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Surveying the online classroom : Student reactions to e-learning

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Surveying the online classroom : Student reactions to e-learning

Abstract

The utilization of commercial, open source, and institution designed learning management systems are increasing in higher education. Universities are competing with each other to find qualified applicants or increase enrollment. Many higher education institutions are evaluating their return on investment for educational technologies, white public institutions are facing the reality of shifting funding sources from state support to self-sufficiency. The purpose of this study is to determine if the use of a learning management system (LMS) in an online classroom supporting either a full-web or blended course affects student satisfaction with the learning experience. Additional areas examined include whether students prefer LMS use, if LMS use improves communication within a course, and if there is a significant difference in the satisfaction level between students in a blended course and students in a full-web distance learning course. This article presents findings from an institutional survey designed to solicit information from students to enable a better understanding of their experience with using a centrally-supported learning management system.

SURVEYING THE ONLINE CLASSROOM:

STUDENT REACTIONS TO E-LEARNING

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ABSTRACT

The utilization of commercial, open source, and institution designed learning management systems are increasing in higher education. Universities are competing with each other to find qualified applicants or increase enrollment. Many higher education institutions are evaluating their return on investment for educational technologies, while public institutions are facing the reality of shifting funding sources from state support to self-sufficiency. The purpose of this study is to determine if the use of a learning management system (LMS) in an online classroom supporting either a full-web or blended course affects student satisfaction with the learning experience. Additional areas examined include whether students prefer LMS use, if LMS use improves communication within a course, and if there is a significant difference in the satisfaction level between students in a blended course and students in a full-web distance learning course. This article presents findings from an institutional survey designed to solicit information from students to enable a better understanding of their experience with using a centrally-supported learning management system.

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INTRODUCTION

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The purpose for publication in the journal, *Educational Technology, Research, and Design (ETR&D)*, is to share the knowledge gained from the research with the academic community. Universities are facing the reality of shifting funding sources from state support to self-sufficiency so the return on investment of technology is under scrutiny. This article will assist institutions in making informed decisions on their investment in learning management system utilization.

METHODOLOGY

The *Educational Technology Research and Development (ETR&D)* journal was selected for publication due to its status in the Instructional Technology field, high rejection rate, and the relevance of the subject. UNI Institutional Review Board approval was obtained in January 2010, to survey 4,657 UNI students enrolled in classes offered on the university's learning management system. Student participants were invited to participate via an electronic email newsletter and the LMS. The survey was distributed through the LMS, and available for a two week period. Students were permitted to complete the survey only once. Student submissions to the survey were anonymous. Following the survey a review of literature was conducted to, identify the existence of prior research on the topic.

Quantitative data analysis was conducted using the Statistical Package for Social Science (SPSS) version 15.0 for Windows. Inferential statistical analysis such as *t* test and analysis of variance (ANOVA), were used to determine the relationship of the research questions to the target population. The Likert-type questions were measured on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

A three-step process was developed to analyze the open ended questions using a constant comparison methodology (Glaser & Straus, 1967). Initially a coding scheme was used a priori to categorize the students' responses in relationship to the research questions. In step-two the categories created in step-one were reviewed and condensed into related themes identified in Table 2. In step-three, the themes were analyzed to convert the qualitative data into a quantifiable form.

ARTICLE

The article manuscript was written according to the publication guidelines of the journal *Educational Technology, Research and Development (ETR&D)* (Appendix A). A letter requesting publication is attached (Appendix B).

Surveying the Online Classroom: Student Reactions to E-Learning

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Abstract

The utilization of commercial, open source, and institution designed learning management systems are increasing in higher education. Universities are competing with each other to find qualified applicants or increase enrollment. Many higher education institutions are evaluating their return on investment for educational technologies, while public institutions are facing the reality of shifting funding sources from state support to self-sufficiency. The purpose of this study is to determine if the use of a learning management system (LMS) in an online classroom supporting either a full-web or blended course affects student satisfaction with the learning experience. Additional areas examined include whether students prefer LMS use, if LMS use improves communication within a course, and if there is a significant difference in the satisfaction level between students in a blended course and students in a full-web distance learning course. This article presents findings from an institutional survey designed to solicit information from students to enable a better understanding of their experience with using a centrally-supported learning management system.

