Original Article

Attitude of Faculty Members Towards E-Learning in Saudi Universities: A Cross-Sectional Study

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ABSTRACT

OBJECTIVES: To assess faculty member's experiences and attitudes towards e-learning among academic teaching institutions.

METHODOLOGY: A quantitative design was implemented in this study to analyze faculty members' attitudes of ten higher education institutions. A structured survey tool of e-learning was adopted to obtain information from the university faculty from March to May 2020.

RESULTS: Completed questionnaire findings demonstrated a high-level attitude (84%) with the mean, SD, 3.10±0.22 towards e-learning and showed a significant correlation between technology support and trainers' attitudes towards e-learning (virtual learning) at p≤0.019. Hence, higher education institution faculty members' attitude is one of the most important stakeholders for incorporating the virtual learning system in the teaching-learning process to promote quality education.

CONCLUSION: Multi-modal delivery methods and technologies (Blackboard system) of the e-learning currently being employed by higher education academic institutions positively enhances the faculty members' attitude towards implementing the e-learning system. These results can be an excellent example of creating an effective e-learning platform for implementing an e-learning environment in the teaching-learning process.

KEYWORDS: Academic faculty members, E-learning, Information technology, Positive attitude, Blackboard, higher education institutions.

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INTRODUCTION

E-learning has predominantly emerged as the significant field of the education system of Saudi Arabia that witnesses consistent development, particularly in the institutions of higher education. During the last two decades, the dire necessity for the growth of the education market in Saudi Arabia (KSA) has flourished. The increase in the student community across all institutions has produced extensive power and influence in KSA. Nevertheless, educational academia across Saudi Arabia outlines and insists on constant challenges and drawbacks about e-learning[1]. The tremendous potency generated by the Higher Education health industry is likely to head the nation in driving more robust knowledgeable empowered institutions. The government has concentrated on the practical and successful implementation of Information and Communication Technology (ICT) in teaching institutions to establish a fertile learning atmosphere, including hybrid teaching methodologies[2].

Consequently, the adopted communication technologies (ICT) in the education system generated virtual learning as a supportive revolutionary method of the traditional process of teaching-learning. Currently, blackboard system is one of the tools used globally, especially in Saudi Arabian higher education universities in a blended learning approach[3]. Blackboard system (BBS) announced the establishment of the Blackboard collaborate online portal that allows all the higher education organizations to rapidly and amicably implement its virtual classroom solution[4]. A recent study documented that adopting BBS in online learning has enhanced trainer-trainees engagement, readiness, and course satisfaction[5]. Also, Tataei A et al. indicated the necessity of easiness, desire, and favorable attitude among employees for successful electronic learning outcomes[6]. E-learning has been initially considerably adopted in the early 19th century and further developed in recent years with the extensive sociable software technology and the updated technologies[7]. It is no wonder that the Saudi Arabian authorities have been the most remarkable initiator about the virtual method by offering a broader range of realistic approaches using appropriate training to their employees[8].

The electronic learning environment validates trainees and their associated relevant tasks supported by several instruments and learning procedures. The crucial endowment of virtual platform instruments for expediting cooperative association in schooling circumstances decline the students' reliance upon

trainer due to cognition's provenance[9]. Such a conducive environment is deligated by a well-organized atmosphere that revamps learners' assertiveness and learners-assurance and the mastery to raise their point of view online instead of the traditional method of learning[10]. However, there are significant barriers in learning domains to use the BBS that would arise from teachers, students, organizations, administration, and various technology[11].

To avert trainers from being cautioned from constructing several virtual strategies, they must collaborate to identify reliable action and explore instruction feedback. Teachers' opinions and attitudes (including inaccuracies) provide a foundation for a better teaching-learning activity approach. Three essential determinant factors are mandatory to adhere to, such as learner-related, institution-related, and e-learning system-related behaviors when developing an innovative curriculum. Besides, instructors also need support to facilitate a change in their pedagogical practices[12]. Successful implementation of feasible e-learning imparts the necessary foundation and support to captivate and retain the very best education professionals.

Furthermore, the recognition of e-learning is conclusively regulated by its resilience in managing cognitive, time, and skill management and stretching its access to information.

On the contrary, teachers' negative attitudes might impact institutions' or technology-associated factors' facilitating conditions[13]. Combining regular teaching programs with remote learning perspectives flagged the platform on the consistent progress concerning the methods of achievements in generating a good structure. Although specific organizations from different nations have made plenty of efforts, it is undeniable that the ministry also initiated the timely intervention with great efforts to instigate online teaching. Besides, the substantial investment scheme of Saudi Arabia in this sector dramatically expanded the platform of remote learning; all teaching institutions in the kingdom have also realized that the government has been very supportive in each phase of substituting this methodology[6].

