of online courses based on interviews, observations, and online focus groups. I describe (a) motivational and learner characteristics within online classes, (b) the positive and negative aspects of online courses as experienced by students, (c) what instructors can do to improve the teaching of online courses, and (d) how undergraduate students' perceptions of the online learning environment and the tools used affects the selection of their approach to learning.

SIGNIFICANCE OF THE PROBLEM

Research into the effectiveness of online instruction has looked primarily at individual implementations of instructional methods within a single class or set of classes taught by a single instructor (Means et al., 2009). Where this study differs is that it investigates online instruction in the typical faculty-developed course, that is, approaching online instruction from the student perspective in a mix of "typically" delivered and designed classes. These classes were not the exceptional online class designed to investigate a new or innovative online practice, they were simply what Edventures (2009) would term the current state of online instruction.

This study provides a rich, complex, and detailed picture of students within the online learning environment. By organizing the analysis of data and content around approaches to learning, learner–centered tools can be

developed that promote deep learning approaches in undergraduate students during online learning experiences. Results from this study yielded recommendations for changes in the design of online and e–learning that encourage student learning that is aligned with faculty, student, and institutional perceptions of online education. Faculty may be expected to improve their online instruction through a clearer insight into the effects of course management tools.

Developing effective online learning environments is becoming a challenge for many universities. Current trends in education, which include shrinking funding, have spurred greater competitiveness among universities as they seek new ways to attract students not only in traditional environments but also in the online environment. In both, it is important to maintain academic integrity and to ensure high levels of student learning and by achieving a better understanding of students' needs in relation to their learning, online education can be improved an its value as an educational tool increased. By investigating ways that students perceive and interact with the learning environment, it may be that the design of the online learning environment can be better developed to support learning.

From a business of education standpoint, it is essential to remember that practitioners of education should not only be concerned with the number of degrees awarded but also the quality of student learning obtained in achieving those degrees. Thus, the focus of this study was on the students, who they are and how best they can be served.

DESIGN, COLLECTION, AND EVALUATIVE FRAMEWORK

The methodology used in this study was derived primarily from research into student learning and the selection of approach, in the tradition of Marton and Sajjo (1976), Entwistle and Ramsden (1983), Biggs (1987), Prosser (1999), and Ramsden (2002). Central to this approach is the perspective of the student regarding both the process and outcomes of learning and instruction. Qualitative data-collection techniques were used to obtain and describe undergraduate student views on online instruction, online learning tools, and instructional processes. Three stages of data collection were used in this study these were (a) one-on-one open-ended interviews, (b) think-aloud observation, and (c) online focus groups. The main data collection was student interviews. Data from think-aloud observations and online focus groups were used to confirm findings from the interviews. Data were collected between the Summer and Fall academic sessions of 2008 at two sites. Additional data were collected in the Summer of 2010. This study will continue and be updated with data collection resuming in the Summer of 2011.

SETTING

The sample consisted of 16 undergraduate students who had completed or were enrolled currently in an online course at one of the two universities. Students were recruited to participate in one or more of the data-collection methods; these were 11 in the interview process, 8 in the think-aloud observations, and 8 in the online focus groups: 5 in one group and 3 in the other group. Student participants were mostly in their mid–20s; 10 were female, and 6 were male. Three students participated in all three data-collection methods, five students participated in two of the data-collection methods, and eight students participated in only one data-collection method.

All students were drawn from religiously affiliated universities in Northern California. Both universities (S1 and S2) are primarily undergraduate universities, whereas university 2 (S2) has a more diverse population both in age and ethnicity. The graduate populations at both schools were not included in this study. University 1 (S1) is a medium–size, private university with a student population of approximately 8,500: about 5,000 undergraduate students and 3,500 graduate students. The undergraduate population has a male to female ratio of 45% to 55%, and about 35% of undergraduate students identify themselves as persons of color. Almost 60% of undergraduates are from California, with the others coming from throughout the United States and more than a dozen foreign countries. Between 65% and 70% of undergraduate students receive some form of financial aid: scholarships, grants, or loans. University 2 (S2) has an undergraduate population of approximately 5,500 and a graduate population of approximately 3,300. The ethnic breakdown for S2 is as follows: European American 39%, Asian American 20%, Latino or Hispanic American 15%, International 7%, African American 4%, Native Hawaiian or Pacific Islander 2%, and Native American 1%, with 11% unidentified.

