

ORIGINAL ARTICLE

Perspectives on Blackboard Usage as an Innovative Tool in Health Colleges' Faculty at the University of Hail

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ABSTRACT

Innovation takes a front seat offering autonomy from the burden of on-premise systems on educational journeys using platforms to facilitate teaching and learning. A quantitative-comparative approach was utilized to investigate the perceptions of blackboard Learning Management System (LMS)' accessibility, usability, and functionality and the barriers to its usage with the participants' demographic characteristics. Participants (n= 208) included faculty members of Health courses at the University of Hail, Kingdom of Saudi Arabia. Descriptive statistics such as mean and standard deviation were used. A t-test, Kruskal-Wallis, and ANOVA were utilized to compare the relationship between the perspectives and demographic profile. Overall, participants in this study found the blackboard LMS accessible with the presence of moderate barriers. Analysis have concluded that there were no significant difference between sex and age, and accessibility and usability/functionality perceived. However, there is a significant difference on the perceived barriers to usage of Blackboard LMS among the faculty from different colleges. The sex and faculty members are not a causative factor to using Blackboard as an innovative tool. Moreover, affiliated college is not a factor to perceived accessibility, usability but significant to perceive barriers to usage. Such competence of faculty members to use the Blackboard is an essential complement to conventional teaching can be further improved.

Keywords: Perspectives, blackboard usage, innovative tool, accessibility, usability, functionality, and barriers.

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INTRODUCTION

The Blackboard is the leading and commercially established platform that offers a compelling set of learning possibilities and new frontiers in education. Blackboard is a learning system software application that facilitates teaching and learning with instruction, communication, and assessment [1]. This motivates learners by participating in discussion forums, course content sharing, submitting online assignments, and obtaining timely feedback from the instructors and fellow students [2]. It is one of the most concentrated academic solutions that provides accurate learning activities management, deep interactions with the course material, and facilitate learner engagement [3]. As a result, blackboard was considered a practical tool to transfigure the covert knowledge to overt knowledge [4]. While commitment encompasses a higher level of satisfaction, learning is assumed for this platform to work. As such, due to the potential that blackboard enables in enhancing course management, online courses have proven to improve learning, boost students' self-sufficiency and ease the complex needs in nursing education.

Blackboard usage was initiated in western countries. Several institutions in Saudi Arabia implemented Blackboard as a constituent of the educational management system in higher education for their educational activities [5]. In the digital period, no one is exempted from shifting from traditional to technology-assisted systems, especially in the academe. Each faculty will have myriad benefits about how

blackboard usage will influence them. There was a remarkably optimistic view of the blackboard; however, their usage was delimited. Alhosban and Ismaile [5] perceived the advantages of technology-enhanced learning environments, yet, their benefits in the undergraduate programs have not been investigated. However, some faculty members are dawdling about blackboard usage implementation. On the other hand, others claim most faculty are not using it to its potential. Uziak et al. [6] suggested that even though faculty members were capable and knowledgeable about computer technologically, they were not accustomed to the blackboard platform nor certain of the software's usefulness. Moreover, issues were raised and had a critical deterrent to blackboard employment including erratic web access, electrical failures, internet disconnections, quality of the system and facility support. Alturki, Aldraiweesh, and Kinshuk [7] further maintained that many faculty members complain about the blackboard software because of the perceptions that the shared features are inconvenient to the user. Conversely, Melton [8] determined the acceptance of the application of blackboard among teachers and faculty members with different demographic profiles. The study showed that the teacher's characteristics were important in determining the accessibility, acceptance, and usability of the application for e-learning purposes. Further, Hossain, Akhtar, & Rahman [9] encountered impediments and defy vis-à-vis blackboard usage and its learning consequences, which was technologically influenced by the user's perspectives on the system and attitude that suggested the accessibility and usability of the software [10]. This study is of paramount importance as it helps faculty members to their needs to improve in using the Blackboard as an innovative tool in teaching. Further, it serves as a piece of essential information for school administrators to critically look into the contemporary means to teach. Thus, this study investigates accessibility, usability, and functionality and the barriers in blackboard Learning management system (LMS) usage among Health Colleges' faculty with their demographic characteristics.

MATERIAL AND METHODS

Design

A quantitative-comparative approach was employed to determine the perspectives of health colleges on the accessibility, usability, and functionality as well as the barriers to the use of Blackboard LMS.

