Using Online Technology to Encourage More Student Participation in a Communication Theory Course

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ABSTRACT

Using technology to support learning and assessment has been advocated in academic circles. Supportive reasons include the promise of delivering increased access, quality and efficiency in an increasingly competitive market, but the need for rigour in studies of the outcomes of the use of technology has been also noted. The use of technology enhances actual student learning and significant and non-significant differences exist when traditional courses and courses using technology are compared. However, in the case of blended instruction using traditional lectures and online technology, the evidence seems to be less dichotomous and less straightforward. This study explored the use of an online course management course, Moodle, to encourage participation by students. Communication majors (n=54) enrolled in a communication theory class in one of the campuses of a regional university were invited to submit an assignment for a guest lecturer. Student online responses to the assignment were collected, analyzed and compared with traditional submissions from the same students. The results suggest students are reluctant to embrace online technology without adequate support and preparation. These results have implications for the use of online technology in blended learning environments.

Keywords: Educational Technology, Blended Learning Environment, Participation, Assessment, Instructional Development, Communication

1. INTRODUCTION

Issues relating to the use of technology in teaching, the use of blended learning, and the effects of such uses on learning outcomes have generated recent interest. Much of the work on technology use has focused on significant and non-significant differences in measurable outcomes in courses using technology and those using traditional delivery methods [1]. Other studies have focused on student perceptions suggesting cautious optimism [2], have provided evidence of enhanced learning [3, 4], and the potential impact of student characteristics as moderators [5] and have found that students’ comfort and familiarity with technology affect student learning [6]. More recently, there has been a focus on the actual effect of technology use on learning outcomes using an objective measure such as student performance, and the moderating effect of student and course characteristics [7]. These researchers found support for the “generally held tenet that the use of technology can and does enhance student learning” and extended “this tenet by demonstrating the relationship through an actual measure of student learning” (pp. 320-321). Despite the research so far, it is not clear why similarities or differences may exist in student traditional and online assignments in a blended learning environment. This paper explores the impact of the use of technology to support learning in a communication theory class by comparing student online and traditional responses to class assignments, and seeks to account for the findings. The purpose of this paper is to investigate the development of online assignment submissions and to compare and contrast them with traditionally submitted ones. An understanding the associated process and product can be used to improve instructional development in teaching and learning scholarship.

2. LITERATURE REVIEW

Technology in Teaching

Using technology to support learning and assessment has been advocated in academic circles. Educational technology “encompasses any means of communicating with learners other than through direct, face-to-face, or personal contact” (p. 9) [8]. The reasons for using technology in this way include the promise of delivering increased access, and improving quality and efficiency in an increasingly competitive market, but the need for rigour in studies of the outcomes of the use of technology has been also noted [1]. The use of technology enhances actual student learning [6] and significant and non-significant differences exist when traditional courses and courses using technology are compared [1]. The investigation of technology use in a communication context is limited to the effect of communication apprehension and speaking skills in traditional and online public speaking courses [9], and has been found deficient in problems with sample sizes, outcome measures, and reliance on non-quantitative and self-report data [10]. Thus, there are mixed views on the role of technology in enhancing learning, and there is a need to understand the application of this issue in a communication teaching and learning environment.
Blended Learning
Blended learning, sometimes called hybrid learning or mixed learning, combines multiple approaches to learning. These approaches may include a combination of technology-based materials and face to face-face sessions used together to deliver instruction such as when an introductory lesson is supported by online materials [11] and when more guidance is provided early in the process and reduced as learners become more experienced [12].

There are three main models associated with blended learning. For example, skill-driven, behaviour- or attitude-driven and competency-driven models use appropriate approaches [13]. The skill-driven model emphasizes “blended learning that's skill-driven [and] mixes interaction with a facilitator through email, discussion forums, and face-to-face meetings with self-paced learning, such as Web-based courses and books. This type of approach is analogous to a chemical reaction, in which interaction with the instructor or facilitator acts as a catalyst to achieve the desired reaction—learning.” The Faculty Certificate Programme on Teaching and Learning offered at the University of British Columbia would be a good example of skill-based blended learning. The behaviour-driven or attitude-driven approach “blends traditional classroom-based learning with online collaborative learning events. At times, the nature of the content, as well as the desired outcome (developing attitudes and behavior) necessitates the inclusion of collaborative learning that’s facilitated through face-to-face sessions or technology-enabled collaborative events”. The competency-driven model focuses on the application of tacit knowledge to practical situations supported by mentoring. Accordingly, “the success of knowledge workers depends on how quickly employees make decisions in the work place. While part of the decision-making process is guided by common facts and working principles, people also need tacit knowledge that's often retained by experts. Learning that facilitates the transfer of tacit knowledge requires a competency-driven approach. Because people absorb tacit knowledge by observing and interacting with experts on the job, activities may include a blend of online performance support tools with live mentoring”.

