

The Effectiveness of Distance Learning (BlackBoard) in Pursuing the Educational Process at Taif University During the COVID-19 Pandemic

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ABSTRACT

The Kingdom of Saudi Arabia is facing the COVID-19 pandemic as it is trying with all its efforts to pursue higher education in its universities and schools through distance learning. The current research tried to investigate Taif University experience in distance learning and the effectiveness of BlackBoard in pursuing education in the light of the COVID-19 pandemic from the viewpoints of teachers and students. To achieve this goal, the descriptive survey approach was used. Two questionnaires were designed. A random sample was chosen from all colleges of the university. The sample consisted of 240 faculty members and 804 students. The results showed great effectiveness of BlackBoard in pursuing education from the viewpoints of faculty members and to a very great degree from the students' point of view. No impact of the two variables (gender, rank) appeared in the viewpoints of faculty members in that effectiveness. Male students' viewpoints were higher than those of females, and the viewpoints of Master's students were higher than those of undergraduate students on this effectiveness.

KEYWORDS

Blackboard, COVID-19 Pandemic, Distance Learning, Taif University

INTRODUCTION

The Kingdom of Saudi Arabia, like other countries of the world, is going through an emergency represented in the Coronavirus (COVID-19) pandemic, which affected all sectors of society. The Kingdom exerted all possible means to fight it, reduce the effects of the virus, and protect the sectors of society.

The education sector – both public and university – was and still is – one of the most affected by the pandemic. As a result, classes all over schools and universities of the Kingdom were suspended resorting to distance learning as the Ministry of Education's belief of the importance of continuing

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the educational process during the pandemic without any slight thought in canceling or stopping this process and to ensure that the virus will not be allowed to spread through the society and eventually fight and eliminate it, God willing. Although this type of education is applied for the first time - due to the pandemic crisis - in the general education system in the Kingdom, it is almost known in university teaching, but it is not fully implemented as it is in the current situation.

Razik and Swanson (2017) define distance learning as a modern and advanced technology that engages students in independent learning. Students and their teachers who are in separate places and far from each other communicate through electronic techniques. It is also defined as any educational process in which there is no direct contact between the student and the teacher. They are separated chronologically and spatially, and communication between them occurs through educational media (Amer, 2014). Thus, it can be said that distance learning is based on the presence of the teacher and students in different places, and communication among them is done through various communication techniques, including BlackBoard technology. The Learning Management System (LMS) (BlackBoard) is defined as an alternative electronic learning environment to the regular learning environment based on building synchronous and asynchronous interactive methods among students and their teachers and students with each other through the Internet (Al-Obaid & Al-Shaya, 2020). This system allows universities to provide electronic courses on the network as a supplement to traditional education, in which a faculty member can add academic content, assignments, and tests, use discussion forums and attach various types of multimedia files in order to develop and improve the learning process (AbuJabal, 2019).

Distance learning in general and the learning management system (LMS) BlackBoard in particular is characterized by providing appropriate learning techniques for both the teacher and the student. It is flexible in that it gives the student a choice to participate based on his desire in terms of time and place; it also does not cost a lot of money and allows interaction between the student and the teacher, specifically students who are shy to ask questions or participate (Al-Bitar, 2016; Bervell & Umar, 2017). Furthermore, it makes learning more enjoyable and exciting for students and helps them in self-learning and learning for life (Malkawi et al., 2015). However, employing distance learning is not only about having students deal with technology and technical issues but also, importantly, is about pedagogical challenges and the way they adopt to the online mode (Ali, 2020).

Several studies have shown that distance learning via the Internet needs unique teaching strategies and skills that are different from the strategies and skills found in regular education (Ali, 2020; Hardy & Bower, 2004; Ghazala & Al-Sayed, 2019; Al-Ghunaim, 2016; Al-Randi & Aba Al-Khail, 2016; Al-Dasmani & Al-Amer, 2017; Al-Sadhan, 2015; Tiwari et al, 2021). But even so, and prior to the Corona pandemic, training faculty members in universities in these skills and strategies was not as desired and hoped (Moller et al., 2008; Desai et al., 2008; Al-Qahtani, 2018; Al-Zahrani, 2020).