Setting/ Participants

This study was conducted at the University of Hail, Hail City, Kingdom of Saudi Arabia. Participants were faculty members of different health colleges, namely; Nursing, Medicine, Pharmacy, Applied Science, Public Health and Health Informatics, and Dentistry. 208 faculty members participated in the study.

Instrument

The survey tool used was tailored and adapted from Alturki, Aldraiweesh, and Kinshuk [7]. The questionnaire was structured into four sections: 1) demographic characteristics (sex, age, and college); 2) scale for accessibility of using blackboard; 3) scale for usability and functionality of blackboard, and 4) scale for barriers of using blackboard. The questionnaire was measured with five Likert 'scale with total of 83 items

Data gathering

Survey was distributed among participating faculty members using an online link through WhatsApp. Faculty members were instructed to contact the researchers should they have any questions or clarifications. Data gathering was conducted between February and March 2020.

Ethical Consideration

Ethical approval was obtained from the Institutional Review Board of the University XXX (IRB registration number ##### with approval number ### from ##/##/2020). An exploratory statement and a written informed consent were provided for the participant with the survey link.

Statistical Treatment

The data collected were statistically analyzed using the SPSS (version 25) to test the faculty's perspectives on the accessibility, usability, and functionality, and barriers to blackboard LMS usage. A T-test, Kruskal-Wallis, and ANOVA with post hoc tests were utilized to compare the differences between the perspectives and demographic profile.

RESULTS

In this study, 208 faculty members from all the health colleges participated by answering the questionnaire. The majority of the respondents were males with 125 participants (60.1%), while only 83 (39.9%) were females. The age of the participants was classified into four groups, with 46.2% being in the 31 – 40 years age group and 37.5% in the 41 – 50 years age group.) Accordingly, 49 participants were from the College of Applied Science, 46 participants from the College of Medicine and 41 from the College

of Nursing representing 23.6%, 22.1% and 19.7% of total sample respectively. More details of the demographic analysis are presented in (Table 1).

Table 1. Demographic characteristics of faculty (N = 208)

Demographics	f	%
Gender Male	125	60.1
Female	83	39.9
Age 20 – 30 years old	12	5.8
31 – 40 years old	96	46.2
41 – 50 years old	78	37.5
51 years old and above	22	10.6
College Nursing (CoN)	41	19.7
Medicine (CoM)	46	22.1
Pharmacy (CoP)	21	10.1
Applied Science (CoAS)	49	23.6
Public Health and Health Informatics (CoHHI)	25	12.0
Dentistry (CoD)	26	12.5

Table 2 shows that the overall sample found the blackboard accessible with a mean of 3.42 (SD .95) with the presence of moderate barriers with a mean of 2.85 (SD .85).

Table 2. Accessibility, usability, Usability and Functionality, and barriers of using Blackboard

Dimension	M	SD
1. Accessibility	3.42	.95
2. Usability and Functionality	3.58	1.03
3. Barriers	2.85	.85

The sex of the faculty members had no significant difference on accessibility ($t=.049$; $p=.825$), usability and functionality ($t=.805$; $p=.371$); and barriers ($t=2.230$; $p=.137$). Moreover, the age has no significant difference on accessibility ($H=1.709$; $p=.635$), usability and functionality ($H=4.202$; $p=.240$), and barriers ($H=3.909$; $p=.271$). Meanwhile, there is no significant difference in terms of perceived accessibility [$F(5, 202) = .967$, $p = .439$] and usability/functionality [$F(5, 202) = 1.001$, $p = .418$] when the faculty is affiliated college is considered. However, there is a significant difference on the perceived barriers to usage of Blackboard LMS among the faculty from different colleges [$F(5, 202) = 2.308$, $p = .046$] (Table 3).

Table 3. Differences in the accessibility, usability, and functionality, and barriers of using blackboard in terms of sex, age, and college

	Sex	N	Mean	SD	t-test	Significance
Accessibility	Male	125	3.34	.93	.049	.825
	Female	83	3.54	.97		
Usability and Functionality	Male	125	3.49	.97	.805	.371
	Female	83	3.72	1.11		
Barriers of Using Blackboard	Male	125	2.92	.80	2.230	.137
	Female	83	2.72	.91		

