

Research Article

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The Corona Pandemic Impact on Education: Proposing a Mechanism for Postgraduate Programs at Imam Mohammad Ibn Saud Islamic University (IMSU)

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Abstract

Based on the instructors' and the students' viewpoints, this study identifies and investigates the positive and negative effects of the pandemic (COVID-19) on the postgraduate programs in the Curricula and Teaching Methods Department (Department hereafter) at IMSU. The study provided a system for creating postgraduate programs at IMSU in the wake of the pandemic experience by employing descriptive survey methodology and designing a series of questionnaires. The study sample comprised 53 teaching staff individuals and 90 male and female graduate students studying in the Department at IMSU at the masters and doctoral levels. The results found that the study sample respondents' responses regarding the pandemic's positive effects on the postgraduate programs reached 3.85, indicating that the respondents' approval rate is very high. The study sample respondents' responses regarding the pandemic's negative effects on the postgraduate programs reached 3.43, signaling that the approval rate is high among the respondents. Accordingly, the network's poor service in remote areas and the absence of effective technical support to the e-learners and teachers are the significant negative effects of the pandemic recorded by the study's respondents on education.

Keywords: Pandemic, Teaching Methods, Suggested Mechanism, Postgraduate Programs, Teaching Curricula

1. Introduction

Many countries locked the educational institutions due to the pandemic. As Khalfawi and Fadsi (2021) state, the pandemic has interrupted more than 1.6 billion students' physical education and learning mode, and as a result, a sudden transition towards distance education took place. By using electronic communication platforms and remote methodology for education, most of the pandemic-

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affected countries have raced for such applications and platforms to ensure the continuity of the educational process. Alamyan et al. (2020) point out that the challenges must be faced to get a better education. The stakeholders in the education sector should adopt e-learning and rebuild the education infrastructure to provide an alternative but equal education opportunity resonant with traditional education. Al-Sabbagh (2019) stresses that the pandemic has made some options available for those individuals who, due to the obstacle of traveling, remained deprived of university education. Hence, e-learning has enabled such individuals to hold bachelor's, master's, and doctoral degrees without being forced to travel to attend physical classes.

The researchers dealt with previous scientific efforts according to the study topics. Hamid and Zuhri (2020) identified the obstacles preventing e-learning in the faculties of tourism and hotels in Egyptian public universities. The results showed that most colleges shifted to the e-learning mode, especially after the coronavirus (COVID-19) pandemic. Al-Zahrani (2020) investigated the teaching staff attitudes at Umm Al-Qura University towards employing electronic learning tools such as "Blackboard" in the educational process. The study also did not record any differences in the teaching faculty's attitudes towards using e-learning tools "Blackboard" in the educational process.

Khebrara (2021) determined the challenges Algerian universities faced while adopting the distance learning system after suspending the on-campus study due to the pandemic. The most prominent e-learning shortcomings were the slow internet speed, weak cyber security system, the high prices of modern electronic devices, and the lack of necessary training on the part of students and teachers required for the smooth or efficient use of contemporary e-learning devices. Deka (2021) also determined the factors that may affect the effectiveness of online education. Using a set of questionnaires, the study was conducted on a sample of 290 students (bachelor and postgraduate level). It revealed that teachers' characteristics, learning environment, course design, and content and administrative support affect students' participation in online learning.

Mamdouh et al. (2018) have evaluated the effectiveness of the Master's program at the Department being adopted in the distance learning system by focusing on dissertations carried out in the Education Faculty at Al-Madina Al-Aliya University in Malaysia. They also identified the strengths and weaknesses of the distance learning system. Similarly, Al-Khuzaim (2020) assessed the graduate program at the Department of the IMSU by placing the students' perspectives on the e-learning system. The study results found that the quality of teaching methods was given priority. At the same time, the educational content was the second priority of the students, and the objectives dimension was placed in the third position.

While Al-Matrafi (2020) appraised the Master's Program in Curricula, teaching methods, and science at Taibah University in light of the Accreditation Council for Educational Programs (CAEP) standards and the research outcomes showed that the (CAEP) standards in the program were adequately achieved because the standard of content and educational knowledge were given priority. The results also showed that the teaching staff and students were equally satisfied with implementing (CAEP) standards in the Master's program. The studies mentioned above are enough to showcase the relevance of this study and its significance in the e-learning system, being innovatively employed by different universities at different levels of degree programs.

