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CHALLENGES OF CONDUCTING EDUCATIONAL RESEARCH AMONG POSTGRADUATE STUDENTS OF IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY IN THE LIGHT OF COVID-19

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ABSTRACT

The present research aims to identify the most prominent challenges of educational research, specify research differences between males and females in the light of COVID-19, and make recommendations to overcome such challenges. The descriptive method, both quantitative and qualitative, was used in this research; a 26-item questionnaire, following Likert's Scale, was applied to 73 male and female students; interviews with a random sample of 12 postgraduate students at the College of Education, Imam Abdulrahman Bin Faisal University were conducted. Research results show that postgraduate students face great challenges in conducting educational research in the light of COVID-19: scientific, administrative, psychological, health and technological ones were respectively ranked. The research also shows that there are statistically significant differences in health challenges due to gender: female students faced more health challenges than male ones; no statistically significant differences in the other scientific, administrative, psychological, health and technological challenges appeared. The research recommended that the College of Education, Imam Abdulrahman Bin Faisal University should support postgraduate students to accomplish their studies by launching an electronic platform and a research consultation unit in addition to facilitating the evaluation and application of their

research tools. It also proposed conducting another research paper which focuses on the mechanisms of applying educational research tools during COVID-19.

INTRODUCTION

Because of being cultural and scientific illumination centers, universities aim to achieve cognitive investment and to develop the society economically and culturally. The Saudi Vision 2030 funds, encourages, and pays special attention to scientific research, in general, and education research, in particular, to meet the needs of substantial development and generate more general and educational knowledge. It is based on the strategic plan for developing the Saudi human resources to redouble efforts, educate future generations, and promote efforts of matching the educational outputs and the market needs (Ministry of Education, 2015). It also relies on quality, excellence, supporting research, faculty development, and linking the programs of scientific research and postgraduate studies to social and environmental problems (Aldawoud, 2017).

Scientific research, especially in education, plays a considerable role in problem-solving and community development based on planned scientific bases. The educational research addresses problems concerning educational elements, making suggestions, and concluding practical solutions according to contemporary changes and challenges. Employing scientific research, Saudi universities guide the faculty and postgraduate students to solve several challenges of field applications (Alghamdi, 2019). Postgraduate students at the colleges of education experience various challenges that may affect the efficacy of research.

Contemporary challenges in various fields, especially education, raise new problems, such as the problems accompanying the prevalence of COVID-19. Moreover, postgraduate students at the college of education report that they ceased the application of research tools suddenly after the resolutions to adopt e-learning to stop COVID-19 in the second semester of 2019/2020 and the early first semester of 2020/2020. Therefore, authors have to resolve the problems facing educational research scientifically to promote the quality of educational research among postgraduate students at the college of education.

STATEMENT OF THE PROBLEM

Stressing the idea that educational research affects society and is affected by it. Thus, it is affected by local and international challenges. For example, COVID-19 has been one of the most significant global challenges globally since late 2019. It has affected all walks of life (Zainul, 2020), especially the system of education and educational research. Countries have endeavored to control COVID-19's infection and ceased several human activities, such as the research work of the educational postgraduate students. Consequently, most universities were closed worldwide and social distancing was adopted to flatten the curve of infection and

reduce overall mortality (Michael, 2020). Based on their work and supervising postgraduate students at the College of Education, Imam Abdulrahman Bin Faisal University during COVID-19, the authors agree with the findings of the literature, e.g., Alharbi (2017), Assaied (2020), Ketlo and Bahees (2019), Shahsavari and Kourepaz (2020), and Yasmin, Saeed, and Ahmad (2018), that postgraduate students, including those specialized in education, encounter several challenges that affect their research at the time of crisis, especially during COVID-19. Thus, the research problem has been defined in answering the following questions:

1. What is the degree of educational research challenges encountered by postgraduate students at Imam Abdulrahman Bin Faisal University during COVID-19?
2. How do postgraduate students at Imam Abdulrahman Bin Faisal University rank the most prominent encountered challenges during COVID-19?
3. Do educational research challenges facing postgraduate students at Imam Abdulrahman Bin Faisal University differ due to gender during COVID-19?
4. What are the recommendations and suggestions to overcome educational research challenges from the perspective of postgraduate students at Imam Abdulrahman Bin Faisal University during COVID-19?