However, when the Corona pandemic and the suspension of classes have started in schools and universities in most countries of the world, including the Kingdom of Saudi Arabia, regular learning has eventually shifted from regular to distance learning, which has become the only way to ensure the continuation of the educational process (Adnan & Anwar, 2020; Bataineh et al., 2020 ; Daniel, 2020; Patricia, 2020; Iglesias-Pradas et al, 2021; Cich et al, 2021; Tiwari et al, 2021). The Kingdom and its educational institutions took upon themselves the responsibility for the success of this experience, so it seriously began developing the infrastructure and creating the appropriate circumstances and environments for distance learning, as the Al-Zahrani study (2020) has shown that the Kingdom's universities during the pandemic have significantly developed a learning management system (BlackBoard). However, it faced some challenges during the second semester of the school year 2019/2020 (the beginning of the pandemic) as the experience took place suddenly. Looking at the continuing experience in those universities, especially at Taif University, during the first semester of 2020/2021, a qualitative move in implementing this system was noticed. The university has been actively involved in training faculty members on the learning management system (BlackBoard),

including all its components and constituents, either synchronously or asynchronously and training students through instructional and educational video presentations related to the system.

By looking at the previous studies, no study was conducted to determine the effectiveness of distance learning in continuing the educational process at Saudi universities during the Corona pandemic from the viewpoints of both students and teachers. Therefore, the current study was carried out to achieve this goal by assessing Taif University experience in using distance learning (BlackBoard) during the Corona pandemic.

PROBLEM OF THE STUDY

Based on what was mentioned, the current study tries to answer the following main question: “What is the effectiveness of distance learning (BlackBoard) in pursuing the educational process at Taif University during the COVID-19 Corona Virus pandemic from the viewpoints of both teachers and students?”, This can be achieved by answering the following two sub-questions:

- What is the effectiveness of distance learning (BlackBoard) in pursuing the educational process at Taif University during the COVID-19 Corona Virus pandemic from the viewpoints of faculty members?
- What is the effectiveness of distance learning (BlackBoard) in continuing the educational process at Taif University during the COVID-19 Corona Virus pandemic from the viewpoints of students?

LIMITATIONS OF THE STUDY

This study was limited to a set of dimensions associated with the effectiveness of distance learning in the educational process; in particular the learning management system (BlackBoard) adopted in all Saudi Arabia universities. Furthermore, the focus was on applying this system during the Coronavirus COVID-19 pandemic period during the first semester of the academic year 2020/2021.

The sample was also restricted to a group of faculty members and their students at Taif University, who were chosen randomly, and the generalization of results was determined by the extent to which the sample represented their counterparts in Saudi universities.

METHODOLOGY

The Current study employed the descriptive survey approach by applying a questionnaire to a sample of faculty members and students at Taif University to identify their viewpoints on the effectiveness of distance learning (BlackBoard) in pursuing the educational process during the COVID-19 Corona Virus pandemic. After the written approval of the application has been taken from the university administration.

Study Population and Sample (Participants)

The study population consisted of all faculty members and their students at Taif University, were affiliated to the medical Faculties (medicine, dentistry, pharmacy), and scientific Faculties (engineering, science, computer), and humanities Faculties (arts, education, Sharia’ and Regulations, business administration, Applied Studies), during the first semester of the academic year 2020/2021. In like manner, a representative sample of this community was randomly selected from the various Faculties and programs of the university, which consisted of (240) faculty members, and (802) male and female students. Participants provided consent to participate in the study.

