

Evaluation of the Utilization of e-blackboard system among students and faculties in King Saud Ben Abdulaziz University for Health Science

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Abstract: Blackboard course management system is used by hundreds of universities. Blackboard system is a web based comprehensive learning management system that has been used worldwide in high education 20 years ago. It is easy to use and can be used without any knowledge of HTML. It is also allow the instructor to deliver their courses material, as a hybrid course or as an online course. Blackboard system nowadays becomes an effective educational system to improve the quality of learning in high education institutions. Blackboard system includes many features which are easy to reach at anytime, anywhere. The user only needs a user name and password to start using the system. All of course materials could be found in the blackboard system features such as lectures, course syllabus and assignments. Most research about Blackboard has focused on how to encourage faculty to use it. Little research has been done to determine how students and faculty use Blackboard to enhance learning. **Purpose:** This study aimed at evaluating the utilization of E-blackboard system tools based on a target sample of undergraduate students and their instructors. The study was designed to find out whether undergraduates and instructors have a shared vision for how Blackboard is currently being used and how it should be used to support instruction. **Methods:** A cross sectional design was conducted to collect data for the study. Sample included both undergraduate students and instructors from different departments at KSAU-HS. Sample consisted of 194 students and 46 instructors. Tow Likert's scale questionnaires were developed to assess the effectiveness of the blackboard for both students and instructors. The Questionnaire included different factors such as: ease of using the system, perception of usefulness from both of students and instructor's point of view, and impact of using blackboard system in the students and instructors' performance. **Results:** The majority of the students in the sample were females (85%) while only 15% were males. About 64% were nursing students and 36 % were medical students. More than half of the students (52.1%) have been using the blackboard system for 2 years. Fifty one percent of the students agreed that the blackboard system was difficult when they started using it. The blackboard features that are used by most of the students at least three times a week were announcements (73.2%), course information (62.9%), course contents (58.8%, contacts (56.7%), and assignments (54.1%), More female students indicated that blackboard system facilitate third learning than male students ($P=0.000$). The majority of the instructors in the sample were female (69.9%) while only 30.4% were males. About 41.3% were nursing instructors and 58.7 % were medical instructors. Half of the instructors (50%) have been using the blackboard system for only one year. Sixty point eight percent of the instructors indicated that they use the blackboard system at least three times a week. Sixty three percent of the instructors believed that students' performance has improved as a result of using blackboard. **Conclusion:** The data obtained as a result of this study will help students, faculty/instructors, and Blackboard developers to understand how Blackboard is currently being used to enhance instruction and discover possible ways that it could be used even more effectively. As reported by the majority of the students that eblackboard system was helpful to facilitate their learning process and facilitate their communication with their instructors and other students.

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1. Introduction

Blackboard system is a web based comprehensive learning management system that have been used worldwide in high education. It provide easy way for instructor to mangle course materials, also it enables students to communicate with their instructors any where and any time .Moreover it makes it easy for students to complete, and electronically submit coursework as well as monitoring their progress using quizzes and assignments that teaching staff have set for them (Machado, 2007).

In the past instructors have to develop web sites by their own to submit what they want for their students but with the blackboard they just download what they want directly because it is ready ,standardized and organized web site that is easy to maintain without any knowledge of HTML (Rainbow, 2003, Bradford, 2006).

Blackboard systems are not new technology. It was founded in 1997 by two education advisors, Matthew Pittinsky and Michael Chasen, as a consulting firm to provide technical standards for online learning

applications In 1998, Blackboard merged with CourseInfo LLC, a course management software provider and startup company at Cornell University, and the merged company soon released their first software product for online learning (**Bouhnik, 2006**).

Blackboard is used by more than 70 percent of the U.S. colleges and universities named to the Forbes.com Most Connected Campuses' List. In K.S.A in 2009 King Khaled university is the first university to use Blackboard also there are other universities in K.S.A like Mohammed bin Fahad university, king Faisal university and King Saud bin Abdulaziz university for health sciences. As of June 2006, the Blackboard Empire includes over 12 million users in over 60 countries. Products are offered in 12 languages to over 2,200 learning institutions and contain more than 2,500 supplements from educational publishers. (**Bradford, 2007, Liaw, 2007**).