Keywords:

Learning management system

Full-web course

Blended course

E-learning

Introduction

The past decade has introduced a dramatic increase in learning management system (LMS) utilization in higher education, with the majority of higher education institutions now using a LMS as a fundamental component of their online course delivery strategy (Browne, Jenkins & Walker, 2006). The LMS is defined as a software application for the administration, documentation, tracking, and reporting of training programs, classroom and online events, e-learning programs, and training content (Ellis, 2009). Unlike other systems enjoying widespread use at universities, the LMS differs from student information, financial or human resource management systems in that learning management systems have the capability to impact the fundamental task of teaching and learning in unanticipated ways (Coates, James & Baldwin, 2005).

Nationally, LMS use has become widely available and adopted as a generally accepted practice for use by higher education institutions to enhance or supplement traditional teaching methods and has provided a choice of delivery techniques and modalities for instructors (Nanayakkara, 2007). The traditional context of learning is experiencing a radical change. Teaching and learning are no longer restricted to traditional classrooms (Allen & Seaman, 2006; Marold, Larsen, & Moreno, 2000; Zhang & Nunamaker, 2003). Widespread adoption of the commercial LMS at post-secondary institutions has permitted the development of sophisticated web-based course environments. These online learning environments provide tools that facilitate instructional design, access control, student engagement and course management (Dixson, 2010; Goldberg, 1997).

This study provides insight into students' use of a LMS and examines its effects on student satisfaction and learner engagement in online courses. The following issues support the need for an in-depth analysis of existing information for addressing this topic: (a) The utilization of commercial, open source, and institution designed learning management systems are increasing in higher education; (b) universities and colleges are competing with each other to find qualified student applicants or increase enrollment; and (c) many higher education institutions are evaluating the strategies, economics, and pecuniary consequences of dwindling resources while facing the reality of shifting funding sources from public support to self-sufficiency (Ehrenberg, 2005; Minielli & Ferris, 2005).

The question addressed is if the use of a learning management system in an online classroom supporting either a full-web or blended course affects student satisfaction with the learning experience. Sub questions examined include: Do students prefer LMS use? Does LMS use improve communication within a course? Is there a significant difference in the satisfaction level between students in a blended course and students in a full-web distance learning course? Does LMS use improve teaching and learning?

Literature Review

According to Klobas and McGill (2010), learning management system quality, information quality, and service quality directly influenced user and learner satisfaction. User satisfaction directly relates to the attitude or response of an end user towards an information system. User satisfaction has traditionally been employed as a metric for gauging information system success, and therefore has been frequently evaluated in studies (Wang, Wang & Shee,

2007). Students have reported the most important benefits of using a LMS are efficiency, access to course content (Lonn & Teasley, 2009), and convenience, particularly in reference to accessing course materials at the time and location of their choosing (Piccoli, Ahmad & Ives, 2001). Wang et al. (2007) defined e-learner satisfaction as "a summary affective response of varying intensity that follows asynchronous e-learning activities, and is stimulated by several focal aspects, such as content, user interface, learning community, customization, and learning performance" (p. 1802).

Frand (2000) contended that contemporary students have an "information-age" mentality, and that these skills and expectations are implied and deeply rooted. In the increasingly competitive higher education marketplace students are increasingly perceived as clients (Gilbert, 2001), and their expectations need to be attained.

Jones (2009) identified numerous studies that are inconclusive and somewhat contradictory in measuring students' experience and satisfaction with technology. His research findings varied from students having less technology experience than anticipated, to surveys showing students possessing significant social and personal experiences with technology. Jones also noted the level of student satisfaction within a LMS supported course is related to several communication elements, including interaction with other students, informative feedback from the instructor and the instructor's ability to clearly communicate expectations.

Communication in Web-based instruction involves more than interactions between the instructor and learners via communication methods such as discussion formms, instant

messaging, and e-mail. Communication also occurs through instructional design features built-in to shape the learner's interaction with content (Miller & Miller, 1999).