OBJECTIVES

The present research paper aims to;

1. Define the degree of educational research challenges encountered by postgraduate students at Imam Abdulrahman Bin Faisal University during COVID-19.
2. Rank the most prominent encountered challenges by postgraduate students at Imam Abdulrahman Bin Faisal University during COVID-19 from their perspective.
3. Highlight gender-based differences in educational research challenges facing postgraduate students at Imam Abdulrahman Bin Faisal University during COVID-19.
4. Make recommendations and suggestions to overcome educational research challenges encountered by postgraduate students at Imam Abdulrahman Bin Faisal University during COVID-19.

SIGNIFICANCE

The present study is significant because it helps postgraduate students overcome educational research challenges in the light of COVID-19 by making recommendations and suggestions.

LIMITATIONS

In terms of the human limitations, the study covered all postgraduate students (level three and up) at the College of Education, Imam Abdulrahman Bin Faisal University in the first semester of the academic year 2020/2021.

DEFINITION OF TERMS

Educational research: Several definitions of educational research were introduced based on their diverse domains, approaches, and objectives. For example, Sherif (2010) defines educational research as scientific research in education carried out to provide answers or solutions to specific educational problems. It is an accurate investigation that aims to define, describe, collect relevant data, analyze, conclude results, and discuss an existent problem in the educational field to develop rules for handling the problem and similar ones (Anderson, 2004; Yunis, Aleaneizy, Salama, Alrasheedy, 2005). It is a guided activity to develop behavior in educational situations (Van Dalen, 1973).

Educational research strives to achieve science goals, namely description, interpretation, and prediction in the light of community changes, educational innovations, and controlling events in educational settings (Othman, 2008). It is a systematic intellectual process by one author or a group of authors in education based on a scientific approach. In the present study, educational research is procedurally defined as “an activity done by postgraduate students at the College of Education, Imam Abdulrahman Bin Faisal University to earn a master’s degree”.

Theoretical Framework and Literature Review

Significance, pillars, and limits of educational research

Many countries, including Saudi Arabia, pay considerable attention to educational research because of its vital role in preparing human wealth necessary for meeting socio-economic development requirements. It is a means to develop and improve educational techniques and achieve social objectives effectively (Bin Tareef, 2009; Darwish, 2019). Educational research is one of the most important means to solve the problems of development, despite their complexity and difficulty, using scientific research methods for developing education and society (Abul-Saud, Nasr, and Shalaby, 2020; Almalky, 2019). Educational research relies on planning, coordination, follow-up, funding, and evaluation. It measures the concluded research results, highlights shortcomings, and makes plans to develop and enhance educational research outcomes in the future (Albehery, 2012; Fahmy, 1988). In fact, educational research experiences several challenges, such as the nature of the educational process and the nature of the population that hinder performance and employing its results (Alkhamesy, 2018).

Abu Allam (1998) reported that ethical considerations are the most important criteria of educational research related to human beings. Thus, an author is ethically committed to the rights and benefits of the sampling, as well as obtaining their explicit consent before conducting the study. Ismail (2019) argued that the instability of the educational community causes challenges for longitudinal and

consecutive studies. Similarly, Mansour (2015) reported the complexity of educational research problems due to the complex human behavior and the effect of the environmental setting elements. Soror, Soror, and Mohsen (2011) indicated the difficulty of measurement and development of tools in educational research, causing the delay of many significant pieces of research. Furthermore, Bitchener and Basturkmen (2006) stressed the difficulty of discussing the research results. Several previous studies addressed the forms and types of educational research challenges facing postgraduate students in various places and universities. For example, Shahsavari and Kourepaz (2020) showed that most postgraduate students encounter challenges in developing and discussing the theoretical framework of their studies as they primarily focus on summarizing the findings and discussions of others. These students suffer the lack of sufficient knowledge and time to complete their literature review and the deliberate dereliction of some supervisors. Assaied (2020) analyzed the orientation to the qualitative analysis of data collected in educational problems during study suspension because of COVID-19. Al-Dhuwaihia (2020) tackled the challenges facing the master's students in the College of Education in Dammam.

