11

The Use of Blackboard Software as a Course Delivery Method

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Abstract

The aim of this study was to investigate students' perception towards the use of blackboard as a course delivery method. It examines three issues that may have an impact on students' perception towards the use of blackboard, namely gender, year of study at the university, and the type of course. In this study, Blackboard software was used to deliver a computer education course and an Architecture course. Students were required to use discussion board, digital drop-box, viewing assignments, announcements, and course documents posted by the instructor.

The results showed that there are no significant differences between students' perception regarding the use of blackboard and each of the following variables: gender, year of study, and the type of course. Moreover, most of the students felt that using Blackboard as a delivery tool was useful and enjoyable. The students used the blackboard software mostly get access to their homework and exams. Student faced some difficulties during the use of the blackboard software; most students revealed that the evaluation method for their work was not clear, and teacher communication was not enough.

Key words: web-based instruction, blackboard software, computer in education, distances learning, online interaction.

13

استخدام نظام الـ Blackboard كوسيلة مساعدة لإيصال المادة التعليمية

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الملخص

هدفت هذه الدراسة إلى استطلاع آراء الطلبة حول نظام الـ Blackboard بوصفه وسيلة مساعدة في العملية التعليمية، وتحري علاقة تلك الآراء مع الجنس، والسنة الدراسية، ونوع المساق الذي استخدم فيه النظام. في هذه الدراسة استخدم نظام الـ Blackboard بوصفه وسيلة لنقل المادة التعليمية وذلك في مساق "الحاسوب التعليمي" ومساق " هندسة العمارة" في الفصل الدراسي الذي تم تدريس المساق فيه. طلب من جميع الطلبة في المساقين استخدام صفحة النقاش والاطلاع على الواجبات، والإعلانات المرسلة من مدرس المساق، ومحتوى المادة من خلال نظام الـ Blackboard.

أظهرت النتائج عدم وجود فوارق ذات دلالة إحصائية بين آراء الطلبة، متعلقة بمتغير الجنس، أو السنة الدراسية، أو نوع المساق، أو الخبرة السابقة. معظم الطلبة شعروا بالمتعة، والفائدة أثناء استخدام النظام. وقد استخدم الطلبة النظام؛ لمعرفة الواجبات المطلوبة، وكذلك لتقديم الامتحانات. كما خلصت الدراسة إلى أن الطلبة واجهوا بعض المشاكل خلال فترة استخدام النظام، على سبيل المثال : عدم وضوح طرق التقييم المتبعة في المساق، وطرق التواصل مع الطلبة من قبل المدرس كانت غير كافية.

الكلمات المفتاحية: التعلم الإلكتروني، نظام الـ Blackboard الحاسوب والتعلم، التعلم عن بعد، التواصل عن بعد.

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Introduction

Universities use different methods to support teaching and student education. The regular way of teaching in higher education is traditional classroom instruction. With the new wave of using technology in higher education, distance education has become a part of an institution's curriculum. Most of the working adult students have become more interested in education to improve their professional opportunities. Most universities start using non-traditional ways of teaching such as distance learning to accommodate the needs of adult learners. Implementing new programs like distance learning programs into higher education needs some effort and support from the administration, faculty members, departments, and students. Mckeachie (1994) states that in the twenty-first century, distance learning is a technology revolution which will make a transition from traditional classroom teaching to distance education. Mainly, the distance learning is based on computer technology, where teaching and learning have developed positively in a dramatic way. Mckeachie believes that teaching through distance learning marks a shift from lecturing and recitation to coaching.

In this century, implementing distance education is not an institution's choice; it has become a necessity. It is important to create a plan for the institution to accommodate change to distance learning. Distance learning and online programs or courses could be part of any institution in any content area. To have a successful online program, the design process should fit students' portfolio, lifestyles, and needs.