Faculty participation in this study was not a requirement. Two of the faculty from S1 met with me prior to the start of data collection. The purpose of this meeting was to discuss the upcoming course offerings and the data-collection process. Currently, the majority of online course offerings at S1 are within the College of Arts and Sciences academic summer programs; the remaining offerings are in the business school and the law school.

Students in S1 for this study were primarily from the College of Arts and Sciences and the School of Business undergraduate programs. Students from S2 were drawn from business and nursing.

FINDINGS

The framework of approach to learning is used to analyze the data collected for this study. Three approaches to learning as described in the literature are called "deep," "strategic," and "surface." Strategic learning is sometimes called "approaching," depending on the researcher and the nature of the study. Deep learning is defined as examining new facts and ideas critically, tying them into existing cognitive structures, and making numerous links between ideas (Rosie, 2000). The deep learner is able to retain information and to organize materials in a variety of ways that aid in making meaningful connections that promote learning. Characteristics of deep learning include: looking for meaning, focusing on the central argument or concepts needed to solve a problem, interacting actively, distinguishing between argument and evidence, making connections between different modules, relating new and previous knowledge, and linking course content to real life. The strategic learner is a student who intends to achieve the highest grade possible through effective time management and organized study methods. Students exhibiting a strategic approach are focused on the assessment process (Entwistle & Ramsden 1983).

I examined participants' responses in interviews, think-aloud observations, and online focus groups; categorization of responses was based on the tools mentioned, statements of value, and perceptions of positive or negative effect on learning. The think-aloud observations and online focus groups served to confirm or add insights to data collected during the interview process. Sixteen undergraduate students who had completed or were enrolled in an online course at one of two universities participated in the study. Of the 16 students, 11 participated in the interview process, 8 in the observations, and 8 in online focus groups. Three students participated in all three data-collection methods, five students participated in two of the data-collection methods, and eight students participated in only one data-collection method.

Analysis of the data from interviews, think-aloud observations, and online focus groups produced five major findings. These five findings are (a) the role of communication in shaping perceptions and actions of students, (b) how technology is used not the technology determines its value, (c) the role of course organization for students success, (d) approaches to learning are shaped by students perceptions as are students determination of academic quality, and (e) students use nonacademic resources because of ease and familiarity.

The role of communication in online learning took many forms and was dominate in every data-collection method. Although students took online courses because they wanted independence and self-regulation, they also stated a desire for concise directions on everything from assignments and assessments to when and how to access course information. The expectations for communication went beyond just a need for direction. All of the participants expresed a view that faculty was "missing" from the educational conversation. How instructors communicate online was perceived to a limitation of online learning. When communication was perceived lacking, participants lower their approach learning electing for more strategic or surface learning.

Participants did not perceive the negative attributes of technology to be inherent in the technology so much as to its use and implementation. What participants expected was that communication technologies would be used in ways familiar to them and in providing a timely response to participants' educational needs. Indeed, poor technology implementation was mentioned in association with the lack of organizational structure found in some online instruction. In interviews, think-aloud observations, and online focus groups, participants expressed the perception that faculty lacking in technology skills were likely to use or implement technology in a way that resulted in confusion.

All 16 participants stated that the main reasons for pursuing online instruction were flexibility and self–control within the learning environment. Participants perceived online learning to be a convenient alternative to traditional classroom learning but indicated that convenience came with a price: in gaining independence, self–directed learning, they were losing direction from and communication with instructors. In some instances, this tradeoff was perceived to decrease the educational and academic value of the learning experience. For these participants, academic value was perceived to come from interaction and engagement from peers and faculty. Participants indicated that without necessary direction from faculty online learning allows for an approach to learning that is more surface– or strategic–oriented than is the case in the traditional face–to–face classroom experience.

The resources provided by universities for students research and information gathering were perceived to of less value then nonacademic tools. The use of nonacademic database sources was especially true when participants

were asked to use online databases to perform research. During the think-aloud observations, participants used Google® and Wikipedia® before those resources provided by the university. When asked to explain their use, participants stated that Google® and other free tools are familiar and do not have the access restriction placed on them that university systems have. Additionally, participants stated that the university tools were cumbersome and hard to navigate.