1.1 Research Problem

Alwadani (2020) indicates that the distance learning experience will lead to a change in many practices beyond the education framework, such as holding online meetings and carrying out administrative tasks that will be taken as usual in the future. Alwalidi (2020) stresses that educational institutions are increasing investment in the e-learning system because it will be treated as one of the essential components of education in the future. Alshahrani's study (2020) recommended reconsidering the evaluation methods of Master's programs in curricula and general teaching methods at King Khalid University and the research services provided therein. Al-Khuzaim (2015) also recommended reconsidering the graduate program at the Department of the IMSU, seeking to

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develop an advanced method for teaching evaluation.

The postgraduate programs in the Department at IMSU faced difficulties and challenges during the pandemic. From the experiences of the researchers involved in the teaching process, the staff members, and students, this e-learning experience has pros and cons. This provides a rich opportunity for the researchers to present a proposed mechanism for teaching methods based on new education variables.

2. Aims of the Study

The study aimed to identify the pandemic's positive effects on the postgraduate programs at the Department at IMSU from the teaching staff and students' standpoints. Secondly, it also highlights the pandemic's adverse effects on the postgraduate programs at the University from the teaching staff and students' viewpoints. The final objective of the research is to provide a system for establishing postgraduate teaching programs in light of the pandemic scenario.

3. Study Significance

The importance of this study can be emphasized from the following two main aspects:

Theoretical Significance

- The study confirms the role of postgraduate studies as the central pillar through which knowledge can be produced to contribute to society's advancement on educational lines.
- The study ensures the diversity of its beneficiaries. For example, it can equally benefit the policymakers of postgraduate studies, educational planners, decision-makers, and postgraduate students. Specifically, the results of this study can be utilized to devise a proposed mechanism for developing teaching in postgraduate programs in the Department at IMSU.

Practical Significance

- This study presents a proposed mechanism for developing postgraduate programs at the Department at IMSU in light of the COVID-19 experience.

4. Study Limitations

The study is limited to investigating the positive and negative aspects of providing or launching postgraduate programs at the Department at IMSU during the pandemic. The study is from the perspective of male and female students and teaching staff, with the sole aim of presenting a proposed mechanism for how effective teaching can be ensured in these programs in the prevailing pandemic-ridden experience/environment.

5. Theoretical Framework

5.1 The First Notion

The World Bank (2021) indicates that at the height of the crisis, 220 million students in higher education were affected by the closure of universities. The deterioration and decline in school enrollment rates due to the pandemic cannot be measured. The World Bank (2021) reports also indicate an unprecedented disruption in education and training in the vocational and technical fields. According to the integrated survey conducted by the International Labor Organization - UNESCO - and the World Bank, 90% of those surveyed indicated a complete closure of education and training centers. As a result, this generation of students, especially those disadvantaged, failed to achieve their educational goals and future potential income levels. Hence, effective and rapid action is necessary to address these disparate learning losses to avoid aggravating these gaps.

5.2 Education in Saudi Arabia during the Pandemic

The Ministry of Education continued the educational process successfully during the uncertain and challenging circumstances of the pandemic, "Covid-19," that otherwise struck the world education system based on on-campus learning. The ministry has proven its ability and efficiency in performing its mission without stopping the teaching and learning process. This became possible by installing an e-learning and distance learning system in place of the physical/traditional learning mode. On March 9, 2020, the Ministry of Education temporarily ceased studies in all regions and governorates of the Kingdom. The suspension lasted until the end of the year. But during this closure period, the Kingdom also started working on implementing distance learning for all educational institutes to ensure the continuation of the educational process in an effective and quality manner. In this respect, The National Center for E-Learning was asked to complete the students' distance learning requirements (Was, 2020; Al-Sabbag, 2019).

5.3 Higher Education in Saudi in Light of Pandemic

E-learning statistics in Saudi universities have confirmed the launch of more than 1.2 million virtual classes initiated for more than 1.2 million university students, and the number of professors has almost touched the digit of 70,000, with the courses exceeding 265,000 in total (Alwalidy, 2020). The infrastructure for communication between professors and students and across educational system segments has been preserved. (Hassan, 2020).

6. Methodology

The study has used the descriptive survey method, which is the most appropriate method to achieve the study's aims.