Blackboard system nowadays become an effective educational system to improve the quality of learning in high education institutions. It has many advantages for instructors and students. First advantage is increased availability. Blackboard system could be used any time and any where if internet is available. Instructors are able to upload what their student need, also they can put quiz for their student any time, students also can submit their assignment as soon as they complete it. The second advantage is providing quick feedback, both instructors and students receive feedback from each other. The third advantage is improved communication. There are many features in blackboard that improve and enhance communication among instructors and their students. For example, announcement, discussion group and email. As for the discussion function, the literature indicates that asynchronous discussion within course management systems develops collegiality among students (**Taha, 2004**).

An additional advantage is email options as it is very flexible which enables student to send an email to their colleagues that are enrolled in same course at anytime and anywhere. The last advantage is building skills. The most important skills developed are organizing and time management. Blackboard system easy and does not need to know HTML, the user need only a user name and password that will provided by university to start using the system. All of course materials could be find in the blackboard system features such as lectures, course syllabus and assignments. This features has a good impact in student learning out comes. Most of the researches about Blackboard had focused on how to encourage faculty to use it. Little research has been done to determine how students and faculty use Blackboard to enhance learning. Unfortunately there was no study done in Saudi Arabia about Blackboard as not too many

universities are using the Backboard system. (**Katsifi, 2010**).

Very few studies were done to evaluate the E-Blackboard utilization by the faculty and students in the higher education all over the world.. There was no single study to assess the utilization of E-blackboard system as an instructional tool by both students and instructors in Saudi Arabia. It was crucial to study the utilization of E-blackboard system as an instructional tool by both students and instructors

Aim: the aim of the study was to evaluate the utilization of E-blackboard system as an instructional tool by both students and instructors

2. Method

This study aimed to evaluate the utilization of blackboard system as instructional tool based on a target sample of undergraduate students and their instructors. A descriptive research design was conducted to collect data for the study. The study was conducted at the college of Nursing and college of Medicine at King Saud Ben Abulaziz University for Health Science. A convenience sample of 194 students and 46 instructors both males and females who met the inclusion criteria were included in the sample. The inclusion criteria was using the blackboard system for at least one semester. Sample size calculated using sample size calculator, with the confidence level 95% and confidence interval 7 the population of 1500 students size was 173 and it was increased to 194

Two Questionnaire papers (one for instructors & one for students) consist of three parts each. First part was Socio-demographic data as age, college, and gender. Second part was Likert's scale for blackboard questions, which include: Easiness of using the system, the features the commonly used by the faculty and students, Perception of usefulness in communication from both of students and instructor's point of view and Impact of using blackboard system on that students and faculties performance. Third part was open ended questions to assess both instructors and students opinion and recommendation about using blackboard. The content validity of the instrument was assessed by a group of experts who examined the tools and approved it. Test retest method was used to determine the reliability of the tool, by applying this tool twice on 5subjects who were excluded from the study The reliability was 0.86. Subjects needed 15 -20 minutes to complete the questionnaire.

The participants were aware about the aim of the study and they were informed that the participation is voluntary. Verbal agreement consents were taken before data collection. The subjects were informed that the data will be anonymous and confidential and they have the freedom to withdraw from the study any time.

A pilot study was conducted to test the feasibility and applicability of the tools, develop an interview schedule, and identified the most suitable time to collect data and avoid disturbance of the students and faculty work schedual. The pilot study was carried out on five subjects. The result of the pilot study was help in refining the interview questionnaire form. The sample of the pilot study will not be included in the main study sample.

Data was coded for entry and analysis using SPSS statistical software package version 18. Data was presented using descriptive statistics in the form of frequencies and percentages. Interval and ratio variables was presented in the form of means and standard deviations, and tested by Student t-test. Nominal and ordinal variables were compared using chi-square test. The significance level was chosen as ($p < 0.05$).