	Age	N	Mean Rank	Kruskal-Wallis Test (Chi-square), df=3	Significance
Accessibility	20-30 years old	12	94.13	1.709	.635
	31-40 years old	96	100.13		
	41-50 years old	78	110.47		
	51 years old above	22	108.09		
Usability and Functionality	20-30 years old	12	82.46	4.202	.240
	31-40 years old	96	99.18		
	41-50 years old	78	113.60		
	51 years old above	22	107.45		
	Total	208			
Barriers of Using Blackboard	20-30 years old	12	133.67	3.909	.271
	31-40 years old	96	105.93		
	41-50 years old	78	97.66		
	51 years old above	22	106.61		

College		Sum of Squares	ANOVA df	Mean Square	F	Sig.
Accessibility	Between Groups	4.360	5	.872	.967	.439
	Within Groups	182.199	202	.902		
	Total	186.558	207			
Usability and Functionality	Between Groups	5.309	5	1.062	1.001	.418
	Within Groups	214.333	202	1.061		
	Total	219.641	207			
Barriers of Using Blackboard	Between Groups	8.045	5	1.609	2.308	.046*
	Within Groups	140.823	202	.697		
	Total	148.868	207			

*Significant at 0.05 level significance

DISCUSSION

This study aimed to determine the differences in the perception of the faculty members across the health-allied colleges on the accessibility, usability, and functionality, and barriers to using blackboard as an innovative tool in teaching. In this study, the participants perceived the use of Blackboard as highly accessible, with high usability and functionality with moderate barriers. These results suggest that faculty members viewed Blackboard as significant in delivering the courses and seen to enhance the learning and teaching practices. Indeed, the blackboard has been most used to be the innovative teaching tool of most universities in Saudi Arabia [11], where learners can explore more than what traditional classroom teaching can offer. While Blackboard LMS delivers effective means to communicate and assess the learning process, it also improves interaction due to its accessibility [12]. The results of this study indicates that Blackboard provides a platform to support both teachers and learners in this technology-driven era of education innovations.

Firstly, both male and female participants do not differ in their views on the accessibility, usability and functionality, and barriers in using the Blackboard LMS. This is credited to the fact that Blackboard LMS is suitable to use in course-related activities. Earlier studies claimed that that male teachers have had a better rating than their counterpart with the consideration of using and accessing e-learning software [7] and that they have a higher rating on the competencies in manipulating the electronic software [13] other studies suggest that men spend more time online and demonstrate more motivation to learn digital skills [14-15]. This study's results contribute to ensuring the maximum use of Blackboard LMS as an essential tool for the teaching and learning process with no gender consideration.

Secondly, the participants' age had no significant differences in their perception of accessibility, usability and functionality, and barriers to using Blackboard. This suggests that older faculty members can contend with the faculty belongs to the younger generation. However, earlier research has found that competency in technology may vary with age. In their study, Alzidiyeen and colleagues [16] found that age has a significant difference with the use of the computer, competence, and attitude of the teachers. Younger ones have more competent than their counterpart is. Conversely, Islahi and Aligarh [17] maintained that age does not differ when computer competence is considered. On the other hand, the College of Public Health was found to differ from the other colleges regarding barriers to using blackboard. This can be explained that the College of Public Health is used to face-to-face teaching where adjusting to using the Blackboard is somewhat a barrier.

Lastly, the acceptance of the faculty members in using the Blackboard LMS may explain the difference. For example, a study conducted in Saudi Arabia where acceptance of using an innovative tool in teaching may be a problem. At some point, the language barrier is one of the problems since the approaches in instructions were in Arabic, and content delivery was adopted in the western countries [7].

Overall, this research's implications reinvigorate the need for faculty members to use technology as a groundbreaking teaching instrument. Such perceptions on blackboard usage are a potential predicament, which may affect the faculty's effectiveness and the academic performance of the college students. In this study, the causative factors affecting the use of the Blackboard Learning Management System speak well to the adaptability of the faculty members; however, school administrators need to examine any challenges that the faculty may have. The need for school administrators to examine the training and instructional needs of faculty members in Blackboard LMS, for example, is a compliment to the usage, accessibility, and barriers. As such, faculty members' competence to use the Blackboard as an important complement to conventional teaching will be further improved.

CONCLUSION

The demographic characteristics such as the sex and age of the faculty members are not a causative factor to using Blackboard as an innovative tool. Moreover, affiliated colleges found not significantly different to perceived accessibility, usability but significant to perceive barriers to usage. However, despite the no significant difference in faculty members' competence to use the Blackboard needs reinvigoration as it is an essential complement to conventional teaching.

COMPETING INTERESTS

The authors have declared that no competing interest exists.

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