To improve interaction in distance learning, teachers need to organize the class to encourage positive communication. This can be done through setting

evening hours for office phone calls using a toll free number, contacting each student at a regular time to update them about their progress. Cheung (1998) found that students' perception and feedback is very important for improving the quality of online teaching and learning programs. Distance to education is an important learning method. It helps teachers and students achieve their teaching and learning goals. For delivering online courses there are many software packages such as WebCT and Blackboard software (Hazari, 1998). Distance education requires students to participate in class discussions. It should give the students a chance to choose when, how, and what they want to learn. It added new learning experience, new opportunities, and new qualifications.

Ryan Cartlton, & Ali (1999) indicated that most of the time students favor classroom interaction with faculty and with other students instead of working in isolation. Distance learning does not create interaction between the students. Ryan added that communication in distance education does not allow students to evaluate their own levels of preparation, responses and presentation. McKeachie (1994) stated that in distance learning there are fewer opportunities for the teacher to present information and fewer opportunities to diagnose learning problems to help students find solutions and ask more questions.

Leading the technology change in higher education is a process where the people in the institution accept the change as an important component to move the institution toward success. They also have a good clear picture about the future of the institution, and develop a plan to implement the change smoothly (Lick, 2001).

In the regular classrooms students have the opportunity during class time to interact orally with each other and with their instructor. In distance learning, during the course planning the instructor should plan to use technology to create a place for student interaction. In today's technology, distance learning overcomes the interaction problem by encouraging and requiring the distance-learning students to interact with each other and with the instructor through e-mails, discussion board, telephone calls, and mail.

In online learning, students are more in control of their own learning. Online learning creates opportunities that are not found in the traditional education. Students can choose their own time and their own learning

environment to start the learning process. They can adjust their daily schedules to fit their responsibilities and commitments. It also provides adult learners with a second chance to update their knowledge based on their home or at their places of employment. The key player for online learning are the students, teachers, support staff and administration, where all of them work toward fitting students' needs into the curriculum. Gagne and Shepered (2001) reported that distance education increases students' access to courses with flexible schedules and less travel. For the institution, distance education provides for increased enrollment without constructing and maintaining additional buildings.

Smith & Ferguson (2001) concluded that the web environment presents a number of educational opportunities and advantages over traditional classes. For example, it includes more informational resources. Additional advantages are the emphasis on the written word through e-mails, and the use of a discussion board that encourages a deeper level of thinking in online classes. In online courses, a one-to-one relationship between student and instructor may be more emphasized than in traditional face-to-face settings. Enrolling in an online course requires dealing with all the technical issues. On-line learning is consider as a good learning experience for the students, and prepares them better for their work (Baron & Mckay, 2001). Using the web to communicate with students who participate in distance learning it provides quick and easy communication between students and instructors, and among classmates. Also, distance learning is often a good solution for working adults who can not get to a university campus for education (Kleiner, 2001).

Students showed a high level of interest for on-line learning programs in Education technology at the undergraduate and graduate level. Some barriers were emerged during the use of on-line learning, such as a lack of awareness of online opportunities. Most of the students use the Internet to learn about some aspect of technology. And most of them used a PC and Macintosh on a regular basis at work or at home (Flowers, 2001).

Undergraduate students, who experience the use of web-based learning through different media such as CD-ROM or the Internet, indicated that the interaction with the instructor and with classmates was a very important issue in web-based learning. Students also add that web-based learning

does not work for everyone. It is suitable for students who are self-directed and self-motivated (Schmidt, 2002).

Schimidt and Brown (2004) stated that online teaching and learning gain more popularity with the www (World Wide Web) evolution. Also new web tools are created to improve online learning and make it easier to access. Students learned the basic instruction of using WebCT easily. WebCT was useful tool for students who are comfortable with technology. Students also enjoyed working from home or work at their convenience. Also they enjoyed the ability to review lectures and course documents as many times as they needed. There are few problems with technology that students faced during online section (Schimidt, 2004).