Blankenberger and Williams (2020) examined the impact of COVID-19 on higher education. Nur'annafi, Funny, and Edwin (2020) evaluated the legislative humane activities during the COVID-19 pandemic in Indonesia. Moreover, Ekoç (2019) explored the perspectives of postgraduate students on supervising, the challenges of writing theses and dissertations, and the language and supervising challenges. While Ketlo and Bahees (2019) investigated the educational research challenges at the universities of the Southern West Bank, Karadsheh, Rezaee, and Al-Mawali (2019) explored the most significant academic and administrative challenges of scientific research in Oman.

Yasmin et al. (2018) examined the most important academic and institutional challenges facing the postgraduate students at a private university in Pakistan. Desmennu and Owoaje (2018) studied the most important challenges facing Nigerian postgraduate students at the University of Ibadan. Alharbi (2017) explored the academic writing challenges of Saudi postgraduate students and their supervisors in foreign countries, whereas Al Fadda (2012) investigated challenges in academic writing in English as a second language from the perspective of King Saud university postgraduate students. Moreover, Almaghedy (2010) made a proposal to overcome educational research challenges at King Khalid University. The present research differs from previous studies in investigating educational research challenges from the perspectives of postgraduate students at colleges of education during COVID-19 and its precautions, including e-learning and social distancing. Consequently, new research challenges have been raised among postgraduate students at the colleges of education, such as the inability to apply research tools. This gap has not been addressed yet. Thus, the present study tries

to resolve such problems and make recommendations and suggestions for postgraduate students to accomplish their studies.

METHODOLOGY

Method

The descriptive method was utilized because it is appropriate for problem description, data analysis, and result discussion based on planned scientific methods (Van Dalen, 1973).

Population

It covered all postgraduate students numbered (99) enrolled in the Master's Programs, College of Education, Imam Abdulrahman Bin Faisal University in the academic year 2020/2021.

Sampling

The sample comprised a representative randomly selected sample of (73) male and female master students during the application of the questionnaire and an intentionally selected sample of (12) male and female master students up to level four for conducting interviews. Table (1) shows the characteristics of the participants.

Table 1: Distribution of the participants according to gender and research tools

Sample	Questionnaire		Interview	
	Male	Female	Male	Female
Number	25	48	5	7
Percentage	34.25%	65.75%	41.67%	58.33%
Total	73		12	

Table (1) shows that the females are more than the males enrolled in the master's programs at the College of Education, Imam Abdulrahman Bin Faisal University.

Tools

The research used the following tools:

1. The questionnaire: It aimed at identifying educational research challenges facing postgraduate students at the College of Education, Imam Abdulrahman Bin Faisal University. After reviewing the literature, the preliminary draft of the questionnaire consisted of (30) items. It was presented to (9) specialized faculty

members to verify its validity. The reviewers approved (85%) of the items. Based on their remarks, (4) items were omitted owing to inconvenience. Thus, the final form comprised (26) items formulated according to the Likert Scale. To estimate its reliability, the questionnaire was applied to a pilot sample of (30) male and female postgraduate students using Cronbach's alpha, as shown in **Table (2)**.

Table 2: Coefficients of Cronbach's alpha to estimate the reliability of the questionnaire

Domains	Number of Items	Reliability Coefficient
Scientific Challenges	4	0.70
Technological Challenges	7	0.89
Administrative Challenges	5	0.71
Psychological Challenges	5	0.78
Health Challenges	5	0.76
Total	26	0.91

Table (2) shows that the total reliability rated (0.91) indicating that the questionnaire has good reliability to be applied.

2. The semi-structured interview form: After being distributed to specialized faculty members for evaluation and approval, rating (100%), the interview inventory was applied to (12) randomly selected male and female postgraduate students enrolled in the master's programs up to level four at the stage of writing theses in the academic year 2020/2021. The participants' consent was obtained. Interviews were conducted on the phone, and the collected data were qualitatively analyzed. The interview included preliminary questions about personal data and 5 major questions covering the present research. First, (4) postgraduate students not of the sample were interviewed to make sure of the clarity and appropriateness of items and calculating the time of the interview. Each interview took (15) minutes. Ethical approvals were obtained from the Research Ethics Office.