Most learning management systems have a proliferation of synchronous and asynchronous communication features to facilitate instructor-student, student-student and student-content communication. Web-based courses also have the potential to effectively utilize multiple forms of interactivity, and provide rich environments where students can interact, collaborate, and perform their work remotely (Carnevale 2000; Ferguson & Wilson 2001).

Dabbagh and Bannan-Ritland (2005), in their analysis of student perceptions of web-based instruction, attributed a higher level of student satisfaction with courses that based a higher percentage of the grade on discussion activities. Courses that placed a higher percentage of the grade on cooperative work resulted in students believing they learned less. Additionally, the fewer instructional modules and consistency among the modules, the more students thought they learned.

Convenience and efficiency are overriding themes when evaluating the effectiveness of communication within a learning context. Lonn and Teasley (2009) explained the document and communication management tools (Content Sharing, Announcements, Assignments, Syllabus) were often rated by students as being more valuable than the interactive communication tools (Chat, Discussion, Wiki). In addition to the effectiveness of communication provided by the LMS, consideration must be given to the degree of student satisfaction in a blended course compared to a full-web course.

Suanpang, Petocz and Kalceff (2003) described research related to online learning that concludes there is no significant difference in learning effectiveness between technology-based and traditional instructional methods. Tacker (2001) and Lynch (2002) compared the effectiveness of online courses with face-to-face traditional classroom-based teaching. Their data leads to the conclusion that online education is as effective as traditional classroom teaching and shows no significant differences in learning outcomes.

Hiltz and Turoff (2005) contended online learning technologies are rated by students as significant improvements over face-to-face classes. Kartha (2006) pointed out that e-learning ignores constraints like time and distance and attempts to make this type of instruction as conducive to learning as a traditional classroom. In Kartha's studies no significant differences were observed between students in traditional and online courses. Another belief is the association of learning management system utilization to enriched student learning.

There are numerous studies describing what tenets comprise good online teaching (Bates, 2005; Chickering & Ehrmann, 1996; Oliver, 2003). The seven principles for good undergraduate education described by Chickering and Gamson (1987) were modified and applied to online classes by Chickering and Ehrmann (1996). The study revealed the same original principles can be achieved through online learning. Over the years, researchers have proved that technology enhances and improves teaching and learning (Morgan, 2003; US Department of Education, 2007). Laurillard (2006) contended e-learning has been used effectively in university teaching for enhancing the traditional forms of teaching and

administration and goes on to explain e-learning technologies are opening up higher education to accessing ideas online.

Hanson and Robson (2004) recognized that both students and instructors reported various features of learning management systems to have strong educational benefits; however their research indicated that LMS features that save time are rated higher than those that improve learning. The effective use of a LMS must support active engagement, provide meaningful links between sections of the course, and offer easy communication and formative feedback (Rubin, Fernandes, Avgerinou & Moore, 2010). Mehrotra, Hallister and McGahey (2001) found that instructors in distance education courses need to use creative approaches to realize the potential of technology to foster student learning.

Although some research indicates instructors and students value the variety of tools available within the LMS, not all instructors and students have embraced the differences in teaching and learning. Lonn and Teasly (2009) reported only 7% of instructors and 1% of students surveyed responded positively to the concept that LMS use improves teaching. The percentage of instructors and students that believed LMS use improves learning was slightly higher at 8% and 14% respectively. Although the students were less positive about LMS effects on their instructors' teaching, a higher number of students reported preferring LMS use than did instructors. Over 50% of students thought that efficiency was the most valuable benefit.

Wang et al. (2007) explained the use of e-learning systems cannot be evaluated using a single proxy construct (e.g. user satisfaction) or a single-item scale (e.g. overall success). Studies of students participating in distance education courses indicated distance education

offerings are as effective as traditional courses. Distance learning technologies are more than a device for exchanging information; online courses, properly designed and implemented encourage the sharing of knowledge and understanding among members of a group who are not working together at the same time or same place. Use of a learning management system to facilitate distance education is characterized by convenient, easy access requiring about the same amount of coursework and time as a traditional course.

Method

Participants and design

The research population consisted of 4,657 students attending a medium-sized Midwest university who were enrolled in either a full-web or blended course delivered on the university's centrally supported learning management system. The recruitment process included two methods: 1) students were invited to participate via an electronic email newsletter and 2) the LMS announcement tool was used to solicit voluntary participation. The students that voluntarily completed the survey resulted in a participation rate of 15.4%.