The Two Instruments of the Study

To achieve the objectives of the study, two questionnaires were used: one for faculty members and the other for the students. They were designed after reference to modern educational literature such as (Al-Zahrani, 2020; Al-Dhali, 2018; Al-Ganzouri, 2017; Al-Zahrani, 2017; Al-Balasi, 2016; Al-Sadhan, 2015; Ghazala & Al-Sayed, 2019; Al-Qahtani, 2018; Al-Ghunaim, 2016; Al-Randi & Aba Al-Khail, 2016; Al-Sai, 2015; Sayyaf & Al-Qahtani, 2014; Al-Melhem et al., 2018; Patricia, 2020), and the opinions of some specialists in educational techniques and university teaching. The faculty members' questionnaire was composed of four main domains and (54) indicators, while the students' questionnaire consisted of five main domains and (42) indicators. The validity and reliability of the two questionnaires were verified, and the two questionnaires were distributed online through Google Forms in cooperation with the Deanship of Scientific Research at the university. The Scientific Research Ethics Committee approved applying the study tools at the Deanship of Scientific Research - Taif University. Two weeks later, the data was analyzed using the SPSS program to identify the effectiveness of distance learning (BlackBoard) in pursuing the educational process at Taif University.

RESULTS

Results Related to the First Study Question: Discussion and Interpretation

In answering the first study question related to the effectiveness of distance learning (BlackBoard) in pursuing the educational process during the COVID-19 Corona Virus pandemic, the data showed a large degree of approval from the viewpoints of faculty members with a general mean of (4.20 out of 5) as seen in Table 1.

The effectiveness of distance learning on the domains of the questionnaire ranged between large and very large, as the mean values ranged between (4.18) and (4.26). The domain (evaluating student learning) ranked first with a mean of (4.26) with very large effectiveness, while the domain (planning for university teaching) ranked second with a mean of (4.22) with very large effectiveness as well, and the domain (learning management and virtual classes) ranked third with a mean of (4.19) with large effectiveness, and the domain (implementation university teaching) came in the fourth place with a mean of (4.19) and with large effectiveness, as well.

The previous results are in agreement with the study results of each of (Chen et al., 2020; Al-Zahrani, 2020; Al-Hujailan & Al- Hubaishi, 2018; Al-Zahrani, 2017; Al-Balasi, 2016; Al-Sai, 2015; Al-Manharawi, 2015; Al-Sadhan, 2015), while they differed with the study result of each of (Al-Shammari, 2019; Sayyaf & Al-Qahtani, 2014; Mazroua et al., 2013), which showed that faculty members at King Khalid University use the BlackBoard system with a medium degree.

The means and standard deviations of the results of the questionnaire were calculated according to the gender of the faculty member, and the results were as shown in Table 2.

Table 1. The means and standard deviations of the study sample for the responses of faculty members to the questionnaire

N	Domain	Mean	Standard Deviation	Degree of Approval	Ranking
1	Planning for university teaching	4.22	0.62	Very Large	2
2	Implementing undergraduate teaching	4.18	0.63	Large	4
3	Evaluating student learning	4.26	0.61	Very Large	1
4	Management of learning and virtual classrooms	4.19	0.68	Large	3
General Average		4.20	0.58	Large	

Table 2. Means and standard deviations of faculty members' responses to the study sample on the questionnaire according to gender

Domain	Faculty member gender	Number	Mean	Standard Deviation
Planning for university teaching	Male	154	4.21	0.62
	Female	95	4.25	0.63
Implementing undergraduate teaching	Male	154	4.18	0.62
	Female	95	4.20	0.64
Evaluating student learning	Male	154	4.25	0.60
	Female	95	4.26	0.63
Management of learning and virtual classrooms	Male	154	4.17	0.62
	Female	95	4.22	0.70

To test whether there is an effect of gender of the faculty member on his viewpoint; Multiple analysis of variance (MANOVA) was used, and it was found that the value of Wilks Lambda is (0,995) and is associated with a probability of (0,872), and this shows that there is no effect of gender of the faculty member on his view on the effectiveness of distance learning (BlackBoard) in pursuing the educational process. This result may be attributed to the similarity of the teaching circumstances during the use of BlackBoard between faculty male and female members, in addition to the fact that many faculty male members teach both male and female students, and male and female members alike underwent the same educational and training programs in the field of distance learning and the use of BlackBoard in university teaching. This result was in agreement with the study results of each of (Al-Zahrani, 2020; Al-Dhali, 2018; Al-Ganzouri, 2017; Al-Zahrani, 2017; Al-Balasi, 2016; Al-Sadhan, 2015) carried out by some Saudi universities, all of which showed no differences between attitudes or degrees of faculty members' use of the BlackBoard system attributed to the gender of the faculty member. It also agreed with the results of the Al-Sai's (2015) study, which showed that there is no difference between the viewpoints of faculty members at Qatar University about the effectiveness of using the BlackBoard system in the educational process attributed to the gender of the faculty member, as well as with the results of Al-Tunaiji's (2018) study carried out in the Technical Faculties in the United Arab Emirates. These results also differed with the result of the study of (Alea et al., 2020), which showed differences attributed to gender of the teacher in their willingness to learn from distance in the Philippines.