3. The statistical method: Data were statistically analyzed by SPSS using the arithmetic means, standard deviations, and independent samples T-test to estimate the significance of differences in the responses due to gender. Moreover, the findings of the interviews were qualitatively analyzed.

RESULTS, ANALYSIS, AND DISCUSSION

The questionnaire was electronically applied to a randomly selected sample of (76) postgraduate students (Master's degree: Level three and up) at the College of Education, Imam Abdulrahman Bin Faisal University in the academic year 2020/2021 to identify the challenges they experience from their perspectives. Only (73) valid responses were obtained and statistically analyzed.

To answer the first question, arithmetic means and standard deviations were calculated to identify and rank challenges. Table (3) shows the degree and rank of the domains of educational research challenges from the perspective of postgraduate students. To evaluate the items' level, an educationally accepted criterion was utilized: Low (1- 2.33), moderate (2.34- 3.67), and high (3.68- 5).

Table 3: Arithmetic means and standard deviations of the educational research challenges facing the participants during COVID-19

No.	Item	Arithmetic Means	Standard Deviation	Level	Rank
Scientific Challenges					
1	The period of evaluating research tools online is long.	4.03	1.09	High	3
2	The application of research tools during COVID-19 ceased.	3.95	1.32	High	4
3	The location of the population is difficult to access.	4.47	0.84	High	1
4	The response of the participants in applying research tools online is weak.	4.33	0.94	High	2
Total		4.19	0.74	High	
Technological Challenges					
5	The skills of using computer programs are poor.	2.74	1.38	Moderate	6
6	There are many security breaches of research information during COVID-19.	2.60	1.36	Moderate	7
7	There are many Internet problems during COVID-19.	3.29	1.39	Moderate	4
8	University technical support to solve problems of postgraduate students is insufficient.	3.53	1.21	Moderate	2
9	Some postgraduate students do not have	2.86	1.49	Moderate	5

	computers.				
10	There are many distractors during education and e-learning.	3.49	1.45	Moderate	3
11	Some electronic applications control e-learning during COVID-19.	3.58	1.27	Moderate	1
Total		3.16	1.07	Moderate	
Administrative Challenges					
12	Procedures for approval of applying research tools are slow.	4.04	1.06	High	3
13	Procedures of thesis registration, viva, and academic degree award during COVID-19 are slow.	3.80	1.31	High	4
14	Getting paper sources from university libraries during COVID-19 is difficult.	4.47	0.85	High	1
15	Communication with administrative staff during COVID-19 is difficult.	4.11	1.01	High	2
16	Academic supervision during COVID-19 is obstructed.	2.99	1.50	Moderate	5
Total		3.88	0.80	High	
Psychological Challenges					
17	Students' motivation to communicate with the academic advisors online during COVID-19 is weak.	3.36	1.37	Moderate	5
18	Because of COVID-19, there is the anxiety of the inability to fulfill thesis requirements.	4.37	0.94	High	1
19	The reliability of the results of applying research tools online during COVID-19 is doubtful.	3.92	1.10	High	2
20	Fear of infection by	3.84	1.27	High	3

COVID-19					
21	Media focus upon COVID-19 affects research achievement.	3.74	1.37	High	4
Total		3.84	0.89	High	
Health Challenges					
22	Having backache and neck pain	3.78	1.38	High	2
23	Having poor eyesight and eyes strain	3.64	1.38	Moderate	3
24	Persistent headache	3.90	1.11	High	1
25	Overweight and obesity	3.55	1.36	Moderate	4
26	Having the symptoms of COVID-19	2.67	1.44	Moderate	5
Total		3.51	0.96	Moderate	

Table 3 shows that the total degree of scientific challenges facing postgraduate students is high with an arithmetic mean of (4.19). All items of this domain are high with arithmetic means from (3.94) to (4.46). The challenge of accessing the location of the research population is ranked first with an arithmetic mean of (4.46) because most educational research samples are in schools and educational administrations, representing a major challenge during COVID-19. The weak response of the participants in applying the research tools online is ranked second and rated high. Before COVID-19, the author used to visit the places of the participants to increase responses. The same situation is unavailable during study suspension. This finding is consistent with Assaied (2020) that many researchers at the colleges of education ceased their research procedures owing to study suspension at schools and universities.