A demographic breakdown of the 717 students in the convenience sample indicated 82% were undergraduate students and 18% graduate; 75% lived within a 15-mile radius of the campus. Eighty-eight percent of the students surveyed participated in a blended course and 12% were involved in a full-web course. Table 1 provides a summary of the number of survey respondents by demographic.

Table 1 Descriptive Statistics

Demographic	Respondents	Response rate (%)
Undergraduate	553	81.7
Graduate	124	18.3
Local student	501	74.3
Distance student	173	25.7
Blended course	594	88.2
Full web course	80	11.9

Instruments

Research data was collected using an anonymous survey offered to participating students. Participants were asked to answer multiple choice and open-ended questions to measure their level of satisfaction associated with using the LMS. The survey questions were organized into distinct categories: three questions addressed relevant demographic information; fourteen Likert-type items covered access, interaction, communication, educational value and technology; and two open-ended questions requested feedback on strengths and weaknesses of the modality (see Appendix). The survey was distributed through the LMS, and available for a two week period during which time the participating students were permitted to complete the survey only once. Student submissions to the survey were maintained anonymously.

Data analysis

Quantitative data analysis was conducted using the Statistical Package for Social Science (SPSS) version 15.0 for Windows. Inferential statistical analysis such as t test and ANOVA, were used to determine the relationship of the research questions to the target population. The Likert-type questions were measured on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

A three-step process was developed to analyze the open ended questions using a constant comparison methodology (Glaser & Straus, 1967). Initially a coding scheme was used a priori to categorize the students' responses in relationship to the research questions. In step-two the categories created in step-one were reviewed and condensed into related themes identified in Table 2. In step-three, the themes were analyzed to convert the qualitative data into a quantifiable form.

Table 2 Open-ended question themes

Positive	Negative
Convenience	Technical problems
Communication improvement	Communication deterrent
Content Access	Instructional design
Workflow	More utilization
Resource management	Training

Results

The results of this study should be considered alongside two methodological issues. The first is associated with the sampling procedure. By using volunteers who responded soon after receiving the invitation to participate in this study, there is a possibility that the participants in this study have higher involvement with the LMS than their peers. Thus, the observed effects may be limited to the most highly involved users. Secondly, it is recognized quantitative surveys alone do not provide conclusive information and the limited findings may not include all perspectives (Gilead, 2006; Hammond & Wiriyapinit, 2005).

Do students prefer LMS use?

The overall satisfaction level was determined by calculating the mean score for the combined responses to the communication, access, and educational value categories of the likert-type questions. Overall results indicate a slight preference to learning management system use ($M = 3.35$, $SD = .73$). To determine if student classification or modality influenced satisfaction levels, t tests were done against group statistics. The satisfaction level among graduate students ($M = 3.46$, $SD = .77$) was slightly higher compared to undergraduate students ($M = 3.33$, $SD = .73$), however differences were not considered significant at $p<.05$. Results indicate that students involved with full-web courses were slightly more satisfied ($M = 3.52$, $SD = .75$) than on-campus students enrolled in a blended course ($N = 500$, $M = 3.3$, $SD = .72$). Results indicate weak separation, however statistically significant ($p=.001$). Comparative analysis of the open-ended questions was more convincing in illustrating a

favorable degree of satisfaction with 1,356 statements identifying strengths or advantages (positive) and 745 weaknesses or problems (negative) mentioned.

Does LMS use improve communication within a course?

While the literature review suggests that communication and learning are enhanced using a LMS, the evidence provided in the review of literature is weak. The findings in the literature review were substantiated by the survey results. Survey data shows the perceptions that an online course improves communication are not compelling. Satisfaction with communication resources was higher among telecommuters and students enrolled for full-web courses (M = 3.13, SD = .93), compared to on-campus students enrolled in a blended course (M = 2.83, SD = .87). The rating of communication improvement within the LMS was highest among students taking video conferencing supplemented courses (M = 3.35, SD = .91). Differences between all groups is significant at $p<.0005$. Results of the open ended question indicated only 12% of the students thought the LMS facilitated communication between students and improved communication access to the instructor. Student opinions about the effectiveness of communication tools within the online course were very close to an equal split with 40% of student comments complementing the communication tools and their instructors' employment of the tools while 36% of the student comments stated the online course was a deterrent to communication.