However, to expand the advantages of this innovative e-learning program, collaborative attempts are necessary for supplementing it with the enrichment of building curriculum by academic teachers to ensure reasonable, amicable, and uninterrupted internet resources institutional training and resources to the teachers and students[14]. Thus, a quantitative cross-sectional study design was adopted to understand teachers' experiences and attitudes toward e-learning to overcome the constraints upon implementation effectively.

METHODOLOGY

A quantitative descriptive research design was adopted to explore the faculty members' experiences and attitudes towards e-learning. The chosen population of this study was the faculty members of academic institutions in KSA. The objectives were to analyze the experiences and attitudes of academic faculty members towards e-learning in the academic system amid COVID-19, and to analyze the role of demographic characteristics and exposure to technology towards e-learning.

A purposive sampling of faculty members from Saudi Arabian universities was chosen as a population to meet this study's purpose. The structured validated tool by Kisanga DK was disseminated to all departments by the investigators using an online portal to complete the survey questionnaire. Before distributing the tool, the pilot study was performed among 10% of the chosen participants, and Cronbach's internal consistency was measured for the tool's total items as (r=0.89, P=0.001); later, the same participants were excluded from the actual survey.

The results confirmed the feasibility of progressing to the main study. Finally, the collected data underwent a preliminary treatment to detect and eliminate those cases that the faculty members have left blank in filling up the questionnaire. The standard formula was applied to confirm that a sample of 139 participants was sufficient to detect a statistical difference in quantitative attitude scores. The objectives of the investigation were informed to all the faculty members to obtain their consent.

The tool consisted of two sections. The investigators included in the first part section of the tool regarding the faculty's demographic characteristics followed by the second section with 36 items of a Test of pre-validated items of attitudes to quantify faculty members'' attitudes about e-learning. The attitude survey scale incorporated a 4 point Likert response format as Strongly agree-4, Agree-3, Disagree-2, Strongly disagree-1. Deanship Postgraduate Scientific Research, Faculty of Nursing, Umm al-Qura University, Saudi Arabia, approved it to conduct. (Reference No UQU/FON/NP: 025 dated 5th March 2020).

RESULTS

Demographic Characteristics (n=139)

Results indicated that 96 (69.1%) of the faculty members were females, and 43 (30.9%) were male participants. Out of 139 samples, 51(36.7%) and 88 (63.3%) had Master's degrees and doctorate, respectively. Teaching experience with less than six years was 31(22.3%), 43(30.9%) includes in 6 to 10 years, 25(18%) represent 11 to 15 years, and the rest of the faculty members 40(28.8%) more than 15 years. Data revealed an exciting factor that all participants 139(100%) had proficient knowledge about technologies. (Table I).

TABLE I: DEMOGRAPHIC STATISTICS

Sample Distribution	Number	(%)
Gender		
Female	96	69.1
Male	43	30.9
Qualifications		
Masters' Degree	51	36.7
Doctorate Degree	88	63.3
Teaching Experience (Years)		
0-5	31	22.3
6-10	43	30.9
11-15	25	18
Above 15	40	28.8
Exposure to computer		
Yes	139	100
No	-	-

Faculty members' mean attitude scores towards implementing e-learning were 3.10±0.13. (Table II)

There was a significant association found between average scores of faculty member's attitude and the ease of use and technical support (Table III)

Based on the results, most of the study sample attributed to the female, holding the highest qualification with the underlying academic background for the duration of the above 15 years with 100% exposure to technologies.

Table III highlights the specific items concerning e-learning perception of ease of using the teaching method and the institutional support in rendering quality teaching using the blackboard system.

The main findings indicated that the faculty members with a higher level of a positive attitude are 84% (Mean, SD, 3.10±0.22) the perception of the importance of technology (84.2%) that was felt significantly relevant in adopting e-learning methods during the unprecedented crisis exerted by COVID-19. Even though academic teachers' face-to-face teaching method for teaching expressed by 107(77%) out of 139, that addresses the power in teaching and learning moves toward learners constructing their knowledge efficiently and puts the responsibility for learning. However, they have also agreed 95(68.3%) that the e-learning strategy provides them with better opportunities than traditional. The significant contribution concerning communication in sharing the teaching materials using Blackboard sheds a positive outcome of implementing LMS-BBS to enhance the faculty members' academic growth.