Gammill (2004) conducted a study to examine Mississippi State University (MSU) faculty members' perceptions of factors and issues that support their teaching of web-based courses. The result indicated that most faculty members were not using web-based instruction (WBI). Gammill argued that the reasons for not using WBI were that not all classes are meant for online teaching, the non-reliability of technology, no release time for development and revisions of online courses, and lack of enough administration support.

Schmidt (2004) conducted a study to measure the quality of web-based courses and students' perception in the industrial management programs at Central of Missouri State University. The sample of the study included 161 students completing IM courses at CMSU in fall 2002 and spring 2003. The results revealed that graduate students accessed the web-based course using Blackboard software were greater than undergraduate students. Also, students with higher grades accessed the web-based course more than students with poorer grade.

Almala (2004) conducted a study to evaluate the quality of e-learning and the stages of this learning process at the Extended Learning Institute of Northern Virginia Community College. The sample of the study included six e-learning classes. The study found that the quality of e-learning could be improved by focus on a few issues such as enhance the development process, upgrading from Blackboard Academic Suite 5 to 6 for its new features, provide training program for students, providing faculty with effective support system.

Alqurashi (2005) investigated the use of blackboard for collaboration learning in composition classrooms in Saudi Arabia universities. He compared the students' attitude toward collaborative learning in two modalities: face-to-face learning and web-based learning using the Blackboard software. The research result did not show significant differences between the two groups. The researcher explained that by giving two reasons may lead to this result: first, the collaborative learning is a new teaching technique to Saudi students, and second, the universities did not have enough computer labs and also no full access to the Internet which led to this result. Kim (2005) concluded that students' interaction and feedback through the web-based environment raised the quality of the use of the online course.

Distance education by using electronic mail, video conferencing, and online software such as Blackboard, will surely help students communicate better with their teachers. More than traditional learning, distance learning offers opportunities for teachers to reach a wider student audience, meet non-traditional student needs, link students from different backgrounds, cultures, and geographic regions.

Purpose of the Study

The purpose of the study was to investigate students' perceptions toward distance learning as a method for course delivery using blackboard software. In this study blackboard software was to deliver a computer education course and an architecture course. Students were required to use discussion board and digital drop-box. Also, students were required to view assignments, announcements, and course documents posted by the instructor. There were a variety of other functions for optional use such as external links and course syllabus.

Questions of the Study

The following questions guided the investigation.

1. what were the students perceptions toward distance learning as a method for course delivery using blackboard software.

2. what are the most and least part of the blackboard software services that were used during the duration of the course.

3. Does students' perceptions toward distance learning as a method for

course delivery using blackboard software differ based on selected variables, specifically, gender, year of study, type of course, and past experience.

4. What are some of the problems facing students during their use of the blackboard software as a course delivery method?

The Importance of the Study

The importance of the study stemmed from the following considerations

1. It is hoped that blackboard software would raise students motivation to communicate on-line courses.

2. It hoped that students and instructors experience with the Blackboard software in this research would invite other instructors to include blackboard software as an on-line delivery method.

3. It hoped that the study would help higher education institution move toward on-line learning as new way for teaching. And also train instructors and students to use blackboard software as a delivery tool for on-line courses.

Limitation of the Study

The researcher chose only two courses at the university level to implement the use of blackboard as a course delivery method. The researchers focused on students' perception toward the use of blackboard software as a course delivery method, but did not use other software to compare with the blackboard software.

Definitions of Terms

The following definitions were addressed for this study:

Blackboard software: Blackboard software is a tool that can be used in the delivery process of online learning courses. It is also considered as a web-based delivery platform for online learning. It helps institutions to use the full power of the Internet for education. And help students to communicate with their instructors and with each other outside the classroom. (Bates, 2000).

E-mail: An Internet service that allows users to communicate together by electronic messages to each other. All users are required to have internet access to use this service (Bates, 2000).