6.1 Study Population

The study population consisted of the following two categories:

Firstly, the teaching staff in the Department at IMSU, consisting of 68 number in total, is distributed in table 1 as follows:

Table 1: Distribution of the study community consisting of faculty members in the Department

Position	Professor	Associate	professor	Assistant professor	Total
Number	12	3	0	26	68
Gender	Male			Female	Total
Number	30			68	

Secondly, the 72 postgraduate students in the Department at IMSU are distributed in Table 2 as follows:

Table 2: Distribution of the study community based on male and female graduate students in the Department

	The num	ber of o	doctoral	studen	ts
,	1				

Level	Male students	Female students	Total
Third	5	0	5
Fourth, morning	15	20	35
Fourth, paid	15	15	30
Total	35	35	70

-

The number	of doctora	l students	

Level	Male s	tudents	Female	Total	
Third	6	6	5	9	26
Fifth	15	16		46	
Total		27		72	

6.2 Study Sample

The researchers distributed the study tool to all the respondents of the study community through electronic links and closely followed them up. The responses were as follows:

Firstly, the number of the sample respondents of the teaching staff in the Department reached 53 individuals with a percentage of (77.94%) of the study population which is more than half of the total population. The respondents were chosen on a random basis to ensure maximum participation. The following Table shows the distribution of the sample respondents according to their degree levels:

 Table 3: Distribution of teaching staff sample according to their degree levels

Degree	Frequency	Percentage%
Professor	9	16.98
Associate professor	23	43.40
Assistant professor	21	39.62
Total	53	100

As shown in table (3), 39.62% of the respondents have degrees from the assistant professor, 43.4% have the degree of an associate professor, and 16.98% have the degree of a professor. Such a selection is enough to render the significance of the study.

Secondly, the number of male and female graduate students in the sample was (90), with a percentage of (63.38%) of the study population, which is again more than half of the total population envisioned for this study. They were also chosen in a simple random way to ensure thoroughgoing participation and to enhance the study's applicability. The following Table shows the distribution of the sample respondents according to their study level:

Table 4: Distribution of male and female graduate student samples according to their study level

level	Frequency	Percentage%
Doctoral level	43	47.78
Master's level	47	52.22
Total	90	100

It is clear from Table (4) that 47.78% are studying at the doctoral level, and 52.22% are studying at the Master's level.

6.3 Study Tool

The researchers designed a questionnaire to collect the data from the study community respondents. While preparing the questionnaire, the researchers benefited from previous studies, theoretical frameworks, and their scientific and practical experiences. The Likert scale was used to answer the questionnaire items.

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In its initial form, the questionnaire consisted of the initial data of the respondents that included their' gender – category'. The tool was presented to a group of arbitrators specializing in curricula and teaching methods for arbitration to ensure its validity and assess whether the phrases used in the 'study tool' are suitable for the study. Based on the arbitrators' notes, the wording of 5-phrases in the first section was amended. The language of 6-phrases in the second section was also revised. To facilitate the distribution of the study sample respondents' responses according to the arithmetic mean of the Likert scale, the researchers calculated the range (5-1 = 4). To determine the length of the category, the range was divided by the number of categories (4/5 = 0.80), signaling the following distribution as shown in table 5:

Table 5: Distribution of the study sample's answers according to the arithmetic means of the Likert scale.

average	The rate of approval
5-4.20	Very high
3.40- Lessthan 4.20	high
2.60- Lessthan 3.40	medium
1.80- Less than 2.60	low
1- Less than 1.80	Very low

6.5 Internal Consistency Validity

The internal consistency validity was measured by calculating the correlation coefficients between each statement and the total score of the questionnaire to ensure the consistency between the questionnaire statements and their total score. The results are given below in table 6:

Table 6: Correlation coefficients for each axis statement with the total score of the axis it belongs to.

 Correlation coefficients

Advantages of postgraduate programs in the Department at IMSU during the pandemic					Disadvantages of postgraduate programs in the Department at IMSU during the pandemic				
1	**0.535	9	**0.693	1	**0.697	9	**0.736		
2	**0.599	10	**0.761	2	**0.601	10	**0.839		
3	**0.645	11	**0.741	3	**0.612	11	**0.644		
4	**0.749	12	**0.589	4	**0.556	12	**0.784		
5	**0.763	13	**0.714	5	**0.662	13	**0.736		
6	**0.671	14	**0.676	6	**0.714	14	**0.725		
7	**0.739	15	**0.550	7	**0.798	15	**0.761		
8	**0.754			8	**0.743				

(**) function at 0.01

Table 6 demonstrates that all correlation coefficients are strong and statistically significant at (0.01), indicating the internal consistency between the questionnaire questions and their overall score.

7. Reliability of Tools

The tool's stability was calculated using the alpha Cronbach method. It was found that the reliability coefficient of the resolution as a whole was (0.89). While the reliability coefficient of the first section was (0.915), the reliability coefficient of the second section was (0.929), which are high values as such. Hence, the result indicates that the resolution has a high-reliability rate.