Is there a difference in student satisfaction between blended and full-web courses?

One-way ANOVA and Tukey post hoc tests were used to compare the differences between blended, video conference enhanced and full-web course offerings. A comparison of satisfaction levels between on-campus students taking blended courses and off-campus students taking full-web courses indicates there is no significant difference in the satisfaction level between students in a blended course (M = 3.32, SD = .72) and students in a full-web distance learning course (M = 3.24, SD =.80). Students in the video conference enhanced course were slightly more satisfied (M = 4.70, SD = .72) with LMS use in conjunction with their classroom experience. Tukey post hoc tests indicated the difference between groups is significant (p= .0005).

Does LMS use improve teaching and learning?

The findings indicated similarities in both undergraduate and graduate student perceptions regarding improved learning resulting from LMS use. Undergraduate results (M = 3.63, SD = .79) and graduate students responses (M = 3.67, SD = .84) indicate slight agreement that LMS use contributed to the students' perception of improved learning. Both local students taking blended courses (M = 3.5, SD = .80) and telecommuting students registered for full-web courses (M = 3.7, SD = .79) were neutral, but both groups somewhat agreed that LMS use contributed to their perception of improved learning. Differences between these demographic groups were not considered significant at p=.84.

Discussion

The purpose of this study is to determine if the use of a learning management system in an online classroom supporting either a full-web or blended course affects student satisfaction with the learning experience. The findings of the survey results confirmed LMS use favorably impacts student satisfaction levels with the learning experience. The overwhelming theme derived from the student open ended questions indicated students think the LMS is convenient, easy to access and simple to use. Students particularly liked the capability to access instructor provided content and supplemental material at the time and place of their choosing. The trends identified that telecommuting students registered for full-web courses reported the highest levels of satisfaction with LMS use. Typically, this group of students is the most reliant on the LMS features due to time and spatial separation from their instructor.

The most common strong points mentioned in the open-ended questions were flexibility and convenience. Forty-eight percent of the student comments identified convenience and flexibility as an advantage of LMS use. Approximately 40% of the students surveyed thought the LMS improved communication. One student stated the LMS "assisted the instructor in communicating their expectations and publishing clearly stated objectives" (Anonymous, personal communication, April 15, 2010). Students thought courses delivered on the LMS provided a reasonable amount of academic rigor and they liked the opportunity he to self-directed learners, studying material at their own pace. A "green theme" was also

apparent with many students believing the LMS improved efficiency by reducing printing requirements and minimizing commuting requirements to campus.

Additional positive attributes mentioned by students in open-ended questions are high ratings for workflow and resource management. Students like the organization and structure of the LMS user interface for assignment and assessment submissions. A clear tracking path is provided for the life cycle of an assignment or quiz, from availability, to submission requirements, through grading and instructor feedback. Students also expressed high levels of satisfaction with the resource management tools available to them for personal organization, offered by learning management system calendar or note taking features.

Not all student users feel LMS use is effective. Palloff and Pratt (2007) reveal that it is unrealistic to believe all students will do well in an online learning environment. Lower levels of student satisfaction should not be considered programmatic failure, but rather not a good fit for all students. The most common weaknesses or problems mentioned in the open-ended questions concerning their eLearning experience were technical problems. Technical problems cited by students indicated they thought maintaining the required client-side software was inconvenient and excessively complex. Web browser compatibility checks and installation or validation of browser plug-ins were a point of frustration for students. A common problem resulted from login failures associated with authentication issues. Students indicated the frequency of system password expirations as too restrictive or excessive for the type of data being accessed. Students also expressed displeasure with the complexity of uploading files for assignment submission and attaching files to messages.

Another common weakness cited was communication challenges, such as not enough face-to-face time with the instructor, difficulty communicating with faculty, less interaction with instructors and fellow students, and lag time in receiving feedback on tests, grades or assignments. Some students admitted they lacked the discipline or self-study habits required to be successful in a less structured or independent learning situation.