The means and standard deviations of the results of the questionnaire were calculated according to the academic rank of the faculty member, and the results were as shown in Table 3.

To test whether there is an effect of the faculty member's academic rank on his/her viewpoint, Multiple analysis of variance (MANOVA) was used, and it was found that the value of Wilks Lambda is (0,933) and is associated with a probability of (0.181), which shows that there is no effect of the faculty member's academic rank in his/her view on the effectiveness of distance learning (BlackBoard) in pursuing the educational process. This result may be attributed to the similarity of teaching circumstances during the use of (BlackBoard) among male and female faculty members, in addition to the fact that Taif University provided training and educational programs related to distance learning and the use of (BlackBoard) with no regard to the academic rank of the faculty member, in addition to the nature of the suspension of classes during the Corona pandemic made the use of BlackBoard compulsory in teaching by all faculty members of all academic ranks.

It is also attributed to the similarities in the academic and environmental conditions in which they work. Add to this, most of the faculty members' desire to develop their skills in using distance learning and virtual classrooms, especially during this period in which distance learning is considered

Table 3. Means and standard deviations of faculty members' responses to the study sample on the questionnaire according to the academic rank

Domain	Rank	Number	Mean	Standard Deviation	Domain	Rank	Number	Mean	Standard Deviation
Planning for university teaching	Professor	35	4.28	0.68	Evaluating student learning	Professor	35	4.27	0.61
	Associate Prof.	46	4.25	0.53		Associate Prof.	46	4.32	0.51
	Assistant Prof.	125	4.26	0.58		Assistant Prof.	125	4.29	0.57
	Lecturer	34	4.22	0.62		Lecturer	34	4.02	0.84
Implementing university teaching	Professor	35	4.18	0.72	Management of learning and virtual classrooms	Professor	35	4.13	0.68
	Associate Prof.	46	4.19	0.51		Associate Prof.	46	4.24	0.57
	Assistant Prof.	125	4.23	0.60		Assistant Prof.	125	4.22	0.60
	Lecturer	34	3.99	0.76		Lecturer	34	4.08	0.61

the best and most effective option to ensure the continuity of the educational process. This result is in agreement with the results of the studies of (Al-Zahrani, 2020; Al-Manharawi, 2018; Al-Ganzouri, 2017; Al-Shammari, 2016; Al-Sadhan, 2015; Al-Amro, 2012), which all showed no differences between the attitudes or degree of faculty members' use of the BlackBoard system attributed to the rank of the faculty member in several Saudi universities, whereas it differed with Sayaf and Al-Qahtani's (2014) results, which showed that there are differences between the degree of use and attitudes of faculty members at King Khalid University attributed to the academic rank and in favor of the higher rank. It also differed with the results of Mazroua et al. (2013) study, which showed the superiority of faculty members (teaching assistants) at King Khalid University to their fellow lecturers, assistant professors, and associate professors in their attitudes towards using BlackBoard.

**RESULTS RELATED TO THE SECOND STUDY QUESTION:
 DISCUSSION AND INTERPRETATION**

The data on the answer to the second study question related to the effectiveness of distance education (BlackBoard) in pursuing the educational process during the COVID-19 Corona Virus pandemic from the students' point of view showed a very large degree with a general mean of (4.22 out of 5) as shown in Table 4.

