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Graduate Students' Perceptions and Challenges with Distance Learning during COVID-19

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Abstract

This research sought to define the perspectives of the graduate students of the College of Education at King Saud University based on their experiences while using the digital learning platform adapted during the first two years of COVID-19. The research objectives were achieved through a quantitative analysis of the research question. Likert scale was used to determine the perspectives and challenges experienced by one hundred ninety-seven graduate students from the College of Education at King Saud University. Predefined questions were posed to the graduates to collect statistical data relating to their perceptions and challenges experienced and analyze the learners' perspectives through measures of dispersion (mean, standard deviation, and order). According to the findings, the majority of the students reported positive perspectives concerning distance learning despite the challenges impacting the practice. The present paper concluded with recommendations that institutions aspiring to offer distance learning via virtual platforms could employ them to improve students' and faculties' experiences.

Keywords: distance learning, perception, challenges, COVID-19.

Introduction

COVID-19 is the most recent historic pandemic to hit the world. The impacts of the disease continue to be felt across all sectors of the economy, including trade, health, sports, and education. The Kingdom of Saudi Arabia is not an exception to this reality. While many sectors are endeavoring to retain their respective position and mode of operation, the education sector has opted to resort to digital learning. However, this switch has faced multiple challenges and criticisms. While distance learning is convenient for some individuals, others encounter hardships when using online platforms or simply cannot afford the high costs associated with the trend.

Education is one of the critical sectors in every economy. Governments around the world should invest heavily in advancing their education systems. In that regard, the Kingdom of Saudi Arabia is no exception, as the government has implemented several policies aimed at improving the quality of education offered in its institutions. The Ministry of Education has to ensure that education is available free of charge to all students, including those living with disabilities (Alharbi & Madhesh, 2018). Such a change is evidence of the drastic revisions that have taken place in the kingdom's education sector and the efforts made by the government to enhance the quality of education. To improve its higher education sector, Saudi Arabia made a \$160 billion investment in its education budget (Saha, 2015). This was proof of the government's intent to get Saudi Arabia's education to a "world-class" level.

Many education systems around the world share similar characteristics that are intended to make their students competitive at the global level. As such, Saudi Arabia's higher education system resembles that of developed nations such as the United States, in that it adopts associate, undergraduate, master's, and doctoral degrees as measures of

academic achievement (Allahmorad & Zreik, 2020). This implies that Saudi Arabia's higher learning system is on its way to achieving the world-class status that the government is interested in attaining. However, the higher education system has faced significant challenges in its attempts to develop rapidly. The main problem has been overcrowding of the system, evidenced by a 600% increase in the student population between 2005 and 2011 from 151,998 to 905,892 students (Alahmari, 2017). Faced with such challenges, the government adopted a new measure to ease the congestion in its system by offering government-sponsored scholarships to foreign institutions. Additionally, local institutions have adopted the use of Internet resources to deliver learning to their students.

The Kingdom of Saudi Arabia enjoys fast internet connections and significant internet penetration. Alahmari (2017) noted that the region registered an internet penetration rate of 74.9% by the end of 2016. With such statistics and the overcrowding of schools, it is no surprise that e-learning was one of the solutions made available to students and instructors in the education system. Both students and faculty agree that as long as teaching presence indications, such as feedback and text-based tools, are available, then lectures will be engaging and result in maintaining achievement (Gonzalez & Moore, 2020). However, distance learning has also been shown to encounter several challenges that threaten its viability as an effective method of delivering instruction. In a study involving a sample drawn from Saudi Arabia, the researchers found that a significant proportion of students lacked the information technology necessary to access online materials (Basri et al., 2018). Rienties et al. (2013) identified other challenges to the education system in Saudi Arabia, such as inadequate training for learners concerning the use of virtual applications in distance learning. As a result, many faculty members and learners do not

have the competency needed to use online platforms, thus lowering the quality of education in the country. Rigidity in the evaluation methodologies used in learning is another concern that education stakeholders in the country must address to ensure improved education for its citizenry (Koseoglu et al. 2020). In addition, Saudi Arabia's institutions lack adequate technical support and qualified personnel needed to create digital educational materials. Thus, while Saudi Arabia shows a high internet penetration rate, there are still shortcomings that prevent the optimum utilization of distance learning.