8. Statistical Methods

The data was encoded and analyzed using the SPSS analysis. As a whole, the following statistical methods were used:

- Alpha Cronbach coefficient to calculate the reliability of the instrument.
- Pearson's correlation coefficient determines the extent of the internal consistency of the study tool.
- Frequencies and percentage of the description of the study respondents.
- Arithmetic mean and standard deviation to find out the trends in the responses of the sample respondents.

9. Results' Analysis and Discussion

The first question: what, according to the teaching staff and students' point of view, are the COVID-19's positive effects on the postgraduate programs at the Department at IMSU?

The frequencies, percentages, mean, standard deviation, and the order for each paragraph of the questionnaire, were calculated to answer this question. The results are reflected below in Table no. 7:

 Table 7: Sample respondents' opinions about the advantages of postgraduate programs in the

 Department at IMSU during the pandemic

				Ap	proval rat	te			Approval	Stendard	
No	The term		Very high	high	medium	low	Very low	mean	rate	deviation	order
1	Fase of attending scientific discussions from anywhere	К	117	17	7	1	1	4 72	Very high	0.640	1
1	Lase of attending selentine discussions nom anywhere.	%	81.8	11.9	4.9	0.7	0.7	4.73	very mgn	0.049	1
2	The possibility of communication between the	Κ	62	48	29	1	3	4 15	High	0.014	6
2	professor and the student through various sources.	%	43.4	33.6	20.3	0.7	2.1	4.15	ingn	0.914	0
2	The possibility of attending lectures without being	Κ	112	20	8	2	1	4 67	Very high	0.708	2
3	restricted to a specific place.	%	78.3	14	5.6	1.4	0.7	4.07	very mgn	0.700	4
4	Taking advantage of modern technologies during $\frac{K}{\%}$		73	37	27	3	3	4 21	Very high	0.06=	-
4			51	25.9	18.9	2.1	2.1	4.21	very mgn	0.905)
-	Flexibility in presenting lectures and benefiting from	Κ	71	32	30	9	1	4.14	high	1.004	-
2	them.	%	49.7	22.4	21	6.3	0.7	4.14	ingn	1.004	/
6	Diversity in calendar methods	К	48	46	32	14	3	2.85	high	1.06	12
0	Diversity in calendar methods.		33.6	32.2	22.4	9.8	2.1	3.05	mgn	1.00	12
_	Doing non-traditional educational activities.		45	38	35	13	12	2.62	high	124	14
7			31.5	26.6	24.5	9.1	8.4	3.03	man	1.24	14
8	The ability to bring up-to-date content using	Κ	62	45	28	7	1	4.11	high	0.028	8
0	technology.	%	43.4	31.5	19.6	4.9	0.7	4.11	mgn	0.950	0
~	Getting benefit from recorded lectures of specialists	Κ	61	32	31	15	4	2.01	high	1.14	9
9	around the world.	%	42.7	22.4	21.7	10.5	2.8	3.91	mgn		
10	Holding direct meetings with experts and specialists	Κ	62	27	36	14	4		high		10
10	easily	%	43.4	18.9	25.2	9.8	2.8	3.90	mgn	1.15	10
	The presence of instant electronic feedback on	Κ	46	34	32	23	8	260	high	1.0.4	
п	students' work.	%	32.2	23.8	22.4	16.1	5.6	3.00	mgn	1.24	15
10	Possibility to attend lectures even if there are health	К	92	33	9	6	3		Vom high	0.009	
12	problems.	%	64.3	23.1	6.3	4.2	2.1	4.43	very nign	0.930	3
10	Electronic tools in learning management systems	К	65	53	18	6	1		Vom high	o 9==	
13	facilitate the tasks of the professor and the student.	%	45.5	37.1	12.6	4.2	0.7	4.22	very nign	0.875	4
	Placing course issues in an ongoing discussion between	К	53	50	21	8	11		high	1.10	
14	the professor and students via electronic forums.	%	37.1	35	14.7	5.6	7.7	3.00	mgn	1.19	п
15	Availability of the university's educational digital	Κ	38	61	28	9	7		high	1.05	10
15	infrastructure.	%	26.6	42.7	19.6	6.3	4.9	3.79	mgn	1.05	13
	arithmetic mean = 4.08 , agreement score is high, ge	ne	ral star	ndard	deviatio	n = c	0.680				

Table 7 shows that the general arithmetic average is (4.08), meaning that the approval rate for the given statements on this axis is high. Whereas the highest expressions of the positive effects of the

coronavirus pandemic (COVID-19) on the postgraduate programs at the Department at IMSU, keeping in view the sample respondents' opinions, are listed below:

- 1. Ease of attending scientific discussions anywhere and the arithmetic average reached (4.73), indicating that the approval rate is very high.
- 2. The possibility of attending lectures without being restricted to a specific place, the arithmetic average reached (4.67), indicating that the approval rate is very high.
- 3. The possibility of attending lectures even with health problems and to this query, the arithmetic average reached (4.43), again reinforcing that the approval rate is very high.
- 4. With the presence of electronic tools in the learning management systems that facilitates the tasks of the professor and the student, the arithmetic average reached (4.22), meaning that the approval rate is very high.