TABLE II: TEACHERS ATTITUDE PERCEPTION STATEMENTS

Statements of Attitudes: E-learning	Mean	Frequency and Percentage			
		SA	Agree	Disagree	SDA
E-learning is so economical to adapt to educational institutions.	3.14	44(31.7)	73(52.5)	20(14.4)	2(1.4)
Quality of work is enhanced by e-learning.	3.05	38(27.3)	70(50.4)	30(21.6)	1(0.7)
Computers make work more enjoyable.	3.15	41(29.5)	77(55.4)	18(12.9)	3(2.2)
I prefer reading articles on e-learning.	3.04	31(22.3)	82(59)	21(15.1)	5(3.6)
Preferable to use a computer in preparing the lessons.	3.43	69(49.6)	63(45.3)	5(3.6)	2(1.4)
I enjoy teaching using computers.	3.22	48(34.5)	75(53.95)	15(10.79)	1(0.7)
The traditional method is more learner-centered than virtual learning.	3.10	53(38.1)	54(38.8)	25(18)	7(5)
E-learning technologies enhance job performance.	3.03	27(19.4)	90(64.7)	22(15.8)	-
Prefer reading magazines using new technology.	3.07	28(20.1)	95(68.3)	15(10.79)	1(0.7)
Institution has sufficient teaching-learning assets to support virtual learning.	3.15	50(36)	67(48.2)	15(10.8)	7(5)
E-learning increases teachers' efficiency.	3.05	28(20.1)	91(65.5)	19(13.7)	1(0.7)
Discussion through e-learning is innovative.	3.23	38(27.3)	96(69.1)	5(3.6)	-

SA= Strongly Agree, SDA= Strongly Disagree; Total Mean SD 3.10±0.13.

TABLE III: ASSOCIATION BETWEEN ATTITUDE AND SELECTED ITEMS OF PERCEPTION

Variables	Mean	Mean± SD	P-value
Technology supports in delivering lectures.	3.42	3.19±0.16	<0.019*
E-learning improves work efficiency.	3.05		
E-learning platforms are outcome-focused.	3.10		
Learning Management system	3.15	3.2±0.17	<0.05*
Administrators support training	3.02		
Practicability in using Blackboard	3.43		

DISCUSSION

The study was performed to analyze and explore faculty members' experiences and attitudes in implementing E-learning while using the blackboard learning system during the sudden transition from the traditional method into online education due to the pandemic crisis COVID-19. Findings from this study enlightened the learning management system of blackboard usage, which substantially encouraged the participants to contribute their full potential in getting involved in delivering lectures during the pandemic crisis. The research of Teo T and Ursavas OF in 2012 indicated the facilitating conditions that have the most extraordinary significant positive impact on provided ease of use, followed by a cynical and non-significant effect on attitude towards computer use and positive on perceived usefulness in e-learning[15]. Teachers' perception towards e-learning was also explored in a study[16] where the academic teachers expressed their views that video recording of lectures needed for future references.

Faculty members responded to their attitude as above average, although the unprecedented situation (Covid -19) was the causative factor for transformation into the online teaching method. The total number of participants was 139 faculty members. The majority of the participants, 107(76.97%), had positive and proactive attitudes towards e-learning, while the remaining 32(23.02%) had negative attitudes. On the contrary, there is an encouraging report from this study that faculty members' positive attitude entirely contributed to their computer exposure (100%), and the institutional support (84.2%) in terms of supplying adequate teaching-learning resources rendered by their institution, that has been considered as the most influential factor for such favorable attitude. The current study has similarities with the research by Gunmala S 2017[16] with the shred of evidence supporting this view that teachers' experiences on computers contributed by a protocol of using computers imposed by the institution, an innovative learner's information management system (LIMS), and information and communication teaching programs implemented at the workplace.

The two significant factors of virtual telecommunications that acknowledge them to execute additional workforce than would otherwise be conceivable, and e-earning will improve the quality of work revamped the predictability of adopting e-learning during the sudden transformation from traditional methods online learning. These most valued teaching items have a significant association with the practical usage of (LMS) in delivering knowledge and skills to the learners' prospects with the inbuilt illumination, which has been perceived favorably by 101(72.7%) faculty members. About the improvement in the quality of work using e-learning strategies, almost 108(77%) participants responded that it was perceived as a promising way to enhance the work values and efficiency in teaching. In terms of innovations and fun, the results have demonstrated that the majority of 134(96.4%) faculty members embrace web-based learning as an empowered instrument or strategies for students to progress beyond course expectations that would enable students to explore their talents and facilitate their learning process as a functional paradigm.