Table 4. The means and standard deviations of students' responses of the study sample to the questionnaire

N	Domain	Mean	Standard Deviation	Degree of Approval	Ranking
1	Educational tools and techniques	4.15	0.80	Large	5
2	Electronic content	4.18	0.84	Large	4
3	Interaction	4.21	0.83	Very Large	2
4	Effectiveness of teaching and learning	4.19	0.89	Large	3
5	Evaluation	4.33	0.81	Very Large	1
General Average		4.22	0.79	Very Large	

The effectiveness of distance learning on the questionnaire domains ranged between large and very large where the mean values ranged between (4.15) and (4.33), in which the (evaluation) domain ranked first with a mean of (4.33) and with a very large effectiveness, while the (interaction) domain ranked second with a mean of (4.21) with a very large effectiveness as well, and the (effectiveness of teaching and learning) domain came in third place with a mean of (4.19) with large effectiveness, and in the fourth place came in the (electronic content) domain with a mean of (4.18) and large effectiveness as well, and finally in the fifth place came in the (educational tools and techniques) domain with a mean of (4.15) and with large effectiveness.

The previous results agreed with the results of the study of (Ghazala & Al-Sayed, 2019; Al-Qahtani, 2018; Al-Ghunaim, 2016; Al-Randi & Aba Al-Khail, 2016; Al-Sai, 2015; Al-Sadhan, 2015; Patricia, 2020), whereas they differed with the results of each of the studies of (Sayyaf & Al-Qahtani, 2014; Al-Melhem et al., 2018) which showed the students' attitudes and use of the BlackBoard system in a moderate degree, and also differed with the results of the study of (Bataneh et al., 2020) which showed that the majority of Jordanian University students are not satisfied with the distance learning experience during the Corona Virus pandemic. It also disagreed with the study results of (Adnan & Anwar, 2020), which showed that distance learning from the viewpoints of Pakistani students does not achieve the desired results.

The means and standard deviations of applying the questionnaire were calculated according to the student's gender variable. The results were as shown in Table 5.

To test whether there is an effect of the student's gender on his/her viewpoint, Multiple analysis of variance (MANOVA) was used, and it was found that the value of Wilks Lambda is (0.979) and associated with a probability of (0.005), and this shows that there is an effect of student's gender in his/her viewpoint regarding the effectiveness of distance learning (BlackBoard) in pursuing the educational process, in which male students' viewpoints were higher than female students' viewpoints in the effectiveness on all domains of the questionnaire.

This result may be attributed to the nature of the lockdown period during the Corona pandemic, which forced male students to stay home and not leave it, and since male students are more active, it made them get engaged in using the BlackBoard system and thus participate in learning effectively through it.

These results are in agreement with the results of Al-Sai's (2015) study, which showed statistically significant differences in favor of female students in the effectiveness of the BlackBoard system, and also agreed with the results of the study of Ghazala and Al-Sayed (2019), which showed a significant

Table 5. The means and standard deviations of the students' responses to the questionnaire according to the gender variable, and the results of the T-test

Domain	Gender	Number	Mean	Standard Deviation
Educational tools and techniques	male	381	4.25	0.81
	female	421	4.06	0.78
Electronic content	male	381	4.27	0.85
	female	421	4.11	0.81
Interaction	male	381	4.32	0.83
	female	421	4.11	0.82
Effectiveness of teaching and learning	male	381	4.30	0.88
	female	421	4.10	0.89
Evaluation	male	381	4.43	0.77
	female	421	4.23	0.84

difference in using of the BlackBoard system among male and female students. However, it differed with it in the direction of these differences, as it showed the superiority of female students over male students in the degree of use, and also differed with the results of (Al-Qahtani, 2018; Al-Dhali, 2019; Al-Randi, 2016; Al-Sadhan, 2015), which all showed that there is no effect of the student's gender.

The means and standard deviations of the results of applying the questionnaire were calculated according to the program of study in which the student was enrolled (Bachelor, Masters), and the results were as shown in Table 6.