In light of the present state of affairs, governments have restructured different sectors to enable them to effectively minimize the devastation caused by the COVID-19 pandemic (and later its variants). Saudi Arabia is one of the countries that took significant measures to prevent the virus from entering the country. When the first case was confirmed, even more drastic measures were taken. One of these was shifting schools and universities to remote learning on March 8, 2020 (Algaissi et al., 2020). Such a move necessitates the examination of factors that could impact the effectiveness of distance learning so that faculty members and students can make the most of their online interactions. Research dictates that distance learning should engage, guide, and retain the student as opposed to advocating for self-directed learning, as is the belief of many (Ahmed et al., 2020). Shifting education to online delivery methods in Saudi Arabia presents both students and faculty with new challenges that should be addressed if effective education is to be sustained. The approaches to address these difficulties must be unified to facilitate the brainstorming of enhanced education practices.

Statement of the Problem

The spread of COVID-19 around the globe has led governments to rapidly transition and adapt to online learning due to the altered educational landscape. This shift prompted unmatched challenges and opportunities for higher institutions of learning. The College of Education at King Saud University took drastic measures, including shifting all education to remote learning and virtual classrooms to protect faculty and students. However, it is not known the extent to which graduate students perceive the idea of having virtual classes instead of on-campus physical lectures. Furthermore, there is insufficient knowledge about the challenges that distance learning poses to graduate students in Saudi Arabia, especially with the intersection of education and technology and social interactions limited. The problem of the current research is demonstrated in the complexity of digital learning among students of the College of Education at King Saud University evidenced by their struggle with completing practical courses and limited provision of technical support to enhance the effectiveness of distance learning and boost academic outcomes.

Research Questions

- Q1. What are the perceptions of graduate students of the College of Education at King Saud University regarding distance learning during the COVID-19 pandemic?
- Q2. What are the challenges faced by graduate students of the College of Education at King Saud University associated with distance learning during the COVID-19 pandemic?

Research Objectives

1. To analyze Likert-type data quantitatively and assess the perceptions of graduate students of the College of Education at King Saud University with digital learning platforms during the COVID-19 pandemic.
2. To identify the challenges faced by graduate students of the College of Education at King Saud University associated with distance learning during the COVID-19 pandemic.
3. To evaluate the impact of digital learning platforms on students' academic outcomes and performance.
4. To provide recommendations to educational institutions regarding approaches to adopting virtual platforms to improve students' and faculties' experiences.

Definition of Terms

- Perception: Refers to how graduate students view distance learning primarily in comparison to typical learning.
- Challenges: The difficulties faced by graduate students as they attend virtual classes and try to acclimate to studying in remote locations.
- Distance learning: Learning that takes place through means such as the internet that do not require the student's physical presence in class.
- COVID-19: Coronavirus disease 2019. The respiratory infection that results from the severe acute respiratory syndromecoronavirus2.

Literature Review

Graduate Students' Perceptions

The current body of literature indicates mixed perceptions toward distance learning. A study conducted by Khalil et al. (2020) in Saudi Arabia reported mixed reactions about the effectiveness of online lectures, although the time-saving aspect of distance learning resonated well with most students. In contrast, a study conducted by Gardner et al. (2021) found that the majority of students preferred having traditional face-to-face learning as opposed to distance learning. The researchers cited weak completion rates for adult learners in online education programs as evidence of negative perceptions. The researchers noted that adult learners often have to juggle family, work, and other social obligations, which creates time management problems. Interestingly, the same group of learners had positive perceptions of online programs because of their flexibility in comparison to fully in-person courses. Despite the students having some positive perceptions about distance learning, the poor outcomes (in terms of weak completion rates) raise many questions.

Yu et al. (2021) conducted a study on the perceptions of medical students toward online team-based learning. This was a new experience for many of the medical students and was something they were forced to adapt to because of the pandemic. The authors found positive perceptions toward online learning overall. Some negative perceptions were noted because of challenges the students experienced, such as poor engagement and difficulty with learning some concepts. One interesting finding was that those with prior experience with distance learning viewed it more positively.

A study by AuCoin and Wright (2021) found that undergraduate students welcomed the opportunity for distance learning but wanted a stronger relationship with the faculty in terms of mentorship and encouragement. The students were dissatisfied with distance learning because they felt disconnected from their professors.

While studies show that students are overall positive about distance learning, the available literature indicates a need for improvement. Even those students with positive perceptions about online learning still had suggestions for improvement, such as the use of online teaching tools and better training for their instructors (Nage-Sibande & Morolong, 2018).