Subsequently, survey results revealed with the response of 123(88.5%) faculty members about the item on efficient use of technology, the participants expressed that the technology has the power to prepare the better teacher out of a good teacher. Among the faculty members, 117(84.2%) expressed their views that e-learning increases their job performance, whereas 103(74.1%) of them strongly agreed that communicating through networking has increased their interest in a way all teaching lessons were presented. It has enhanced their interaction with students in creating a vibrant atmosphere that is conducive for better learning. Further, 113(81.3%) out of 139 faculty members prefer reading articles online, 99(71.2%) of the participants feel easier to revise electronic materials than printed ones. The question that was asked about "delivering a lecture through electronic technologies is complicated, and e-learning technologies are difficult to use" It was shown that 117 (84.2%) & 120(86.3%) academic teachers respectively disagreed with these statements. Hence it is widely evident that the teachers feel more confident and comfortable using technologies.

The researchers wanted to associate the variables that would impact the happening of virtual learning. The factors such as gender, experience, qualification correlated with the faculty members' attitude towards e-learning using a Pearson Chi-square test. The attitude effect collapsed into two distinct categories: positive and negative, to achieve the Chi-square test.

In this regard to the variables concerning gender indicated that the significant association was statistically found between gender and attitude perspective that makes teachers work very interesting towards e-learning ($p<0.05$), as well a significant association was documented between qualification and the aspects of technology innovation that accelerates implementing virtual learning at P value less than 0.05. It implicates teachers' liability to technology innovation (LMS-Blackboard) with outstanding contributions in developing a positive attitude about virtual strategies. The demonstrated level of familiarity with technology has a higher attitude towards e-learning implementation.

Many researchers have argued about the determining factors of teachers' attitudes[2,3,12] that play a significant role in developing and promoting the favorable expected result in the institutions for the courses' successful implantation. To benefit from e-learning,

academic educational institutions should first investigate to assess the faculty members' attitudes and perceptions towards e-learning.

Furthermore, the study confirms with the findings that the participants recognize the necessity of remote training, and this serves as a driving force for the acceptance that can create a tremendous impact on the implementation of Blackboard's technology (as LMS in the education system).[17] In this study, it is evident that the teachers had an exponential attitude in practicing innovative curriculum through the Blackboard Collaborate system's inclusion following the sudden transition into e-learning during the COVID -19 crisis.

Additionally, extortionate insights can also be rendered to instructors by assessing learners' views about learning methods, characteristics of teaching, and managing with the domain of online learning[18]. With such an e-learning platform, academic educators can use the distribution system's plentiful resources, such as evolving extrapolated courseware in the construction canter, collaborative teaching along with students in the training gateway, and consultation and question and answers in the community forum[19]. A similar study by Tataei et al. explored in their research and documented that mental perception about ease of using technologies, enhanced infrastructure facilities including the standards high-quality features of the LMS, and other relevant organizational factors played a critical role among staff members who successfully used e-learning systems[6]. Moreover, the study's demonstrated results emphasized that faculty members who do not adhere to motivation to become experts in using e-learning might be limited to their use of new pedagogies[20].

CONCLUSION

The emergence and swift advancement of communications using technology and infrastructure support have dramatically revolutionized the world. Surprisingly Blackboard Collaborate (LMS) has been promoted to mitigate communication that has advantages for learners and educators. Study findings serve as an example to follow updated strategies and effective e-learning platforms to integrate Blackboard innovative learning systems in higher education academic universities to achieve the desired teaching learning goals. The educators in academia can successfully use online learning platforms at work as a pedagogical tool, empowering them to achieve their assignments competently. Embracing virtual learning at Saudi Arabia universities is necessary to furnish the materials through the blackboard communication system effectively. The efficient utilization of available e-learning strategies (BBCS) will promote the learner-centered approach and will foster to capture and preserve the very best academic educators.

LIMITATION

The present study has a potential limitation of small sample size as the inclusions were from only a few institutions; hence, the results cannot be applied to all higher education universities' faculty members. Besides, due to the study's cross-sectional nature, a causal relationship could not be made.

Ethical Permission: The study was ethically approved (UQU/FON/NP: 025 dated 5th March 2020).