The total degree of technological challenges facing postgraduate students is moderate with an arithmetic mean of (3.16). All items of this domain are moderate with arithmetic means from (2.60) to (3.58). The item "some electronic applications control e-learning during COVID-19" is ranked first with an arithmetic mean of (3.58). COVID-19 has affected the entire world and ceased life due to home quarantine and social distancing. Consequently, schools, universities, and institutes have been closed, and e-learning has been adopted (Michael, 2020; Safy and Gharby, 2020). This situation has provided opportunities to various commercial institutions to compete and develop educational systems, programs, and applications to confront the crisis (Qwedat, 2020). However, the multiple and various applications make e-learning difficult for postgraduate students due to threats to information and violation of privacy.

The total degree of administrative challenges facing postgraduate students is high with an arithmetic mean of (3.88). All items of this domain are high with arithmetic means from (2.99) to (4.47), except for the obstruction of academic supervision that is moderate. The item "getting paper references from university libraries during COVID-19 is difficult" is ranked first with an arithmetic mean of (4.47). COVID-19 has caused the closing of university libraries. The difficulty of communication with administrative staff during COVID-19 is ranked second with an arithmetic mean of (4.11). During COVID-19, administrative work relies on the strategies of working from home. Thus, postgraduate students found it difficult to communicate with the administrative staff directly to complete the administrative procedures of their studies. This finding agrees with Ketlo and Bahees (2019) that lack of adequate time and administrative challenges hinder conducting educational research. Unlike Karadsheh et al. (2019) that ranked the difficulty of communication with the academic supervisor first, the study ranked this item last.

The total degree of psychological challenges facing postgraduate students is high with an arithmetic mean of (3.84). All items of this domain are high with arithmetic means from (3.36) to (4.37), except for the weak motivation to communicate with the academic advisors online during COVID-19 that is moderate. The item "because of COVID-19, there is the anxiety of inability to fulfill thesis requirements" is ranked first. Ghalim and Bin Ayyash (2020) reported that COVID-19 made it difficult to carry out scientific studies, especially the field ones. During COVID-19, postgraduate students could not complete theses requirements or apply the tools. This finding agrees with Yasmin et al. (2018) that reported attitude-related psychological challenges facing the postgraduate students at a private university in Pakistan.

The total degree of health challenges facing postgraduate students is moderate with an arithmetic mean of (3.51). All items of this domain are moderate with arithmetic means from (2.67) to (3.90), except for persistent headache, neck pain, and backache that are high. Using the computer for a long time to communicate with supervisors or conclude procedures affected health negatively. Ar-rawy (2002) reported that using the computer for long hours causes health problems, such as headaches, fatigue, dizziness, and poor eyesight.

To answer the second research question, arithmetic means and standard deviations were calculated to identify and rank challenges. **Table (4)** shows the degree and rank of the educational research challenges according to the domains of the questionnaire.

Table 4: Degree and rank of the educational research challenges according to the domains of the questionnaire

No.	Domain	Arithmetic Means	Standard Deviation	Level	Rank
1	Scientific Challenges	4.19	0.74	High	1
2	Technological Challenges	3.16	1.07	Moderate	5
3	Administrative Challenges	3.88	0.80	High	2
4	Psychological Challenges	3.84	0.89	High	3
5	Health Challenges	3.51	0.96	Moderate	4
Total		3.72	0.68	High	

Table (4) shows that the total degree of the challenges is high with an arithmetic mean of (3.72). This finding matches the findings of Al Fadda (2012), Almaghedy (2010), Assaied (2020), Bitchener and Basturkmen (2006), Desmennu and Owoaje (2018), Ekoç (2019), Karadsheh et al. (2019), Ketlo and Bahees (2019), Yasmin et al. (2018), and Shahsavar and Kourepaz (2020) that reported various academic, administrative, or psychological challenges facing postgraduate students at different universities. **Table (4)** shows that the technological and health challenges are moderate, while the academic, administrative, and psychological ones are high. The results of the quantitative and qualitative analyses agree on the rank of the most prominent research challenges as thought by the interviewed participants. **Table (5)** shows the results of the quantitative analysis.