Challenges Faced by Graduate Students

Several studies have highlighted the challenges of online learning for adult learners. A review of the available literature indicates that there are specific challenges unique to distance learning environments. Many studies have described how technological challenges impact the perceptions of graduate students enrolled in online/distance learning. According to Gardner et al. (2021), older adult learners struggle to participate in online programs due to a lack of technological fluency. This makes it more difficult for them to interact with instructors and peers in online programs. Technological difficulties were also cited as the primary challenge in the study by Yu et al. (2021). The anxiety that comes with using computers and the internet often leads to poor satisfaction rates in distance learning. Many researchers who have studied distance learning have cited access to broadband internet as a primary challenge for learners (Yu et al., 2021). This finding is intriguing considering the increased internet penetration in most countries, including the Kingdom of Saudi Arabia . Another technological challenge is the complexity of online exam systems (Yu et al., 2021).

Prior studies have highlighted the challenge of relationship building in distance learning. Humans are social beings who struggle when isolated. AuCoin and Wright (2021) cited poor engagement as one of the reasons for high attrition rates in virtual learning. Other challenges experienced by graduate students in distance learning include a lack of teammate engagement and a lack of access to instructors (Yu et al., 2021). Ultimately, these challenges contribute to poor perceptions of distance learning. Transitioning to distance learning means that there are little to no shared experiences. Trespalacios et al. (2021) noted poor support services as one of the factors contributing to high attrition rates in distance learning courses. The authors emphasized the importance of support service programs in distance learning. Khalil et al. (2020) found that some students had issues with the quality of online lectures. In their study, the students indicated that some instructors had no experience with teaching virtual classes.

The literature reviewed overwhelmingly highlights the importance of increasing engagement in distance learning. A study by Muzammilet et al. (2020) reiterated the importance of engagement and interaction in distance learning, noting that improving engagement levels in distance learning will lead to better perceptions of it. Fehrman and Watson (2020) researched the effectiveness of asynchronous online discussions as a way of improving engagement and outcomes in distance learning. The researchers established that while asynchronous online discussions were effective in improving graduate students' interactions, they did not fully meet their needs.

Mellieon and Robinson (2020) conducted a similar study on the perceptions of lecturers and faculty members toward online learning. One of the key findings was that a significant amount of organization was required to succeed in a distance/online learning environment. Bertuziet al. (2020)

found that faculty members with experience in distance learning had the best perceptions, similar to the findings of studies focusing on graduate students. This implies that graduate students and faculty members have similar perceptions and experience the same challenges in terms of distance learning.

However, none of these studies highlighted gender differences in terms of perceptions of distance learning and its challenges. There is a need for research investigating the differences in perceptions and challenges between males and females as well as married and unmarried graduate students. This research focuses on graduate students from King Saud University. The sample was comprised of 116 male students and 86 female students who were a mix of married and unmarried.

Methodology

The purpose of this paper was to determine the perceptions of students of the College of Education at King Saud University regarding distance learning during the COVID-19 pandemic and the challenges they faced. With this in mind, the target population for this study was graduate students at the college. In 2020, the number of graduate students was 1,971. The sample selected for this study was 197 students. The sample selection was done by simple random sampling to enhance simplicity in the data collection process and reduce the chance of bias. The population sample was comprised of learners undertaking a master's or doctoral degree. The specifics about the students' area of study, age, and geographical origin were insignificant for describing the demographic characteristics in the research and thus not collected. Table 1 presents the demographics of the sample according to the independent variables: current level of study, gender, marital status, and level of technology use.

Table 1

Number and Percentage of Participants by Independent Variables

Variable	Group	<i>n</i>	%
Current level of study	Masters	146	74.1
	Ph.D.	51	25.9
Gender	Male	116	58.9
	Female	81	41.1
Marital status	Married	135	68.5
	Unmarried	62	31.5
Level of technology use	High	112	56.9
	Medium	84	42.6
	Low	1	0.5

Note. N= 197.

Likert scales were used to collect student responses. These tools are very popular in survey research and quite effective for understanding perceptions. Each Likert statement measured a different aspect of students' perception and challenges. Properly phrased Likert statements are easy for respondents to understand, which increases validity. The closed-ended format of Likert statements makes them very user-friendly for researchers. A 3-point Likert-type scale was used to minimize frustration for the respondents and increase response rate.

Results

In order to answer Research Question 1, descriptive statistics were used. Table 2 shows the results.