To test whether there is an effect of the type of program of study in which the student is enrolled in his/her viewpoint, Multiple analysis of variance (MANOVA) was used. As a result, it was found that the value of Wilks Lambda is (0.945) and arranged with a probability of (0.000), which shows that there is an effect of the type of study program in which the student is enrolled in his/her viewpoint on the effectiveness of distance learning (BlackBoard) in pursuing the educational process. Furthermore, students' viewpoints enrolled in the master's program were higher than those enrolled in the bachelor program in the effectiveness on four domains: (electronic content, interaction, effectiveness of teaching and learning, and evaluation). This can be explained by the fact that masters' students are more acquainted with the appropriate means of activating the learning process in addition to the fact that those students dealt with the Internet as a source of information during their research at the masters' level contributed to increasing their conviction that e-learning in general and BlackBoard in particular are appropriately effective in the educational process.

Regarding the domain (educational means and techniques), there was no effect on the type of the study program and the student's viewpoints. This result was in agreement with Al-Qahtani's (2018) study results, which may be attributed to students' (of all levels) awareness of educational techniques and the means of using them in their everyday life on an ongoing basis.

CONCLUSION

The results reflected Taif University experience in distance learning using BlackBoard. The results of the first question clearly showed that this type of education is highly effective in pursuing the educational process during the Coronavirus pandemic from the viewpoints of the faculty members at the university, and the results of the second question also showed that it was effective to a very large degree from the students' viewpoints. This may be attributed to the conviction of the sample members that this type of education is the only available way to ensure the continuation of education at Taif University during the Corona pandemic. It may also be attributed to the fact that the beginnings of this experience began in the middle of the

Table 6. The means and standard deviations of the students' responses to the study sample on the questionnaire according to the program of study

Domain	Type of Program	Number	Mean	Standard Deviation	Domain	Type of Program	Number	Mean	Standard Deviation
Educational tools and techniques	Bachelor	670	4.12	0.82	Effectiveness of teaching and learning	Bachelor	670	4.15	0.92
	Masters	132	4.27	0.65		Masters	132	4.44	0.62
Electronic content	Bachelor	670	4.12	0.87	Evaluation	Bachelor	670	4.30	0.84
	Masters	132	4.50	0.56		Masters	132	4.46	0.612
Interaction	Bachelor	670	4.17	0.86					
	Masters	132	4.43	0.58					

second semester of the last year (the beginning of the pandemic in the Kingdom), which faced some difficulties that limited its effectiveness at that time. However, during this semester, most of these difficulties and weaknesses were addressed by the university, as most of the faculty members were trained on the mechanisms of using the BlackBoard system in addition to the fact that teachers and students alike have gained appropriate experience in this field which contributed to its appropriate activation.

Throughout the efforts exerted by Taif University to improve and develop the educational process in general and distance learning in particular, and throughout the responses of faculty members and students to the questionnaire, one can say that this type of education succeeded in ensuring the continuity and pursuance of the educational process during the Corona pandemic. Furthermore, the university efforts manifested in building suitable infrastructure for the BlackBoard system, designing synchronous and asynchronous online educational and training programs for members and students, providing the necessary technical and psychological support to all students, and provided devices and Internet packages for the unable.

RECOMMENDATIONS AND SUGGESTIONS

In the light of the results of the study, the following recommendations and suggestions can be formulated:

- Taif University should pursue its efforts to develop the distance learning(BlackBoard) experience.
- Adopting distance learning (BlackBoard) in Saudi universities in general and Taif University in particular as a solution to urgent situations that prevent students from going to university campus instead of suspending classes.
- Designing a practical procedural guide for the mechanisms of using the BlackBoard system geared towards faculty members and students and making it available to them permanently through the university's website.
- Conducting a comparative study of the effectiveness of the distance learning experience during the Corona pandemic among several Saudi universities and the use of different electronic techniques.
- Conducting an experimental study of the effectiveness of distance learning in developing different attitudes and skills among university students.

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Declarations

Conflict of interest: The authors declare that they have no conflicts of interest.

Ethical Approval: We believe that the findings of this study are relevant to the scope of your journal and will be of interest to its readership.

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Contributions

All authors (Alsalamat, M., Alsowat, H., &Alroqi, R.) designed the study, conducted data collection, analysis, and drafted the first version of the manuscript. All authors worked on the manuscript revision and approved the submitted version.

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