While the least agreeable statements among the study sample respondents are:

- 1. The presence of immediate electronic feedback on the students' work and the arithmetic average reached (3.60), meaning that the approval rate is high.
- 2. Practicing non-traditional educational activities records the arithmetic at (3.63), denoting the high approval rate.
- 3. Availability of the digital educational infrastructure at the University, where the arithmetic average reached (3.79), meaning that the approval rate is high.
- 4. Diversity in evaluation methods, where the arithmetic average reached (3.85), meaning that the approval rate is high.

10. Discussion and Interpretation of Results

10.1 The First Question

Throughout the previous presentation of the derived results, it is clear that the results of the first question agreed with some of the results of the earlier studies. Although this study is different from previous studies in terms of its community, the sample, and the procedures, such differences did not make any significant point of departure as far as the positive impact of the pandemic (COVID-19) on the postgraduate programs at the Department at IMSU, is concerned.

IMSU was keen to switch to the distance education system in all bachelor's programs, diplomas, and graduate studies to readjust the study mechanism, grade distribution, and testing mechanism. These preventive measures to limit the spread of the pandemic had a positive impact on the postgraduate programs. The most noticeable positive effects of the pandemic on Postgraduate programs at the Department at IMSU can be interpreted as follows:

First, *the Blackboard*, an e-learning management system used in postgraduate programs in the Department at IMSU, includes many electronic features and tools that may simultaneously facilitate the tasks of the teaching staff and male and female students. This learning system enabled the students and teachers to interact directly through virtual classes (Online Classes) and indirectly through discussion forums. Second, IMSU, represented by the deanship of e-Learning and distance education, was keen to provide the university participants with all required educational digital infrastructure with high speed and quality specifications. The transition to the distance education system encouraged the teaching staff in the postgraduate programs at the Department at IMSU to apply authentic evaluation methods. The diversity in the evaluation methods was implemented through achievement tests. The transition to a distance education system at the Department at IMSU motivated the male and female students to participate positively and actively.

The most noticeable positive effects of the emerging coronavirus (COVID-19) pandemic on postgraduate students can be explained as follows:

First, the postgraduate students could participate in scientific discussions from any place and at any time due to the efficient technological back support. So, the students at the Department at IMSU could also benefit from the opinions and criticism presented to them by the discussants and get to

know the different points of view without moving or traveling to other cities, a prerequisite of the traditional method of education. The distance education system was beneficial, especially for the postgraduate students outside of Riyadh city. Second, the positive effect of switching to the distance education system was that the male and female students in postgraduate programs could attend their lectures even when facing health problems. Even being infected by the Coronavirus (COVID-19) didn't prevent them from studying. Moreover, switching to the distance education system in various countries led to the recording and publication of lectures, which helped students benefit from the recordings uploaded by their respective teachers or education specialists worldwide. Thus, e-learning deepened and renewed the knowledge of the male and female students registered in postgraduate programs.

10.2 The Second Question

According to the teaching staff and male and female students, what are the negative effects of the pandemic (COVID-19) on the postgraduate programs offered at the Department at IMSU? The frequencies, percentages, mean, standard deviation, and the order for each paragraph of the questionnaire were calculated to answer this question. The results are described in Table no. 8:

Table 8: The sample respondents' opinions about the negative aspects of postgraduate programs in the Department at IMSU during the pandemic