Table 2

Perceptions of the Graduate Students of the College of Education at King Saud University Regarding Distance Learning During the COVID-19 Pandemic

Likert statement	Responses ^a			Mean ^b	SD	Rank
	Disagree	Neutral	Agree			
1. Distance learning suits the current conditions of learners associated with social distancing.	21 (10.7)	18 (9.1)	158 (80.2)	2.70	0.654	2
2. Distance learning helps to build the capacities of learners to adapt to society's changes.	22 (11.2)	32 (16.2)	143 (72.6)	2.61	0.680	5
3. Distance learning contributes to solving educational problems.	30 (15.2)	63 (32.0)	104 (52.8)	2.38	0.736	10
4. Distance learning helps to connect learners to technology.	13 (6.6)	17 (8.6)	167 (84.8)	2.78	0.552	1
5. Distance learning contributes to the learner's understanding of the scientific material.	53 (26.9)	59 (29.9)	85 (43.1)	2.16	0.823	17
6. Distance learning creates diversity in the teaching methods used in teaching (general).	22 (11.2)	48 (24.4)	127 (64.5)	2.53	0.689	8
7. Distance learning creates diversity in the methods of teaching specific course.	36 (18.3)	62 (31.5)	99 (50.3)	2.32	0.765	12
8. Distance learning helps to expand the learner's knowledge of scientific references.	41 (20.8)	50 (25.4)	106 (53.8)	2.33	0.800	11
9. Distance learning contributes to increasing the learner's motivation to learn.	38 (19.3)	91 (46.2)	68 (34.5)	2.15	0.719	19

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Likert statement	Responses ^a			Mean ^b	SD	Rank
	Disagree	Neutral	Agree			
10. Distance learning makes the learner more capable of self-directed learning.	19 (9.6)	34 (17.3)	144 (73.1)	2.63	0.653	4
11. Distance learning is in line with the learner's social circumstances.	34 (17.3)	37 (18.8)	126 (64.0)	2.47	0.773	9
12. Distance learning adds to the study effort required by the learner.	54 (27.4)	35 (17.8)	108 (54.8)	2.27	0.867	13
13. Distance learning saves the learner time.	19 (9.6)	28 (14.2)	150 (76.1)	2.66	0.646	3
14. Costs associated with distance learning are lower than those associated with traditional learning.	12 (6.1)	59 (29.9)	126 (64.0)	2.58	0.606	6
15. Distance learning makes learning more fun.	52 (26.4)	67 (34.0)	78 (39.6)	2.13	0.804	20
16. Distance learning comprises feedback that helps with understanding the educational material.	44 (22.3)	79 (40.1)	74 (37.6)	2.15	0.761	18
17. Evaluation methods in distance learning are varied.	39 (19.8)	75 (38.1)	83 (42.1)	2.22	0.757	15
18. Learning activities in distance learning suit the needs of the learner.	37 (18.8)	82 (41.6)	78 (39.6)	2.21	0.737	16
19. Distance learning achieves the principle of equal educational opportunities among learners.	44 (22.3)	61 (31.0)	92 (46.7)	2.24	0.796	14
20. Distance learning helps in achieving educational flexibility.	27 (13.7)	35 (17.8)	135 (68.5)	2.55	0.724	7

Note. aResponses presented as n (%). bAgree=3; Neutral=2; Disagree=1.

Table 3
Challenges Faced by Graduate Students of the College of Education at King Saud University Associated With Distance Learning During the COVID-19 Pandemic

Likert statement	Responses ^a			Mean ^b	SD	Order
	Disagree	Neutral	Agree			
1. It is difficult for learners to deal with the technology related to distance learning.	77 (39.1)	49 (24.9)	71 (36.0)	1.97	0.868	16
2. Faculty members have poor knowledge of the technology related to distance learning.	54 (27.4)	80 (40.6)	63 (32.0)	2.05	0.771	14
3. The internet is poor and faces interruptions during learning.	34 (17.3)	27 (13.7)	136 (69.0)	2.52	0.773	4
4. The internet is too expensive.	41 (20.8)	50 (25.4)	106 (53.8)	2.33	0.800	9
5. Internet service is not available in all residential areas.	33 (16.8)	43 (21.8)	121 (61.4)	2.45	0.765	6
6. Devices and computers that can operate distance learning software are too expensive.	27 (13.7)	49 (24.9)	121 (61.4)	2.48	0.725	5
7. Devices and computers that can operate distance learning software are unavailable to some learners.	68 (34.5)	59 (29.9)	70 (35.5)	2.01	0.839	15
8. There is a scarcity of distance learning training courses for the learners who need them.	52 (26.4)	43 (21.8)	102 (51.8)	2.25	0.849	11
9. Faculty members have poor knowledge regarding converting course terms to be in line with distance learning methods.	29 (14.7)	88 (44.7)	80 (40.6)	2.26	0.699	10
10. Students' negative perception of distance learning outputs.	18 (9.1)	36 (18.3)	143 (72.6)	2.63	0.646	2
11. Procedures for evaluating learners in distance learning are too difficult.	27 (13.7)	67 (34.0)	103 (52.3)	2.39	0.717	7