3. Results

This study aimed to evaluate the effectiveness of blackboard system as instructional tool based on a target sample of undergraduate students and their instructors. The results of the study are presented in the following sequence: the students results part and the instructors results part

Students Part

Table1: Percent Distribution of Gender, College and Academic level of the Students in the Sample

	Number	Percent
Gender		
Female	165	85.1
Male	29	14.9
College		
Nursing	125	64.4
Medical	69	35.6
Academic Level		
2	43	22.2
3	18	9.3
4	54	27.8
5	16	8.2
6	17	8.8
7	25	12.9
8	21	10.8

Table one shows the percent distribution of gender, college and academic level of the students in the sample. The majority of the sample (85.1 %) was female students. While only 14.9% were Male students. About two thirds of the sample was nursing students compared to 35.6% medical students. Fifty nine point three percent of the students were between second and fourth semester compared to 40.7% of students were between fifth and eighth semester.

Table 2: The Blackboard Features That Were Used by Most of Students at Least Three Times per Week

Features	Percentage of students
Announcement	73.2
Course information	62.9
Course contents	58.8
Contacts	56.7
Tools	55.4
Assignments	54.1

Table 2 shows the blackboard features that were used by most of the Students at least three times per week. The most features used by students were announcement (73.2%). Sixty two point nine percent of the students in the sample used course information feature at least three times a week. More than half of the students used contacts, tools and assignments more than three times a week.

Figure 1: Comparison between Male and Female Students Regarding the Frequency of Using E-blackboard System

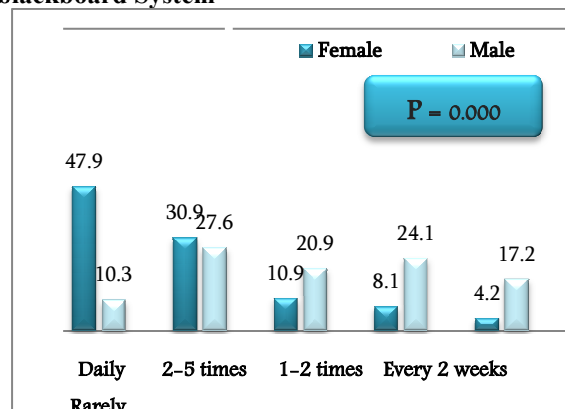


Figure 1 shows comparison between male and female regarding the frequency of using E-blackboard system. Female students used blackboard system significantly more than male students $p = 0.000$. About half of the female students (47.9%) used blackboard daily compared to only 10.3% of male students.

Table 3: Comparison between Female and Male Students Regarding Their Opinion Wether Blackboard Facilitate Their Learning

	Male%	Female%	P
Strongly agree	34.5	42.4	0.000
Agree	27.6	49.1	
Disagree	31.9	7.3	
Strongly disagree	6.9	1.2	

Table three shows comparison between female and male students regarding their opinion whether blackboard facilitates their learning. There was a statistically significant difference between male and female students regarding their opinion that blackboard facilitate their learning $P = 0.000$. More than 90 % of female students believed that blackboard facilitate their learning compared only to 62.1 % of male students.

Figure 2: The Students Opinion about Whether the Blackboard System Should Be Used in All Universities in KSA

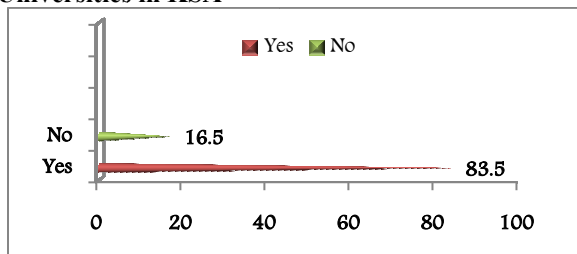


Figure 2 shows the Students opinion about whether the blackboard system should be used in all universities in KSA. The majority of students (83.5%) believed that blackboard system should be used by all universities in King Saudi Arabia.