Table 5: Rank of research challenges according to the responses to the interviews (N=12)

No.	Domain	Number	Percentage	Rank
1	Scientific Challenges	5	41.67%	1
2	Technological Challenges	0	0%	-
3	Administrative Challenges	4	33.33%	2
4	Psychological Challenges	2	16.67%	3
5	Health Challenges	1	8.33%	4
Total		12	100%	

Table (5) shows the results of the qualitative analysis of the responses to the interviews. The scientific challenges are ranked first (41.67%) because the academic performance of the postgraduate students was affected during COVID-19 owing to the difficulty of accessing resources and closing university libraries.

Thus, postgraduate students searched for electronic references, which may be inadequate. They added that ceasing the application of the research tools due to the suspension of the study hindered obtaining real data. Furthermore, it was difficult to communicate the sample during COVID-19 and the response was weak. In sum, the responses of the participants to the scientific challenges were negative.

The administrative challenges are ranked second (33.33%) because concluding the administrative procedures of the postgraduate students was affected during COVID-19 due to taking preventive measures to control the spread and infection of the virus. For example, a participant reported difficulty in obtaining an Application form of Facilitating Researcher's Task to apply the research tool. The psychological challenges are ranked third (16.67%) because of the fear of COVID-19, following media, and updates of causalities. For instance, the participants reported that the fear of COVID-19 has caused anxiety, fear, and panic. Others argued that an unstable internet connection caused depression because of losing the final version and restarting work. In sum, the responses of the participants to the psychological challenges were negative.

The health challenges are ranked fourth (8.33%). The health of postgraduate students is affected because of using the computer for long hours, such as having a backache, sore eyes, and headaches. A participant reported severe backache, weight loss, anorexia, and COVID-19. In short, the responses of the participants to the health challenges were negative. All participants (100%) did not report any technological challenges, except for the unstable internet connection. The postgraduate students in Saudi Arabia master the use of electronic devices, especially computers, communication software, and internet search. They reported no difficulty in online communication with classmates and supervisors. However, accessing the digital repository off-campus was difficult. In short, the responses of the participants to the technological challenges were positive.

To conclude, the scientific challenges are ranked first because of the suspension of the study, ceasing the application of the research tool, and difficulty accessing the sample or validating the research tools. The administrative challenges are ranked second because the administrative correspondences became electronic, making it difficult to contact university libraries and staff to conclude research-related procedures. This finding differs from Almalky (2019) that reported that the administrative challenges are ranked first followed by the academic ones.

To answer the third research question, the independent samples T-test was used to identify differences in the responses due to gender, as shown in table (6).

Table (6): Results of the independent samples T-test of the differences in the responses to educational research challenges during COVID-17 due to gender

Domain	Gender	Number	Mean	Standard Deviation	T Value	Freedom Degree	Significance Level	Significance
Scientific Challenges	Males	25	17.20	3.39	0.906	71	0.464	Insignificant
	Females	48	16.54	2.69				
Technological Challenges	Males	25	24.24	6.23	1.796	71	0.318	Insignificant
	Females	48	20.98	7.88				
Administrative Challenges	Males	25	22.04	3.28	4.63	71	0.685	Insignificant
	Females	48	18.02	3.64				
Psychological Challenges	Males	25	20.32	0.99	1.54	71	0.61	Insignificant
	Females	48	18.65	0.591				
Health Challenges	Males	25	17.52	6.13	0.36	71	0.008	Significant
	Females	48	17.56	3.98				
Total	Males	25	101.32	18.22	2.179	71	0.773	Insignificant
	Females	48	91.75	17.59				

Table (6) shows that there are no differences in postgraduate students' responses to educational research challenges due to gender in the total score and the (scientific, technological, administrative, and psychological) challenges. This finding agrees with the results of Shantawy (2006) that reported no differences among the perspectives of the male and female students of some challenges of conducting educational research. Moreover, there are differences in the responses of postgraduate students to educational research health challenges due to gender in favor of the females. This finding agrees with Almalky (2019), indicating some differences among male and female students' conceptions of conducting educational research challenges in favor of the females. These differences may be caused by different interests in conducting educational research among males and

females. Because of their interest in educational research, females use the internet for long hours, which affects their health status.