Likert statement	Responses ^a			Mean ^b	SD	Order
	Disagree	Neutral	Agree			
12. It is difficult for learners to accept the principles of distance learning when studying courses.	55 (27.9)	58 (29.4)	84 (42.6)	2.15	0.829	13
13. There is a weak level of cooperation from the university's technical support team regarding distance learning.	31 (15.7)	88 (44.7)	78 (39.6)	2.24	0.706	12
14. It is difficult to apply distance learning for some courses requiring practical skills.	13 (6.6)	40 (20.3)	144 (73.1)	2.66	0.597	1
15. There is a scarcity of people specializing in designing educational material that can be used in distance learning.	9 (4.6)	70 (35.5)	118 (59.9)	2.55	0.583	3
16. Distance learning limits human interaction between the teacher and learner.	36 (18.3)	57 (28.9)	104 (52.8)	2.35	0.771	8

Note. aResponses presented as n (%). bAgree=3; Neutral=2; Disagree=1.

Discussion of Findings

This section presents an analysis of the Likert-type data collected. The Likert-type data are at the ordinal level, which means they are subject to interpretations. We made inferences based on the Likert numbers. We assessed a group of 20 Likert statements covering graduate students' perceptions of distance learning and another group of 16 Likert statements covering their challenges. The responses to each Likert statement were analyzed using means and standard deviations.

After analyzing the responses to the 20 Likert statements on graduate students' perceptions, the results indicate positive perceptions toward distance learning. We found that 84.8% of the graduate students agreed that distance learning connected them to technology (highest Likert scale mean: (2.78). Additionally, 80.2% agreed that it suits the current conditions of learners in line with social distancing regulations. These social distancing

regulations and distance learning have contributed immensely to controlling the spread of the pandemic among students. However, 10.7% of the students disagreed. While social distancing is essential to regulating the pandemic, distance learning does not fit some learners' current conditions. Another 9.1% had a neutral opinion concerning the merits of distance learning in adherence to social distancing.

A total of 76.1% agreed that distance learning saved them time. This is because they did not have to spend time commuting from their workplaces and homes to the university. As a result, students could enhance their productivity and leisure hours. However, 9.6% of the learners had a dissenting opinion. For these students, they may have had to spend more time studying the course material in contrast to the time they would have spent to comprehend the materials in a physical classroom. Moreover, poor connectivity and increased expenditure on internet resources could have limited their ability to understand the course work, resulting in wasted time.

While 73.1% agreed that distance learning made them more capable of self-directed learning, 9.6% indicated that they were less capable of autonomy in learning. This may have been due to their difficulty understanding the course materials. Additionally, 17.3% of the learners claimed that factors such as self-driven characteristics were equally responsible for enhancing their independent study.

Societal changes are imminent and vary in severity, and individuals must seek to attain adaptability mechanisms. On this note, 72.6% of the students agreed that distance learning helped them build their capacities and made them more adaptable to societal changes. However, 11.2% of the students had a dissenting opinion. For these students, environmental factors may have been key contributors to their adaptability to changes in society rather than distance learning. Another 16.2% of the respondents had a neutral opinion in this regard. Thus, they may believe that distance learning is among numerous contributors to adaptability to societal changes.

Over two-thirds (68.5%) of the respondents agreed that distance learning helped them to achieve educational flexibility. Class scheduling is a hectic task for many learners, and distance learning can provide a reprieve from traditional class scheduling (Engeness, 2020). However, only 39.6% agreed that it made learning more fun (lowest Likert scale mean of 2.13). Furthermore, 26.4% of the learners disagreed that distance learning enhanced the fun of learning. For many learners, interaction with other individuals in a physical environment is crucial to the learning experience because it facilitates bonding and shared experiences among the students (Cecchini et al., 2021). Finally, 34% of the learners were neutral, perhaps believing that distance learning contributes to making learning fun alongside other factors that play an equal role in the education process.