No	The term		Approval rate					Maar	Approval	Standard	ordor	
INO			Very high	High	Medium	low	Very low	wiean	rate	deviation	order	
1	Exposure to distractions during live	Κ	37	36	36	25	9	3.46	high	1.22	8	
1	meetings.	%	25.9	25.2	25.2	17.5	6.3		ingn	1,22	5	
2	Poor internet on some sites.	K	50	40	36	14	3	3.83	hiơh	1.07	1	
		%	35	28	25.2	9.8	2.1		g.i		`	
3	The difficulty of holding direct	K	18	27	44	33	21	2.91				
	meetings between members of the same team in mutual tasks.	%	12.6	18.9	30.8	23.1	14.7		medium	1.23	14	
	The possibility of experiencing	Κ	32	40	42	17	12	3.44				
4	health problems due to using electronic devices for a long time.	%	22.4	28	29.4	11.9	8.4		high	1.20	9	
	The shortcomings in the emergence	Κ	38	43	30	25	7		55 high	1.19	6	
5	of direct human interaction between the professor and the student.	%	26.6	20.1	21	17.5	4.9	3.55				
c	Lack of Arabic content in digital	Κ	46	46	27	14	10	3.72	high	1.21		
0	libraries.	%	32.2	32.2	18.9	9.8	7				3	
-	Some people are not serious about	Κ	32	53	31	16	11	3.55	high	1.17	-	
7	using e-learning tools.	%	22.4	37.1	21.7	11.2	7.7				>	
8	Weakness of the professor's ability	Κ	19	36	18	34	36	2.77	medium	1.41	15	
0	to control students during lectures.	%	13.3	25.2	12.6	23.8	25.2		incurum	1.41	(،	
0	The material cost of e-learning	Κ	32	30	38	28	15	3.25	medium	1.29	13	
9	requirements.	%	22.4	21	26.6	19.6	10.5					
10	Weakness of some professors and	Κ	36	31	42	20	14	2.28	medium	1.27	10	
10	students of e-learning competencies.	%	25.2	21.7	29.4	14	9.8	5.50	incurum 1.27	1.27	10	
11	Increasing the educational burden	Κ	32	41	31	19	20	2.22	medium	1.22	11	
	on the teacher and the student.	%	22.4	28.7	21.7	13.3	14	<u>_ر.ر</u>	mearam	,,		
	Weakness of the ability to adapt	K	30	42	28	25	18	3.28				
12	some subjects of the courses electronically.	%	21	29.4	19.6	17.5	12.6		medium	1.31	12	
12	Poor employment of all Blackboard	Κ	39	56	22	15	11	3.67	high	1.20		
13	system features.	%	27.3	39.2	15.4	10.5	7.7		mgn	1.20	4	
	The absence of direct technical	Κ	52	40	27	16	8	3.78		1.21		
14	support to confront the problems.	%	36.4	28	18.9	11.2	5.6		high		2	
15	Poor flexibility when dealing with	Κ	33	43	43	13	11			high	116	-
15	problems in e-learning.	%	23.1	30.1	30.1	9.1	7.7	3.51	mgn	1.10	7	
	arithmetic mean = 3.43, rate of approval is high, general standard deviation = 0.875											

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Table 8 shows that the general arithmetic average is (3.43), which is enough to signal that the rate of approval of the statements on this axis is high. It is also clear that the highest expressions of the adverse effects of coronavirus pandemic (COVID-19) on the postgraduate programs being offered at the Department at IMSU, while keeping in view the sample respondents' opinions, are as follows:

- 1. The weakness of the internet in some sites and here, the arithmetic average was (3.83), meaning that the approval rate is high.
- 2. The absence of direct technical support to confront the problems and regarding these points, the arithmetic average reached (3.78), meaning that the approval rate is high.
- 3. Lack of Arabic content in digital libraries, where the arithmetic average reached (3.72), indicating that the approval rate is high.
- 4. Poor employment of all Blackboard system features, where the arithmetic average reached (3.67), signals that the approval rate is high.

While the least agreeable statements among the study sample respondents are:

- 1. Weakness of the professor's ability to control students during lectures, where the arithmetic average reached (2.77), meaning that the approval rate is medium.
- 2. The difficulty of holding direct meetings between members of the same team in mutual tasks, where the arithmetic average reached (2.91), meaning that the approval rate is again medium.
- 3. The material cost of e-learning requirements, where the arithmetic average is (3.25), means that the approval rate is medium.
- 4. Weakness of the ability to adapt to some subjects electronically. The arithmetic average reached (3.28), meaning that the approval rate is medium.

11. Discussion and Interpretation of the Results of the Second Question

Throughout the previous presentation of the derived results, it is clear that the results of the second question agreed with some of the results of the earlier studies. Although this study is different from the previous studies in terms of its community, the sample, and the procedures, such differences do not register any significant departure as far as the negative impacts of the coronavirus (COVID-19) pandemic on the postgraduate programs at the Department at IMSU, are concerned. The results of this study concurred with those of studies conducted by scholars such as Hamid & Zuhri (2020), Sardhamani & Krishnakumari (2020), and Khibrara (2021) regarding the existence of harmful impacts of the coronavirus pandemic (COVID-19) on education. The researchers interpret the results as follows:

The Kingdom of Saudi Arabia, represented by the Ministry of Education, took utmost measures to protect education staff from Coronavirus (COVID-19). In March 2020, a royal order was issued to transfer the educational process to distance education in all educational institutes. IMSU was also keen to switch to the distance education system in all bachelor's programs, diplomas, and graduate studies to readjust the study mechanism, grade distribution, and testing mechanism. The most prominent adverse effects of the coronavirus (COVID-19) pandemic on teaching staff and male and female students in Postgraduate programs at the Department at IMSU can be interpreted as follows:

First, as switching the educational process into distance education was a recent experience in the postgraduate programs at the Department at IMSU, this experiment had its consequences and challenges, especially in the early stages of its application. For example, some of the significant issues were the weak internet signal on some sites, the absence of direct technical support to confront problems, and the low level of telecom companies in the Kingdom of Saudi Arabia providing internet service during the pandemic faced by e-learners and their institutions. However, educational institutions quickly overcame this problem in the subsequent months of the pandemic. Secondly, the inability of some lecturers and students in postgraduate programs to use all the features of the electronic learning management system (Blackboard) has been pointed out by Hamdan and Al-Obaidi (2007). They mention that the lack of awareness of distance education on the part of some

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professors and students has negatively impacted the advantages of e-learning. Additionally, the most noticeable negative effects of the coronavirus (COVID-19) pandemic on the teaching staff of the postgraduate programs can be seen in their inability to control male and female students during virtual lectures conducted using Blackboard. The lack of experience or skill in dealing with e-learning systems such as Blackboard, the delay of learners entering lectures, and the difficulties associated with taking attendance are some of the issues that the teachers especially came across.

Furthermore, some course topics that focus on theoretical aspects are difficult to explain in virtual classes. Yet another prominent adverse effect of the coronavirus (COVID-19) pandemic on postgraduate students in the Department at IMSU can be ascribed to the absence/lack of Arabic content in digital libraries. Hence, the high material cost of e-learning requirements, the high price of subscribing to internet packages through telecom companies in Saudi Arabia, and the socio-economic challenges that male and female students of postgraduate programs face are barriers to the effective implementation of the e-learning system.

The Third Question: What is the proposed mechanism for teaching postgraduate programs at the Department at IMSU in light of the experience of the pandemic (COVID-19)?

To answer or tackle this question, a proposed mechanism was built to develop postgraduate teaching programs at the Department at IMSU in light of the pandemic experience (COVID-19). The researchers would define them procedurally as: "steps to improve teaching and learning processes in master and doctoral programs in the Department, utilizing pandemic experience (COVID-19)". The proposed mechanism was presented to a group of arbitrators, and it is as follows:

11.1 The Proposed Mechanism Philosophy

The Proposed Mechanism for Developing Postgraduate Programs in the Department at IMSU, in light of the pandemic experience (COVID-19), is based on the philosophy of blended education. Khamis (2003, p. 255) defines blended education as an integrated system aimed at helping learners during each stage of learning. It is based on integrating traditional education and e-learning in various forms in the classroom. Farrington (2014) defines the concept of blended education as combining classroom education and e-learning by connecting objectives, content, learning resources, and activities to improve the ways of communicating information through modern technological tools and devices to impart adequate knowledge and skills to the leaning-participants.

11.2 Objectives of The Proposed Mechanism

As this proposed mechanism aims to develop a mechanism for teaching postgraduate programs at the Department in light of the experience of the pandemic (COVID-19), to meet its ends, the mechanism has brought to the limelight the following key factors: First, it developed the mechanisms of the current postgraduate programs at the Department at IMSU. Second, it utilized the benefits of e-teaching mechanisms during the pandemic (COVID-19). Third, it addressed the shortcomings in teaching current postgraduate programs at the Department at IMSU by providing a clear picture of the requirements for implementing the proposed mechanism.

11.3 Premises of the Proposed Mechanism

This mechanism stems from the following premises:

- The growth of investments in the e-learning sector reinforces the need for a blended educational curriculum that considers the new educational trends in the wake of the pandemic.
- Reconsidering university regulations and rules in line with the changes brought about by the use of technology and social media techniques in university education may revise the roles of the teacher and the learner by transitioning from teaching to learning.