To answer the fourth research question, the qualitative analysis of the interview responses of the showed how the College of Education can support postgraduate students. The participants reported that the college should endeavor to enhance postgraduate students' research performance, such as delivering online workshops and training courses about specialized educational topics, conducting descriptive studies, and facilitating administrative procedures. Some participants stressed the importance of applying the tools online by a specialized department at the college, not considering COVID-19 of the regular study period, reducing study fees, and holding live meetings in libraries.

The participants stressed the importance of the university role in enhancing the postgraduate students' research performance through various strategies, such as allowing off-campus access to the digital repository, activating the role of the centers of university counseling and family and community medicine to provide psychological support and maintain a healthy diet, and offering online consultations. They suggested facilitating book borrowing and delivery, expanding and regularly updating subscriptions to foreign databases and allowing them off-campus, and activating online communication between the university and the department of education to provide the required data for conducting educational research.

A university unit should be established to facilitate the online application of the educational tools, e.g. questionnaires and tests, and to facilitate communication with postgraduate students. A university platform including professors and experts should be launched to review the research tools. A university translation center should be established to help authors translate their works after closing private translation centers during COVID-19. The university should cooperate with institutions that sell computers and accessories to support students, lower prices, and provide the required software. The university should also provide and update anti-virus software and publish warnings about security gaps.

The qualitative analysis of the interviews showed students' perspectives about applying the research tools during COVID-19. The participants suggested that the concerned bodies at the college and university should collaborate to publish and follow up applying the research tools. Changing the titles of the researches from quantitative to qualitative should be flexible, and the procedures of the concerned councils should be shorter. A platform containing the samples should be launched to facilitate application and conclude the best findings. Moreover, the experimental processing materials of the educational research tools should be electronic to be applied via MY School Platform. The participants argued that some studies require direct contact with the participants, including learning difficulties. Thus, a suitable alternative should be provided. The participants

stressed the importance of mobile applications when applying the educational research tools and launching an approved application to help postgraduate students apply their tools.

RECOMMENDATIONS

In the light of the findings of the questionnaire and the interview, the authors recommend designing mobile applications to facilitate the application of the educational research tools, as well as establishing an administration responsible for the procedures of evaluating, reviewing, and facilitating the application of the research tools. This administration helps the postgraduate students make statistical analyses of data and proofreading theses. It is also recommended to provide a map of research topics at educational departments, conduct training programs about the skills of preparing a research plan, accelerate procedures of approving research plans, prepare a guide of the titles of theses and dissertations, propose an annual award for the best educational thesis at the college, and train researchers and postgraduate students on conducting qualitative research and being aware of their types and techniques.

To overcome the administrative challenges, the researchers recommend establishing a specialized disaster and crisis administration, establishing a central administrative agency between the college of education and the educational administration to help researchers apply research tools and obtain the research sample easily. To overcome the psychological and health challenges, the authors recommend that university hospitals should provide several training courses to train students on how to avoid the negative impact of using electronic devices for a long time and to present medical consultations and online treatment.

To overcome the technological challenges, the authors recommend providing mobile internet and fifth-generation units in cooperation with the Ministry of Communications & Information Technology in the places suffering poor network. They recommend using artificial intelligence, face recognition, radio-frequency identification. The authors also suggest launching digital interactive platforms and educational channels to help postgraduate students who do not have access to the Internet.

CONCLUSION

The findings show that the participants faced scientific, administrative, technological, health and psychological challenges in conducting educational research during COVID-19. They made some recommendations and suggestions to overcome such challenges. The findings of qualitative data confirmed those of quantitative statistics. They show that the scientific, administrative, psychological, health and technological challenges were respectively ranked. However, postgraduate students did not face any technological challenges. Most of the interviewed participants agreed that the College of Education, Imam

Abdulrahman Bin Faisal University should support postgraduate students and educational research by launching an electronic platform and a research consultation unit, help postgraduate students evaluate and apply their research tools. Therefore, educational research challenges among postgraduate students at Imam Abdulrahman Bin Faisal University during COVID-19 (reality-improvement suggestions) by multiple-method research were identified, and the research objective was achieved. The authors suggest conducting future studies on the problems of the postgraduate students and educational researchers to face those challenges procedurally.

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