Students valued timely and informative feedback regarding their performance and quality of work. Students also sought high levels of interaction with their instructor and fellow students but results did not strongly support that this level of interaction is being consistently delivered in an online environment. The equal number of students that responded positively and negatively on the communication capabilities of the system indicates the success or failure of communication within an online course is directly related to the instructors' capabilities to integrate and manage these tools.

Students were quite vocal in describing their perceived training needs and quite adept at identifying the training deficiencies of their instructors. Of particular interest is the students' comments related to the instructional design and how implementation of the learning context impacts their learning experience:

Student 1: "All of the instructors have their e-Learning site set up differently which makes it hard to navigate through each one. There should be a standard that all instructors follow."

Student 2: "Each professor creates their own (e-Learning site), some make it very difficult to use…"

Student 3: "Each professor puts their assignments and slide shows in different places. It takes at least a month to figure out how a professor arranges things."

Student 4: "No two classes are ever laid out in the same manner."

These statements indicate some students thought their learning experience could be improved by better instructional design and consistent course development. Another interesting theme among student open-ended responses was 16% of the student comments indicated students thought all courses should be required to have an online component.

Conclusion

It is common for university administrators or technology mangers to analyze the technical or financial implications of supporting learning management systems on their campuses. Instructors are adept at expressing their successes, shortcomings and concerns about online course delivery. However, it is easy to neglect to acquire feedback from students. Student LMS users represent the largest user constituency and should be relied on as a dependable and convenient source of information. Student feedback is an important component of the summative evaluation process in determining the effectiveness of LMS utilization in higher education.

The findings disclosed a need for improvements or modifications to faculty and student training events. Face-to-face faculty training is limited in duration by time constraints and the volume of information to be delivered. Survey evidence suggests faculty might

benefit from transitioning workshops to a "how to teach online" strategy rather than focusing on a "how-to use the tools" training methodology. Student training opportunities would benefit by offering short video recordings online that key in on how to use specific functions of popular tools.

Given the results of the findings reported, universities should consider development of a comprehensive plan to improve online course development, including standardized course design elements to ensure a consistent navigational interface and to enhance the student user experience. The importance of a quality assurance and an instructor validation process in designing and delivering online courses was evident from student feedback. Continuous improvement to the quality of online courses is a concern among students and major challenge to institutions seeking to benefit from their investments in learning management system utilization.

Potential questions for additional research which surfaced during this study include: What is the impact of policy initiatives on e-learning, online design practices and teaching pedagogies? What is the relationship between LMS quality and student satisfaction? How does blended learning utilizing a LMS influence learning outcomes? What motivates faculty to sustain their e-learning strategies?

Appendix

Survey Instrument

1. Please identify your classification.

    a) Undergraduate
    b) Graduate student

2. Are you a local student (within a 15-mile radius of campus) or are you a commuter/telecommuter (reside outside a 15-mile radius from campus)?

    a) Local student
    b) Commuter/Telecommuter

3. My eLearning experience this semester is from a(n):

    a) On-Campus Course with an eLearning component
    b) ICN Course with an eLearning Component
    c) Full Web Course

4. Accessing UNI eLearning was convenient and easy to accomplish.

    a) Strongly Agree
    b) Somewhat Agree
    c) Neither Agree or Disagree
    d) Somewhat Disagree
    e) Strongly Disagree

5. A course that utilizes eLearning requires about the same amount of time than a traditional course.

    a) Strongly Agree
    b) Somewhat Agree
    c) Neither Agree or Disagree
    d) Somewhat Disagree
    e) Strongly Disagree

6. The eLearning system presented clear and organized navigation to instructional content.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

7. eLearning optimizes the level of student-instructor interaction.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

8. I feel eLearning made it simple to communicate with the instructor.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

9. Using eLearning increased my communication with other students.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

10. I felt more involved in an eLearning class than in past face-to-face classes.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

11. It was easy to communicate with other students in an eLearning class.

a) Extremely convenient - easy to use
b) Somewhat convenient
c) Neither convenient or inconvenient
d) Somewhat inconvenient

e) Extremely inconvenient - difficult to use

12. I communicate more in an eLearning class.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

13. eLearning enabled me to focus my time and energy on the educational content of the course.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