Methods and Procedure
Population of the Study

Seventy four students participated in this experiment. Fifty of them were enrolled in a computer education course whereas, twenty four students enrolled in architectural course. All are regular students at Al AL-Bayt University in Mafraq city in Jordan.

Instrumentation and Validity of the Instrument

The data for this survey were collected by means of a questionnaire intended to elicit students' perceptions toward the use of blackboard as a course delivery method. The survey questionnaire consisted of 20 items that developed by the researcher. The students' responses for this instrument were marked directly on the survey. The questionnaire items took the form of statements to which the learner had to respond on five-point scale that is from "strongly agree" to "strongly disagree". The questions were intend to gather information about students' satisfaction with the use of Blackboard software to deliver course materials, as a communication tools, and measure the level of difficulty faced in using it.

To insure the validity of the research instrument, it was sent to four faculty members who were asked to evaluate the questionnaire instrument and recommend any changes that could help the study. Comments were sent back which ensured the validity of the instrument and made some recommendations which were taking into consideration.

Procedures

This study was conducted during two semesters of the year 2005-2006 at Al al-Bayt University. First semester, with the help of the computer specialist the instructor designed the first chapter (one month period) of the architecture course to be thought in a distance learning environment using the Blackboard software to deliver the course materials. The second semester, with the help of the computer specialist the instructor design the first chapter (one month period) of the computer education course to be thought in a distance learning environment using the Blackboard software to deliver the course materials. At the end of each section (first chapter) a survey instrument was used through the course site. The aim of this

instrument was to collect information about students' perception toward the use of Blackboard software as a course delivery method. The researcher's role was to design the two courses as a distance course and use blackboard software as delivery method for students. The following procedures were followed:

1) The researcher with the help of the courses instructors and the computer specialist designed the courses materials. They used the blackboard software to deliver the course material. And create a password for each students who register on that course.

2) The course included the use of many tools that were available in the blackboard software such as: discussion board, digital drop-box, assignments, announcements, course documents, external links, and course syllabus.

3) After that, students for both courses were participated in a two weeks training section to practice using the blackboard software and access their course using their own password.

4) Students started the course period which was one month. Students were required to access their course using the blackboard software. They were required to read the course announcement in a daily bases. Students were required: to read the weakly course documents, participate in the class discussion using the discussion board, write a weekly reflection paper, and submit their assignment using the course drop box.

5) At the end, students had to respond to a questionnaire that consisted of a 20 items. This questionnaire allowed the students to reflect on their own learning experience with on-line courses and using the blackboard as a delivery method.

Data Analysis

The responses for the questionnaire instrument items were coded numerically and entered on a SPSS database. The t-test was used to determine statically significant differences according to gender, year of study, semester, and their past experience with blackboard. Descriptive analysis was utilized to compute the means and the standard deviations for variables and items of the questionnaire instrument.

Result and Discussion
Demographics

Table 1 shows that the percentage of students who registered in the architecture course during the first semester is 32.4% where as 67.6% were registered in the computer education course. it shows that 24.3% of the students who participated in this study were male and 75.7% of the participants were female.

It also, shows that as to the year of study, 33.85% of the participants were in their second year; 55.4% in their third year; and 10.85 in their fourth year at Al al-Bayt University.

Regarding to the third demographic question about using the Blackboard software for the first time or not, Table 1 shows that 95.9% replied that this was their first use of the software, and 4.1% replied that they had used the software before.

Table 1
Students Answered for the Demographic Questions

Course		Gender		Year of Study			First time BB Usage	
Archi	Comp. Ed.	M	F	2	3	4	Y	N
24 (32%)	50 (68%)	18 (24%)	56 (76%)	25 (34%)	41 (55%)	8 (11%)	71 (96%)	3 (4%)

Results Related to the Research Questions

Results related to the first research question "what were the students' perceptions toward distance learning as a method for course delivery using blackboard software" were shows on Table 2. It was revealed that the descriptive analysis for the twenty questions of the questionnaire instrument that were used to describe students' perceptions. It indicates that the overall mean score was 3.84, which indicates a positive students' attitude toward the use of Blackboard.