Blended learning is learning that is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning, and founded on transparent communication amongst all parties involved with a course [14]. However, this source notes note that outside of higher education contexts, terms such “communication”, “transparency”, “parties” and courses” are open to varying and ambiguous interpretations. Within a higher education context, however, it is not clear whether there are similarities or differences in student responses to traditional and online assignments in a communication context. If such similarities or differences exist, it would be useful to understand the factors which might account for those similarities or differences.

In sharing their experience at the University of Central Florida, researchers refer to a continuum of blended learning that ranges from web-enhanced courses that make significant pedagogical input without reduced seat time and blended learning that combines face-to-face learning with technology with reduced seat time [15]. They recommend that blended learning should be viewed as “a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced possibilities of the online environment, rather than a ratio of modalities” (p. 3). In this way, they contend, blended learning has implications for instructional design, such as more student-centred rather than lecture-centred curricula, increased interaction between students and teachers especially outside of class hours and office hours, and integrated formative and summative assessment mechanisms for students (p. 3).

Although there is much support for technology use in teaching, and the use of blended learning, in the case of blended instruction using traditional lectures and online technology, the evidence seems to be less dichotomous and less straightforward. The study’s purpose was two-fold. First, the similarities and differences between online and traditionally submitted assignments were compared as a means of assessing student participation. Second, student performance on the assignment was compared to performance on other measures to see whether there was any association between participation in online support and performance in the course.

Participation
Aspden and Helm studied the effect of blended learning environments (BLEs) on student engagement and interaction [16]. Their review (pp. 246-247) showed that BLEs can encourage “high contact” situations [17], and draw staff and students together virtually and physically [18, 19]. They also argued that while access to information is important, intellectual development is fostered through active engagement and interaction with others [20]. BLEs also have the potential value of encouraging contact and cooperation between staff and students highlighted by the use of seven principles for good undergraduate education [21, 22] as demonstrated by the application of these principles [23]. Aspden and Helm’s [16] analysis of the range of themes in students’ self-report data at Sheffield Hallam found two main themes: connectedness between students and their learning experience and feelings of isolation which prevent effective engagement. They concluded, however, that where there is connectedness, BLEs can provide opportunities for independent work and collaboration and create an expectation of constant access to resources and people that needs to be met (p. 251). Where there are feelings of isolation, BLEs afford
opportunities for patching broken contact and connection in two main ways. Students who feel left behind can use the online environment for reflection and wider peer interaction. Students who encounter barriers with online communication can use “face-to-face opportunities for socialization or academic work” (p. 251). Student participation, then, can be defined positively as levels of connectedness, interaction and collaboration which can be negatively affected by feelings of isolation, and broken contact and connection.

The theoretical issue for this paper may be framed in this way. If technology contributes positively to teaching as in the case of blended learning environments involving traditional and online instructional support, how is participation encouraged by these factors? This question is addressed by comparing students’ responses to the use of technology in a blended learning environment, as well as their performances as indicators of the level of participation in the context of teaching and learning experiences in a communication theory course.

3. METHOD

This study explored the use of an online course management course, Moodle, to encourage participation by students. Communication majors (n=54) enrolled in a communication theory class in one of the campuses of a regional university were invited to submit an assignment for a guest lecturer. Student online responses to the assignment were collected, analyzed and compared with traditional submissions from the same students.

Lecture (Monday November 12 2007):
The lecture on cultural studies and communication took place in week 10 of a 13-week semester course for communication majors taking a course in communication theory (n= 55). In addition to the lecture discussion and activity conducted in class on November 12, online materials were posted the week before but were available to students from the morning of the lecture. A class demonstration was used to show students how to access them. The materials included a summary of the main tenets of Cultural Studies, a PowerPoint presentation of the lecture, three resources and three optional assignments each related to each resource.