14. Using eLearning did not interfere with my ability to understand the course material.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

15. I learned a great deal more because of my participation in an eLearning class.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree
d) Somewhat Disagree
e) Strongly Disagree

16. Presentation material used in eLearning (text, graphics, slide shows, etc.) was easy to access.

a) Strongly Agree
b) Somewhat Agree
c) Neither Agree or Disagree

    d) Somewhat Disagree

    e) Strongly Disagree

17. Communication got easier as I became more comfortable with eLearning.

    a) Extremely convenient - easy to use

    b) Somewhat convenient

    c) Neither convenient or inconvenient

    d) Somewhat inconvenient

    e) Extremely inconvenient - difficult to use

18. Identify the strengths and advantages of using eLearning.

19. Explain the weaknesses and problems associated with eLearning.

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CONCLUSIONS AND RECOMMENDATION

The findings of the survey results confirmed LMS use favorably impacts student satisfaction levels with the learning experience. Potential questions for additional research which surfaced during this study include: What is the impact of policy initiatives on e-learning, online design practices and teaching pedagogies? What is the relationship between LMS quality and student satisfaction? How does blended learning utilizing a LMS influence learning outcomes? What motivates faculty to sustain their e-learning strategies?

APPENDIX A

EDUCATIONAL TECHNOLOGY RESEARCH AND DEVELOPMENT INSTRUCTIONS FOR AUTHORS

TYPES OF PAPERS

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Manuscripts that are primarily concerned with research in educational technology should be submitted online to
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• The affiliation(s) and address(es) of the author(s)
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Please provide an abstract 150 to 250 of words. The abstract should not contain any undefined abbreviations or unspecified
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Editors, reviewers, and readers of the journal appreciate concise, coherent, and clearly presented research papers. Articles exceeding 8,000 words (about 20-30 double-spaced pages) in length are unlikely to be published unless they are of exceptional significance requiring an extended presentation to do justice to the material. Submissions that successfully present the research in 5,000 words are particularly welcome, as short, focused articles are helpful to readers and enable the journal to make a greater range of research available to its readership.

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CITATION
Cite references in the text by name and year in parentheses. Some examples:
Negotiation research spans ma • ny disciplines (Thompson, 1990).
• This result was later contradicted by Becker and Seligman (1996).

This effect has been widely studied (Abbott, 1991; Barakat et al., 1995; Kelso & Smith, 1998; Medvec et al., 1993).

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The list of references should include only works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should be mentioned only in the text. Do not use footnotes or endnotes as a substitute for a reference list.

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Article by DOI

Bulu, S. T., & Pedersen, S. (2010). Scaffolding middle school students' content knowledge and ill-structured

problem solving in a problem-based hypermedia learning environment. Educational Technology Research and

Development, doi:10.1007/s11423-010-9150-9

Book

Branch, R. M. (2009). Instructional design: The ADDIE approach. New York: Springer.

Book chapter

Morrison, G. R., Ross, S. M., & Lowther, D. L. (2009). Technology as a change agent in the classroom. In L.

Moller, J. B. Huett, & D. M. Harvey (Eds.), Learning and instructional technologies for the 21st century: Visions

of the future (pp. 151–173). New York: Springer.

Online document

Abou-Allaban, Y., Dell, M. L., Greenberg, W., Lomax, J., Peteet, J., Torres, M., & Cowell, V. (2006).

Religious/spiritual commitments and psychiatric practice. Resource document. American Psychiatric

Association. http://www.psych.org/edu/other_res/lib_archives/archives/200604.pdf. Accessed 25 June 2007.

Journal names, journal volume numbers, and book titles should be italicized.

For authors using EndNote, Springer provides an output style that supports the formatting of in-text citations and reference lists.

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All tables are to be numbered using Arabic numerals.

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For the best quality final product, it is highly recommended that you submit all of your artwork – photographs, line drawings, etc. – in an electronic format. Your art will then be produced to the highest standards with the greatest accuracy to detail. The puhlished work will directly reflect the quality of the artwork provided.

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Supply all figures electronically.

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•

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•
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APPENDIX B

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Jordon Dierks
1120 Grant Street
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January 15, 2011

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