Table 2
The Descriptive Analysis for the Twenty Questions

Question#	Std. Deviation	Mean
1	.82	3.70
2	.82	4.22
3	.84	3.70

Con. Table 2

Question#	Std. Deviation	Mean
4	1.03	3.76
5	.91	3.82
6	.79	3.70
7	.77	4.24
8	1.01	3.12
9	1.17	3.51
10	1.04	3.65
11	.91	4.18
12	1.08	3.41
13	.95	4.38
14	1.09	3.96
15	1.27	3.30
16	1.12	3.62
17	.77	4.11
18	.85	4.09
19	.76	4.41
20	1.05	3.89
Total	.43	3.84

Results related to the second research question "what are the most and least part of the blackboard software services that were used during the duration of the course" were shown in Table 3. It revealed based on the highest mean value that the most important item was item 19 with a mean value of 4.41. "Using all the services that were provided by the blackboard software were useful and enjoyable at the same time". It was noticed that questions 13, 7, 2, 11, 17, 18 were very important and have the highest means (4.09, 4.41). These results describe the students' attitude toward the use of Blackboard, and they indicate that most of the students enjoyed the course delivered using the Blackboard software. Students felt comfortable with using the course documents, announcements section, and digital drop-box to submit their assignments and homework's.

Table 3
The Responses for the Questions were Reordered Based on the Highest Mean Value

Question	Question#	Std. Deviation	Mean
Using blackboard software was very useful and enjoyable.	19	.757	4.41
read and submit the homework's and the exam through the blackboard software	13	.947	4.38
The activities that was delivered through the blackboard software was clear	7	.773	4.24
I use the announcement section to be updated about the course requirements	2	.815	4.22

Con.Table 3

Question	Question#	Std. Deviation	Mean
I use the course document section to read the course materials	11	.912	4.18
The instruction about the use of the blackboard software was useful	17	.769	4.11
Using the blackboard software in another courses will be useful for me	18	.847	4.09

Table 4 showed that questions 14, 20, 5, 4, 3, 6, 1, 10, 16 had mean values between 3.62 and 3.96. This revealed that the students felt comfortable during their use of discussion board to communicate with other students and with the instructor. Course information and instructor information were useful according to students' responses. The communication between students and the instructor through Blackboard was not strong enough since it has a low mean value (3.62).

Table 4
Results Related to Research Questions

	Questions#	Std. Deviation	Mean
I use the discussion board to communicate with other students and the instructor	14	1.091	3.96
The instructor control the course site and update it in a regular way	20	1.054	3.89
The course objectives that were display through the blackboard was clear	5	.912	3.82
The course syllabus that were display through the blackboard was clear	4	1.031	3.76
I used the course information that were display through the blackboard	3	.840	3.70
The course curriculum that were display through the blackboard was clear	6	.789	3.70
I have enough information about how to use the blackboard software	1	.823	3.70
The information about the instructor that were display through the blackboard was useful	10	1.039	3.65
The blackboard software was very important for students-instructor communication	16	1.119	3.62

Table 5 revealed that items 9, 12, 15, 8 have a very low mean between 3.12 and 3.51. It was not clear for students how to get extra information. Students also faced some problems during their use of the blackboard software. It was found that the presentations displayed through the Blackboard software were not important to most students' responses. The lowest mean was 3.12 for question 8 concerning using the Blackboard software for displaying

the course evaluation. Course conclusion was not clear according to most students' responses. Woods (2004) conducted a study to investigate students' perceptions of web-based instruction. A questionnaire instrument was sent by e-mail to (20) students who were enrolled in web-based courses using Blackboard. There was a significant correlation between students' satisfaction with web-based instruction and their rating of web-based technologies and principles of good practice. Woods found that Discussion Board, Announcements, Course Information, E-mail, and External Links received higher ratings than Syllabus, File exchange, and Multimedia. Also, communication between students and faculty and among students themselves received a higher rating than promoting a feedback and time on task.