Blog (Tuesday November 13 2007 9:19 am):
The guest lecturer posted a blog to provide students with an opportunity to give feedback on the lecture.

Assignments (Monday November 19 and 21 2007)
Students participated in informal in-class group discussions and oral presentations during the second half of the lecture, as well as formal group and individual assignments available online. All students submitted the group assignment online, but some opted to submit their individual assignments (1, 2 or 3) online or use the traditional typed hard-copy format.

During the second half of the lecture students, the class was divided into its four workshop groups, students spent 30 minutes discussing their individual responses to the assignment, and then one member reported the group view. Each group nominated a presenter and a person responsible for posting the group’s response to the assignment online. Each group had to provide an online group response to the assignment. This was due by Wed November 14 before their small group workshop with a tutor. When students encountered some difficulty logging in, the class was given a new deadline of November 19 at midnight for the group assignment, and a new deadline of November 21 for the individual assignment.

Analysis:
Data on student responses using traditional and online formats for delivering the assignment were collected and analyzed. In addition students’ response format was compared to their course grade for the assignment, grade for attendance and participation, coursework, examination, and final or composite grade in the course.

4. RESULTS

Participation: Quantitative Data
Student participation consisted of responses to online materials and assignments.

Responses via email, discussions, and blogs: Students used the online resources to view assignments and assignment resources, lectures, and slides using email, discussions and blogs. There were online views from students via email, blogs and discussions posted (n=857, 71.18%). Student mean usage was lower (14.28) than staff mean usage (19.28) of the online resources. Students responded on a group basis to Assignment 1, which had been introduced in the group discussions and oral reports in the second part of the lecture, and to individual assignments (Assignments 1-3).

Assignment submission: Students used more traditional than online methods to submit assignments. Group assignments were submitted online on 3 occasions, but the traditional method of delivery (hand –written or typed essay) was used on 0 occasions. For individual assignments, fewer assignments were submitted online (n=7, 13%), than by traditional means (n=44, 81.5%). A few students submitted the assignment in online and traditional formats (n=3, 5.5%).

Performance
Student performance based on individual mean scores earned on the assignment for this lecture was compared with individual mean scores earned for
coursework performance, final examination performance, composite course grade, and attendance and participation. There were strong correlations among the performance measures. For example, student performance on the assignment (online and traditional) correlated strongly with the attendance and participation grade (0.73), and the class mean coursework (0.85), class mean examination performance (0.71), and mean class final grade (0.83). The strongest correlation existed between mean class coursework grade and mean class final grade (0.97).

**Participation: Qualitative Comparison of Online and Traditional Assignments**

An analysis of online and traditional assignment submissions was undertaken. The results are based on a sample of 26 traditional submissions obtained from the tutors of two of the four workshop groups in the class of 54. The assignments were assessed by the researcher using a rubric that focused on four issues: the identification of a question or issue required in the assignment, the presence of a thesis or argument, evidence of understanding of relevant concepts to support the thesis/argument, and evidence of application of relevant concepts to support the thesis/argument. The results show that for traditional submissions most included a required question/issue (88.5%), a thesis/argument (76.9%), evidence of understanding of relevant supporting concepts (57.7%), and evidence of application of relevant supporting concepts (57.7%).

According to the data, using the same rubric applied to traditional submissions, the answers were of a lower quality as far as the rubric was concerned, were generally shorter than the traditional responses, had less concern for grammar and expression, and were fewer in number for online individual (n=7) and group (n=3) submissions than traditional ones. The results show that for online individual submissions most included a required question/issue (71.4%), a thesis/argument (57.1%), evidence of understanding of relevant supporting concepts (57.1%), and evidence of application of relevant supporting concepts (57.1%). See Table 4. The results show that for online group submissions most included a required question/issue (67%), a partial thesis/argument (67%), partial evidence of understanding of relevant supporting concepts (67%), and partial evidence of application of relevant supporting concepts (67%).