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AUTHOR CONTRIBUTIONS

Tayyab NA: Study concept, data collection & data analysis
Ramaiah P: Data interpretation, data analysis, literature search and manuscript writing
Alshmemri MS: Data collection and supervision
Ali HYS: Literature search (Data collection instrument)
Asfour HI: Data collection and Proof reading
Alsolami FJ: Study concept, supervision and data collection
Lindsey GM: Data analysis and proof reading
Alsulami SA: Data collection and supervision

REFERENCES

1. Alkhalaf S, Nguyen A, Drew S. Assessing e-learning systems in the Kingdom of Saudi Arabia's higher education sector: An exploratory analysis: International conference on intelligent network and computing. 2010: 284-287.
2. Alzahrani MG. The Developments of ICT and the Need for Blended Learning in Saudi Arabia. J Edu Prac. 2017; 8(9): 79-87.
3. Zaki HA, Zawaidi EI. Use of Blackboard Collaborate at Qasim University: Evaluating Teachers' Perception. David Publishing Company. 2017; 14(2): 76-85.
4. Arab News. Blackboard launches hassel free online portal. [Arab News]. April 8, 2020. Accessed 15th May 2020. Available from: https:// www.arabnews.com/ node/1655111/corporate-news
5. Tayyib NA, Ramaiah P, Alshmemri MS, Alsolami FJ, Lindsay GM, Alsulami SA, et al. Faculty members' readiness implementing e-learning in higher education Saudi Universities: A cross-sectional study. Indian J Sci Tech. 2020; 13(25): 2558-64.
6. Tataei A, Valinejadi A, Seyedroghani P, Mahdizadeh J, Kahouei M. Effectiveness of e-learning in Empowering Clinical Staffs and Health Care Employees after Meaningful Use Based on the Technology Acceptance Model. J Liaquat Uni Med Health Sci. 2020; 19(02): 116-21. doi:10.22442/jlumhs.201920673.

7. Abdel Gawad AM, Al-Masaud K. Impediments of activating e-learning in higher education institutions in Saudi Arabia. Int J Adv Comp Sci Appl. 2014; 5(4): 12-18.
8. Aljaber A. E-learning policy in Saudi Arabia: Challenges and successes. Res Compar Int Educ. 2018; 13 (1): 176-194.
9. Kumi-Yeboah A. Yuan G, James D. Online collaborative learning activities: The perceptions of culturally diverse graduate students. Online Learning J. 2017; 21(4): 5-28.
10. Tudor S, Stan M, Paisi-Lazarescu M. Integration of the e-Learning in teaching learning courses at preschool and primary pedagogical teacher: E-Learning & Software for Educ. 2015; (2): 340-45.
11. Almeajel TM, Sharadgah TA. Barriers to using Blackboard system in Teaching and Learning: Faculty perceptions. Tech Know Learn. 2018; 23 (2): 351-366.
12. Cheok ML, Wong S. Predictors of e-learning satisfaction in teaching and learning for school teachers: A literature review: Int J Instruction. 2015; 8(1):75-90.
13. Dalton HK. Determinants of Teachers' Attitudes towards E-Learning in Tanzanian Higher Learning Institutions. Int Rev Res Open Dis Learning. 2016; 17 (5).
14. Al-Asmari AM, _Shamsur R K. E- Learning in Saudi Arabia: past, present and future. Near and Middle Eastern J Res Educ. 2014; 2:1-11.
15. Teo T, Ursavas OF. An assessment of pre-service teachers' technology acceptance in Turkey: A structural equation modeling approach. The Asia-Pacific Educ Res. 2012; 21(1): 191-202.
16. Gunmala S, Sneha S. Investigation of teachers' attitude towards e-learning. A case study: Panjab University. 13th National Conference on Information technology and Engineering. Gian Jyoti E-Journal. 2017; 6(3): 1-10.
17. Unnisa ST. E-learning in Saudi Arabia's higher education: Kuwait chapter of Arabian of Business and Management Review. 2014; 4(2):152-157.
18. Richter OZ, Kondakci Y, Bedenlier S, Altuki U, Aldraiweesh A, Pupplichhuysen. The development of distance education system in Turkey, the Russian Federation and Saudi Arabia. European J Open and Distance Learning. 2015; 18(2): 112-128.
19. Harasim L. Learning Theory and Online Technologies. 2017. Routludge. CRC Press. Taylor and Francis Group.
20. Alokluk JA. The Effectiveness of Blackboard System, Uses and Limitations in Information Management. Intelligent Information Management. 2018; 10: 133-149.

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