- Ensuring fair and equal access to learning resources for all, regardless of the students' styles, genders, and regions.
- Contributing to assisting the Ministry of Education in achieving the Kingdom's vision 2030, which aims at developing preparatory and professional development programs for teachers.
- Benefiting from the distance learning experience during the pandemic and finding solutions to the educational process's problems because of technical, material, and psychological factors and making plans to equip the teachers and students to deal with crises efficiently.
- Strengthening inter-partnerships among educational institutions such as schools and colleges to exchange practical and applied experiences can yield a participatory learning process.
- Improving the standard of life and contributing to the reduction of educational costs and expenses at the University

11.4 Components of The Proposed Mechanism

Through the experience of the Department's postgraduate programs at IMSU in light of the growing pandemic (COVID-19), the following needs for the implementation of blended education can be determined:

- Administrative requirements for the application of blended learning.
- Requirements related to teaching staff and students for the application of blended learning.
- Requirements related to the content and courses of the blended learning process.
- Assessment-related requirements for the application of blended learning.
- 1. Administrative requirements for the blended learning application include
 - Adapting and modifying university rules and regulations to suit the nature of blended learning.
 - Providing technical and administrative support for the educational process appropriate to the nature of blended learning.
 - Providing the support resources such as academic, technical, and administrative is necessary to students' success in blended learning programs.
- 2. Requirements for teaching staff to apply blended learning include
 - Providing training opportunities for teaching staff in the field of blended learning.
 - clearly defining the roles and responsibilities of the teaching staff in blended learning in the university regulations.
 - Building a virtual professional education community that allows teaching staff to participate, collaborate, and share knowledge can be done by holding symposia on blended learning education.
- 3. Student-related requirements for a blended learning application may include:
 - Raising students' awareness about their roles and responsibilities in blended learning through seminars and guide books.
 - Promoting equitable access to the blended learning program and ensuring that all resources required for students' effective participation are available.
 - Ensuring the principle of equal opportunities for the students who do not have devices or internet facilities (through the library the Department student support).
- 4. Requirements related to the content and courses of a blended learning application may include
 - Preparing an integrated plan for the program (Master's and Ph.D.) that supports the alignment of activities, resources, educational objectives, and assessment ensures that students acquire the knowledge and skills necessary for achieving the learning outcomes.
 - Determining the number of credit hours for face-to-face and distance learning on an individual basis.
 - Determining the objectives of each course and its measurability in line with blended

learning.

- Ensuring that sufficient electronic resources are available for academic courses.
- 5. Assessment-related requirements for a blended learning application may include:
 - Defining the evaluation mechanism accurately and clearly by announcing it to the students and distinguishing between evaluation processes that will take place remotely and that will be done face-to-face.
 - Applying clear performance measures in the integrated course design to evaluate students' performance and provide periodic feedback.
- 6. Impediments to the implementation of the proposed mechanism may include:
 - the lack of electronic infrastructure and internet accessibility problems.
 - Financial obstacles such as the lack of mobile devices, computers, and network packages due to their being expensive for the users/students.
 - The inadequacy of appropriate rules and regulations in Saudi universities for blended learning.

As most of the tools and programs used in the blended learning system are in English, there may be a language barrier for the students who are not well-versed in this language.

- 7. Ways to overcome the obstacles to implementing the proposed mechanism:
 - Supporting students with the necessary devices and networks and making plans to help them at the technical and educational level.
 - Attempting to focus on the emotional side of teaching in the time allocated to face-to-face education so that the shortcomings of distance learning can be overcome.
 - Arabizing distance learning systems in all parts so that language barriers can be minimized.
 - Making constant plans and suggestions about blending education by adapting the rules and regulations of the University.

12. Conclusion

The results of this study indicate that the consequences of the COVID-19 pandemic on global education and the resulting modifications have impacted the postgraduate programs offered by the Department at IMSU. After constructing a questionnaire presented to the Department's professors and postgraduate students, the researchers have traced the prominent pros and cons faced by the teaching staff during the pandemic. Therefore, the researchers presented the proposed method based on the philosophy of blended learning, in which the professor and student can engage in a combined-classroom setting and use the internet to activate E-learning. The researchers believe that this proposed mechanism may face some difficulties when applied in reality, so future researchers can study those difficulties and provide solutions. It is found that this proposed mechanism can be used as a pilot project to come up with a practical vision and its effectiveness in activating the operative teaching-learning process.

13. Study Recommendations

In light of the study results, the researchers have formulated the following recommendations:

- 1. Urging the teaching staff in the Department at IMSU to further utilize the advantage of the pandemic's positive effects on the postgraduate programs to ensure a better learning environment.
- 2. Emphasizing the importance of providing substantive technical support to the professor and students in the distance learning process. For this to happen, the University's Skills Development Center may organize advanced training courses for professors and students to ensure their familiarity with the learning management systems, especially, Blackboard.
- 3. Taking advantage of the proposed mechanism presented in this study to develop

postgraduate programs on blended education style of teaching at the Department at IMSU.

14. Study Suggestions

The researchers suggest that creating training programs for teachers and students can enhance their ability to exhaust the learning management systems and measure their performance. It is also recommended that postgraduate studies programs at the Department be launched along with e-blended learning.

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