In summary, tools used for communicating or conducting research were not as important as the communication itself. Perceptions of value for any tools used depended not on the tool but on the speed and consistency of communications. Participants did not perceive the negative or positive attributes of tools or technology to be inherent to the technology itself, but to its use and implementations. When faculty were perceived to be unresponsive, it was not the tool that was perceived to be of little educational use but the level of communication. When faculty were perceived missing from the educational conversation the academic quality was perceived diminished compared with face-to-face instruction. When the academic quality was perceived low, participants exhibited a strategic or surface approach to the learning.

RECOMMENDATIONS FOR FUTURE RESEARCH

Although this study confirmed past research results (Cotton, 2006), it is believed that a more thorough study will provide additional data on students' perceptions and use of the online environment in the promotion of learning. Although the study was limited to two religiously affiliated institutions with limited online programs, a larger study would offer results that could be applied more generally. This study was conducted in primarily short 5-week summer online courses with limited enrollments. The exceptions to the summer courses were two short 5-week courses at University 2 (S2) in the Fall of 2009 and the OMIS course taught by me during the regular 10 week sessions at University 1 (S1). It is possible that selection of a small range of online courses produced a limited range of course interactions. Because of this limitation, a larger study conducted in a wider range of disciplines may produce a different set of results. One such study, just completed and published, showed similar findings, yet was able to look more closely at students' approach to learning through a wider set of interviews and other data-collection methods (Ellis & Goodyear, 2010). Ellis and Goodyear were able to draw a relationship between online discussion and student approach to learning. In particular, Ellis and Goodyear found statistically significant relationships between deep approaches, cohesive conceptions, positive perceptions of the learning context, and higher levels of student performance. Although the collection of student performance data can be problematic, more studies investigating students measured use of approach in relation to student outcomes in online learning could prove useful.

Perceptions of communication played an important role in the results of this study. Although this study relied on students' perceptions of communication and observations of their actions within the online environment, actual communications were not assessed. Future studies that look at possible links between faculty use of communications, the content and amount and communications online, and the perceptions of students may be warranted.

This study and others have investigated only a few of the possible relationships between perception of the online environment, the tools used, students' approach to learning, and students' perceptions of learning. A more focused investigation of student perceptions of the design of online learning, including Internet resources, the role of community, and social networking is needed. Although Internet resources and community and social networking were mentioned in this study, they may play a larger role in student communication and learning than was described in this study.

An additional phenomenon not investigated fully by this study is the link between perception and outcome. Assuming a link between perception and outcome based on past research may not be sufficient when considering the online environment. An investigation of the relationships between online perceptions, approach, and outcomes is an area that may merit further research.

Comparing students' expectations and actual use of communication technology with the use and expectation in the online classroom could inform future studies on student perceptions of online learning. Faculty use and knowledge also may effect student perceptions. Additional factors not investigated in this study include (a) institutional beliefs around online learning, (b) the place of online learning in the strategic plan of the university, and (c) the implementations of teaching standards related to online instruction.

Studies investigating faculty perceptions and training are numerous; however, the link between faculty training in the use of standards for the development of online courses and student perception and outcomes is not well understood. What participants say they want in an online course and the standards as written into resources such

as the Rubric for Online Instruction (ROI) are similar. These similarities include more communication, faster response time, and more engagement with peers and faculty. The standards used in the ROI, and other such tools, are widely used teaching the development and assessment of online education across the United States and other countries, but studies linking the standards contained in the ROI to student perception are limited, as are studies linking the use of the ROI to either student approach or increased student outcomes. An investigation of the effects of the ROI on perception, approach, and outcome may provide educators a better understanding of how best to design online education in the future. One possible outcome of such research may be that including basic teaching strategies not specific to the online environment are not necessary in tools like the ROI and that including such information diminishes there value to faculty.

Although not specifically a limitation, one area of concern within this study is that participants' statements of response time was not followed up on during data collection. All participants stated that faculty and students were unresponsive at some time yet a precise time was never ascertained. Investigating what is an appropriate response time for e-mail, discussions, and assignments may be an area of further research.

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