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Table 5
Results Related to Research Questions

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	Question#	Std. Deviation	Mean
It was clear how to find extra resources using the blackboard software	9	1.173	3.51
I used the presentations that was displayed through the blackboard software	12	1.084	3.41
I did not face any problems during the use of the blackboard software	15	1.268	3.30
The course evaluation method was clear	8	1.006	3.12

Results related to the third research question "Does students' perceptions toward distance learning as a method for course delivery using blackboard software differ based on selected variables, specifically, gender, year of study, type of course, and past experience" were revealed that gender, year of study, type of course, and past experience have no significant relationship with students' perceptions toward the use of Blackboard as a delivery tool for distance learning.

Results related to the fourth research question ''what are some of the problems facing students during their use of the blackboard software as a course delivery method'' revealed that using blackboard software, according to students' responses was a successful method. Students were very motivated using this tool as a delivery tool for distance learning. One of the problems students faced was getting used to the new way of teacher interaction. The reason for that was that the way they used to interact with

teachers in the traditional way of teaching was different from that used in distance learning. The teacher's role in distance learning as a course designer was to give students a space to communicate together and to be independent and control their own learning experience. It was not an easy transition for most students to get used to the new teacher role. Schimidt (2002) concluded that in distance learning, students need more support and communication. Students start learning about new technology and begin their hands-on-training regardless of their level of online learning experience. Communication is mediated not only by the technology, but also by a host of team partners, which may include editors, designers, producers, and service providers.

Having a specific time for students to meet with their instructor give the students a chance to learn more by participating in the class discussion and to get direct feedback from each other. Being in a distance learning course without having a specific method or tool for interaction wastes students' time and provides less education for distance learning students. On the other hand, distance learning, while having some weaknesses, does have advantages over traditional teaching. It is considered a very reliable learning technique that is not only here to stay, but also, one that will continue to grow and be enhanced as more people gain access to technology (Gagne, 2001).

Conclusions and Recommendations

In conclusion, it seemed that Blackboard was a useful tool to be used to deliver distance learning course. Students felt comfortable with the use of the blackboard software. Students who registered in the Education Technology course or Architecture course indicated their acceptance of this mode of information access. It seemed that students with different areas of specialization felt good about using this software.

Overall, the results of the study indicated that student interest in the use of Blackboard software was tempered by indicated experiences with the technology. For students who struggled with using drop-box, using the discussion board features, or checking for new announcements on a regular basis, e-learning was perceived to be challenging for them, but it was interesting at the same time. Most students felt the need for more

teacher communication and interaction through e-mails and participation on discussion board. Most students indicated that the evaluation method for their work was not clear. However, the majority of students adjusted to the technology quickly, and they felt that they gained a good learning experience.

In the light of the results of this study, some recommendations were suggested for the concerns:

- Conduct another study to investigate the effectiveness of using Blackboard software to support cooperative learning to improve students' interaction.

- Using web tools to serve on-line learning need to focus on finding the best way to evaluate students during the course and explain the evaluation strategy for the students.

- Help on-line learning students make the transition to get used to the new way of interaction with teacher and other students

Higher education institutions moving toward offering distance courses, so finding a good delivery method should be the institution priority. It is plays an important role to make sure that institution going the right direction with the distance learning. This research focused on the important preparation and course design that should be take on consideration when the institutions choose to use distance learning as a teaching method.

Further research needs to be conducted to determine whether the use of Blackboard as a delivery tool for distance learning could effect student' performance, also comparing this tool with the traditional instructional methods. It is recommended that more studies should be conducted to investigate the pedagogical methods, which are employed in using e-learning tools. Finally, it is recommended that the study be repeated with a larger sample size from different universities and specialization area.

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