Only 34.5% of respondents agreed that distance learning increased their motivation to learn. Many learners are motivated to learn through active interaction in a physical environment and supervision. Additionally, the ease of asking questions is a crucial variable in students' motivation to learn (Cecchini, et al., 2021). Importantly, students' ability to interact with the virtual interface can be a major contributor to their motivation to learn in an online environment.

In considering the above factors, some learners felt demotivated to learn, with 19.3% of the students enduring such an experience. Notably, 54.8% of the learners felt that virtual learning enhanced their study efforts, while 27.4% of the sample population disagreed. According to Carrillo and Flores (2020), students who have a good understanding of the course material remain highly motivated to enhance their study efforts. However, students with lower potential tend to give up on enhancing their study efforts. Other factors that influence learners' study efforts include easy interaction with the distance learning platform, internet connectivity, and the emotional status of the learner. A total of 42.1% of the learners noted

that the evaluation techniques used in virtual learning platforms were varied. However, 19.8% of the learners disagreed on the variety of evaluation methodologies. These dissenting learners may have felt that evaluation techniques were too rigid or that they offered little or no room for practice in the physical environment. Such rigidity has been shown to have a major impact on learners' competency levels (Cecchini et al., 2021). Finally, 38.1% of the learners were neutral.

From the results, 37.6% of the learners were able to give feedback to the lecturers and institutional faculties, which can have a profound impact on understanding the educational material in their respective areas of study. In contrast, 22.3% of the learners disagreed with the opinion, indicating that traditional learning provides a better platform for inquiry and consultation with the institutions' faculties and lecturers. Finally, 40.1% were neutral.

The responses indicate that 46.7% of the learners agreed that distance learning contributes to the principle of providing equal educational opportunities among the learners. However, 22.3% of the students disagreed. This could be due to inequalities in terms of limited access to technological aspects, such as a reliable internet connection and financial resources.

The majority of the students were neutral as to whether distance learning helped improve their understanding of the course materials. Very few students agreed that distance learning suited their needs as learners. The highest difference in opinions was related to whether distance learning improved their understanding of scientific material ($SD = 0.823$).

Q2. What are the challenges faced by graduate students of the College of Education at King Saud University associated with distance learning during the COVID-19 pandemic? Descriptive analysis was used to answer Research Question 2 (see Table 3). The responses to the 16

Likert statements on the challenges of distance learning reveal that the biggest struggle in the courses was the need for practical skills. A total of 36.0% of the respondents encountered difficulty while interacting with the university's distance learning platform and other applicable technology in distance learning. However, 39.1% of the respondents did not indicate any difficulty while using the equipment and technology related to distance learning. This was likely due to their proficiency with computer system applications (Todhunter, 2013). Notably, 24.9% of the learners had a neutral experience in dealing with the distance learning platforms.

The role of faculty members in the institution is indispensable (Roberts, 2018). Faculty members' incompetence in using the distance learning platforms was confirmed by 32% of the respondents, while 27.4% of the respondents had a dissenting opinion towards the statement. However, 40.6% of the graduates were neutral regarding the faculty members' understanding of the distance learning technology.

Additionally, 73.1% of the sample agreed that it is difficult to apply distance learning to practical courses. This difficulty may have been mainly due to inaccessibility to workshops, laboratories, group discussions, and equipment vital to the learning process. However, 6.6% of the respondents disagreed with the statement, while 20.3% had a neutral opinion about the issue. Likely as a result of poor adaptability methods to societal changes, 72.6% had negative perceptions regarding the output of distance learning. On the other hand, 9.1% of the respondents perceived distance learning outputs positively, with the remaining 18.3% of the sample having a neutral perspective. Finally, 59.9% agreed that there is a scarcity of people trained to design educational materials for distance learning.

Only 6.6% of the learners did not have challenges accessing educational material, while 20.3% of the students had a neutral perspective about the availability of study materials in the digital platform. Additionally, 69.9% of the sample indicated that a poor internet connection led to interruptions during online learning. These interruptions can have a direct impact on the output of the distance learning process and comprehension of the course materials (Fresen, 2018). Notably, 17.3% of the respondents did not experience any interruptions while using the internet during learning. However, 13.7% of the graduates had a neutral view concerning internet connection challenges during the sessions. Regarding internet availability, 61.4% agreed that internet service is not available in all residential areas. In contrast, 16.8% of the respondents believed that Internet is available in all residential areas, while 41% of the students held a neutral position about Internet connectivity in residential areas.