Figure 3: The Students Opinion about Blackboard System in Facilitate Students Communication with Instructors and Colleagues

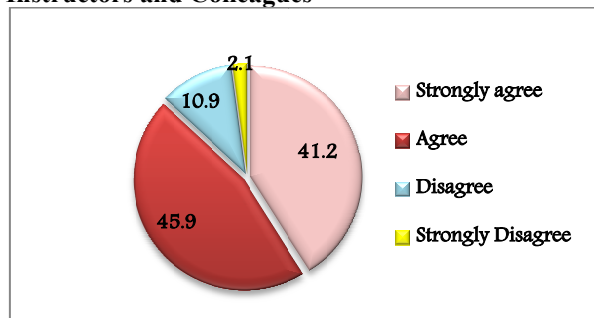


Figure three shows the Students opinion about blackboard System facilitates students communication with instructors and colleagues. The majority of students (87.1%) believed that about blackboard System in facilitate Students communication with instructors and colleagues

Table 4: Corelatin between the Total Score of the Use of Backboard Functions and the Academic level of students

academic level	Total score of the use of backboard functions	
	R	P
	0.117	0.015

Table four shows Corelatin between the total score of the use of bacckboard functions and the academic level of students. There was a significant positive correlation between academic level and total score of the use of bacckboard functions $p = 0.015$. The higher the academic level the more use of blackboard funtion

Instructores Part

Table 5: Percent distribution of Gender, College and Academic Position of the Instructors in the Sample

	Number	Percent
Gender		
- Female	32	69.6
- Male	14	30.4
College		
- Nursing	19	41.3
- Medical	27	58.7
Academic Position		
- Lecturer	22	47.8
- Assistant Prof.	12	26.1
- Associate Prof.	4	8.7
- Professor	8	17.4

Table five shows percent distribution of gender, college and academic position of the instructors in the sample. More than two thirds of the instructors (69.6%) in the sample were females compared to only about one third of the instructors (30.4) in the sample was male instructors. More than half of the instructors (58.7) were from the college of medicine. About half of the sample was lecturers and 17.4% were Professors.

Figure 4: The frequency of Using Blackboard System by Instructors

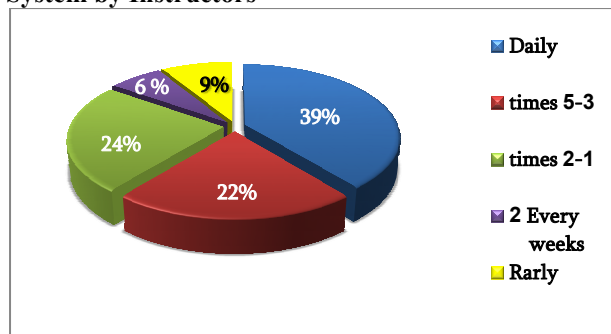


Figure four shows the frequency of using blackboard system by Instructors. Thirty nine percent of instructors used blackboard system daily. Trinity two percent used it three to five times a week. Only nine percent of instructors rarely used the blackboard system

Table 6: Instructors Opinion about the Effectiveness of the Blackboard System as an Instructional Tool

Instructors Opinion	Percent
Excellent	21.7
Very Good	45.7
Good	19.6
Fair	8.7
Poor	4.4

Table six shows the instructors opinion about the effectiveness of the blackboard system as an Instructional tool. Trinity one point seven percent of instructors believed that blackboard system is an excellent Instructional tool and forty five point seven percent of instructors believed that blackboard system is a very good Instructional tool, While only 4.4 percent of instructors believe that blackboard system is a poor Instructional tool.

Table 7: Correlatin between the total score of the use of blackboard functions and the number of ctheritac and clinical courses taught by instructors

	Total score of the use of bacckboard functions	
	R	P
Number of Theortical Courses	-0.041	0.006
Number of Clinical Courses	-0.310	0.036

Table seven shows correlation between the total score of the use of blackboard functions and the number of ctheritac and clinical courses taught by instructors. There were a negative correlation between the number of theoretical and clinical course loud and the Total score of the use of bacckboard functions. The more the course loud the less use of the blackboard $P = 0.006$, $P = 0.36$ for theoretical and clinical courses, respectively).