**5. DISCUSSION AND CONCLUSION**

The results suggest that participation by students as expressed in their response to online resources and assignments, and their performance in the course can be linked to similarities and differences between their traditional and online modes of activity. For example, the results on response to online technology show low use of the online resources such as email, blogs and discussions. Perhaps, it would be useful to compare the use of these online resources with face-to-face use of of-line resources such as questions, interactions and discussions in the lectures and workshops, but the study’s finding on online resources was limited by the lack of a rigorous record of self-report and observational data collected from reflection and face-to-face interactions as demonstrated elsewhere [16]. Further work in this area will need to be refined to capture comparative data on online and offline activity, and to use such data to advance a conclusive statement that does not rely on anecdotal or intuitive evidence. As it stands there is a sense that there may have been more connectedness and collaboration between students and their face-to-face learning experiences than their online ones, but this will need to be verified by a more rigorous design. Ironically the Moodle technology tracks views, and provides summary statistics on activities making it apparently easier to record such data, than data on interaction in lectures and workshops, but it may be possible to use other technologies of self-report diaries, questionnaire and interview surveys, an observational schedules to capture such data. The methodological issue of using different types of data based on different “technologies” will need to be confronted.

Student response to assignments shows a preference for traditional over online submission. Is this finding related to the issues of access, training and preparation, familiarity and degree of comfort and satisfaction with using online technology as opposed to other traditional technologies of handwritten and typed written essays? Aucoin has identified two critical success factors in online learning: establish pre-requisites for faculty and student support [24]. The extent to which these factors were present went little beyond policy statements and relatively little practice in previous versions of the course outline, but was non-existent in the current version of the course outline. This situation and the novelty of using online technology to support online teaching of the course by a guest lecturer may have influenced the findings of the study. Thus, expectations about the technology-ready requirements of the course for staff and students and the current experience may have militated against students’ interest in online submissions. In addition, reported instances of access and uncertainty as evidenced in students’ emails, classroom, tutor and student feedback to the lecturers, and the rescheduling of assignments suggest that these critical success factors were not present.

This situation may be associated with the notion of technology acceptance among staff and students and the Technology Acceptance Model (TAM) which posits that perceived usefulness, perceived ease of use and a subjective norm can influence behavioural intention and eventual behaviour [25]. TAM and other models such as Bandura’s Social Cognitive Theory (the idea that computer self-efficacy or the individual’s belief that she/he can use the computer
and outcome expectations influence affect or positive feelings and anxiety or negative feelings, and usage or the degree of use of information system) and a Unified Theory of Acceptance of Use of Technology (which combines eight technology acceptance models) may account for the extent to which staff and students are ready to accept technology use. Ultimately, they can be used to account for the nature and degree of participation displayed.

There appears to be more rigor and a higher quality of response to the assignments submitted in the traditional manner as opposed to those submitted online. Is this related to different psychological and sociological orientations to traditional and online modes of assignment submission? Is there a perception that online submissions require less care? Do students spend less time on online responses than traditional ones? Do they proofread and edit more in traditional responses than online ones? One would expect that online submissions would be prepared in advance and then uploaded, rather than being completed online in real-time. However, it is not clear whether these factors were present or what effect they might have had. The evidence is clear that there were differences in quantity and quality between traditional and online submissions. Further exploration of the questions and issues raised may account for the student perception of the quality of instruction using conventional and instructional technology, where the latter was regarded as inferior. They contend that the human factor may account for the degree of satisfaction with conventional over IT modes of delivery. This factor may account for the apparent lack of interest in online modes of communication and response to assignments as compared to conventional modes of delivery which appear to provide more contact, interaction and collaboration.

In conclusion, the main finding that the use of technology in a blended learning communication theory instructional context reveals similarities and differences between online and face-to-face modalities such as low use of online resources for communication preference and lower quality of work. A recommendation on guiding students on submitting assignments online is made. Technology use seems to hold less interest for students and may be accounted for by theoretical explanations of technology acceptance, similarities and differences in student performance, and human factor subjective issues that account for wide significant differences that challenge conventional wisdom and research. Taken together these explanatory factors can account for the nature and degree of student participation which seems to be not better in a technology supported blended learning than a traditional delivery context. Further comparative work and more rigorous designs are needed to test this hypothesis.

REFERENCES