Financial inequality, tough economic times, and high capital investment required to join an online class may have resulted in 61.4% of the respondents agreeing that the high cost of computers and other devices needed in distance learning is a major challenge. Additionally, 52.8% agreed that limited human interaction is a challenge in distance learning compared to traditional learning, which allows for physical interaction between students and faculty members. Finally, 18.3% of the graduates did not have any challenges while interacting with their lecturers and fellow learners. However, 28.9% of the learners had a neutral opinion relating to the subject.

Inadequate institutional preparedness in handling distance learning classes can affect students' performance. A total of 51.8% of the respondents agreed that distance learning training courses were unavailable to the students who needed them. For this reason, many students could not optimize their usage of the online platform to enhance their understanding

of the course materials (Engeness, 2020). However, 26.4% of the learners were able to access such training courses, hence optimizing their use of the virtual classes. The remaining 21.8% had a neutral opinion toward the issue.

Furthermore, 52.3% agreed that evaluating learners in the online environment was challenging. Rigidity in evaluation techniques in distance learning is the main obstacle to the online evaluation of students. For 34.0% of the learners who had a neutral opinion, they likely perceived that challenges in evaluating learners were similar between distance learning and traditional class settings. However, 13.7% of the learners had a definite dissenting opinion, indicating that they did not encounter any hardship during evaluation.

Internet access is a crucial variable in determining the success of any distance learning program. Initial internet installation costs and recurrent expenditures can be a burden for some learners. This is likely why 53.8% agreed that a high internet cost is a challenge to distance learning. The number of hours that learners must spend streaming live classes and conducting research to adequately comprehend a particular topic can impact the recurrent internet expenditure (Mishra et al., 2021). However, 20.8% of the respondents did not have complaints about internet cost, probably because of their individual financial wellness or that of their guardians. Additionally, these individuals likely had internet access in their respective residential areas. Finally, 25.4% of the sample had a neutral opinion about the cost of the internet.

Following the analysis of the results, the answers to the research questions are as such. Regarding Research Question 1, graduate students of the College of Education at King Saud University had positive perceptions regarding distance learning despite the challenges experienced. A majority of the graduates believed that distance learning suits the conditions of social

distancing to protect learners from the risk of contracting COVID-19. Notably, the statistics indicate that learners perceived distance learning as an opportunity for capacity building to enhance their adaptability traits in response to societal changes. Distance learning is crucial in solving educational problems, as indicated by more than half of the students in the study. Additionally, many of the respondents perceived distance learning as an opportunity to interact actively with technology while enhancing their understanding of scientific materials. Moreover, learners believed that the proliferation of distance learning enhanced diversity in teaching methods and learners' self-motivation and study effort, which are needed to foster academic excellence.

Regarding Research Question 2, the challenges faced by graduate students of the College of Education at King Saud University associated with distance learning included struggling with practical courses, the poor output of distance learning, low quality of online educational materials, poor internet connectivity, low engagement and interaction, the high cost of the internet and computer devices, and the complexity of evaluating learners.

Conclusion

Distance learning is one of the avenues to expand learning opportunities and is growing in popularity, particularly for adult learners. However, challenges such as technical difficulties and poor outcomes tend to reduce the effectiveness of distance learning. A great deal of training, guidance, and support is needed in the transition to distance learning. Educational institutions should consider providing technical support to improve the effectiveness of distance learning.

Recommendations

Distance learning is the future of scholarly experience among students. Despite the current challenges that engulf the trend, remedies are available to ease the integration of virtual platforms into the learning process. First and foremost, institutions should offer training courses to enable the students and faculty to familiarize themselves with the functionality of digital learning platforms (Mbatl & Minnaar, 2015). Second, institutions must develop easy-to-use applications with an interface that students can easily interact with. Third, it is essential to prepare digital educational materials (Nage-Sibande & Morolong, 2018). The institution should acquire the required technological equipment and software to facilitate digital learning at a low cost. The acquired items could be made available to students upon admission to meet the shortage of digital learning equipment while reducing the cost of purchase for students. Additionally, institutions are recommended to formulate dynamic evaluation policies to improve students' experiences during distance learning.

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