4. Discussion

Most university and college classrooms now provide rich computer, network and multimedia capabilities for instruction. The benefits of these systems include not only access to a diverse means of didactic presentation but also the means for creation of motivational environments for learning. Course management systems or learning management systems provide software for the management and delivery of learning content and resources to students. These systems have become an essential component of computer-based instructional capability.

The blackboard learning system has many benefits for student and faculty the increased availability, quick feedback, improved communication,

and skill building. For increased availability it can be accessed from the internet at anytime and anywhere. Students can retrieve all of their course materials including assignments, lecture notes, slides, internet hyperlinks, and audio/visual aids. In 2004 survey conducted by Duke University, students were presented with a list of 10 Blackboard functions. The students were asked to select those functions that were most useful to them. The number one choice for 85% of students was "easy access to course materials and readings." in addition the quick feedback There are two principal types of feedback provided to students via Blackboard: faculty-initiated feedback and automated feedback like quizzes and exams result.

This study main objective was to assess the utilization of the of E-blackboard system as an instructional tool by both students and instructors. In the current study the number of in the sample was four times more than males. This was because all nursing students are female. This results was similar to study by Abdulla (2007). In his study sample genderwise, 65% of the respondent population was female students and 35% male students. Eighty-nine percent (89%) of the student respondents were UAE students, whereas 11% were international students. Thirty-four percent (34%) and 47% of student respondents interacted with instructors and peers over seven times and one to three times per week, respectively

School of Law, summarized a survey in her paper encouraging faculty to use technology in teaching and stated the point well: "The students felt that technology helps them feel more organized, absorb more material, and decipher the information with greater ease. The number one response from the student surveys was that they find learning with technology more interesting than sitting in a classroom with a dry erase board." The current study showed that the majority of the students reported that Blackboard system is an effective tool to facilitate learning and communication between students and their instructors and it should be used in all KSA Universities. This result was supported by A survey of 730 faculty, staff and students in the University of Wisconsin System, the majority of whom use Blackboard, found that course management systems are harder to learn to use than expected.

There is some limitation in blackboard learning system the software is harder to learn than expected, certain options may be restricted to specific operating systems, there are inefficiencies in bandwidth use when materials have to be downloaded every time access is sought, and cost.

The study finding showed that the students with higher academic level utilize the blackboard function more than students in the lower academic level. Also There was a negative correlation between the number of theoretical and clinical course loud and the use of

blackboard functions by instructors. The more the course load the less use of the blackboard for use.

According to Abdalla, (2007) who evaluated effectiveness of e-blackboard system using TAM framework: The study shows that results suggest that the ease of use as well as the usefulness of technology positively influences student's attitudes towards the system, which in turn determines technology's effectiveness. Perception of usefulness also significantly influences technology effectiveness. The study incorporated questionnaire survey designed on theoretical references of previous relevant works. Likert's five-scale of extremity was employed to indicate the degree of acceptance as 1 indicates strongly disagree unto 5 for strongly agree. The sample was a sample of 518 UAEU undergraduate students drawn from colleges of engineering (COE), information technology (CIT), business and economics (CBE), was involved in the questionnaire survey. The surveyed students were enrolled in 24 sections representing 18 e-Blackboard courses. All students in the sample completed at least one web-based course offered through e-Blackboard. The questionnaire was distributed by hand to students. The measures that were considered in this study included student's perception regarding e-Blackboard ease of use, usefulness, attitude, and cognitive behavior. The students were selected randomly.

As a recommendation for this study we recommend that eblackboard system is an important for student education and it should be used by all universities, We also recommend that students should get more training sessions to be familiar with the eblackboard system and be able to get the maximum benefit using the system. In conclusion the majority of the students reported that eblackboard system was helpful to facilitate their learning process and facilitate their communication with their instructors and other students.

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