

## Research Article

# The Reality of Distant Education and Its Contributions to University Education in Saudi Arabia: Prince Sattam Bin Abdulaziz University as a Model

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This study examines distance education at Saudi Arabia's Prince Sattam Bin Abdulaziz University. So, 705 faculty members were picked from 2114 study participants. The primary data of the effective study tool was processed quantitatively descriptively (the questionnaire). The study indicated that the sample members agreed on distance education requirements to tackle university educational difficulties. The average sample member approval of distance education barriers was 3.25 with a 0.54 standard deviation. The research sample approval for distant education in university academic challenges was 2.92 with a standard deviation of 0.35. As a result of the gender variable in the (requirements-contributions) dimensions, there were statistically significant differences ( $\alpha \leq 0.05$ ) in the study sample's average responses concerning the requirements, hurdles, and contributions of distant education to address university educational crises. In all categories, scientific specialization did not cause statistically significant changes ( $\leq 0.05$ ). No statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) were attributed to the effect of scientific rank in the (obstacles-contributions) dimensions only, while the significance of the statistical estimate for the impact of scientific rank on the requirements dimension only favored an assistant professor. In the dimensions (requirements and obstacles), only the experience variable showed statistically significant variations ( $\alpha \leq 0.05$ ). The essential study proposal is to establish a qualitative strategy to achieve comprehensive quality requirements for remote education programs, provide a supportive administrative environment, and increase faculty knowledge and efficiency in distance education to prevent educational crises.

## 1. Introduction

The current era is the era of notable developments and changes resulting from the information revolution and cultural openness. As a result of these advances and challenges, several crises have evolved that have been ingrained in the social fabric of all societies and are a characteristic of modern existence. Educational institutions face many threats and challenges concerning the performance of their educational and academic roles [1].

Distance education is a global phenomenon that has evolved swiftly for people whose circumstances prevent them from attending college. It contributes to ideal learning

and has many features, the most important of which are flexibility and alignment. It also helps with self-learning, as the student participates in discussions and Internet searches and has access to facts and their interpretation [2], which identified the reality of distance education and its contributions in light of the university educational crises.

Distance learning, according to Britannica, is "a kind of education characterized by the physical separation of instructors and students during teaching and the use of different technologies to allow student-teacher and student-student contact" [3]. For a long time, the issue of distance learning has been widely researched in the domains of pedagogy and psychology [4, 5]. The most important

difference is that the vast majority of interactions that took place between instructors and learners in the early stages of the history of online education were asynchronous. As a result of the development of the Internet, synchronous work opportunities have increased to cover a wide variety of services ranging from chat rooms to videoconferencing. Additionally, a large amount of asynchronous content exchange has moved to digital contexts and communication channels [6]. Distance learning is a qualitatively distinct mode of communication and a profoundly different foundation for learning. In remote learning, instructors may not meet with students face to face, but instead monitor them through a chat if necessary [7, 8]. Distance learning options include audio podcasts, movies, multiple simulators, and online quizzes. Rather of providing a one-size-fits-all curriculum, remote learning emphasizes the ability to keep track of each student's progress in real time. While online learning tries to mimic classroom techniques, remote learning uses a computer game model, with new levels only accessible after completing the previous ones [9–11]. A growing number of educational institutions are placing more emphasis on eLearning because of its multiple advantages. Among these benefits are the lack of physical and temporal restrictions, the simplicity with which materials may be accessed, the ability to rearrange the schedule, and the solution's low cost. Several additional studies have shown that students benefit from eLearning in terms of both gains and performance. Nevertheless, in order to get the most out of eLearning, learners must actively participate in the learning process throughout the whole process, which is usually referred to as active learning [12, 13].

*1.1. The Statement of the Problem.* Recent worldwide crises have damaged the performance of educational institutions and prevented them from fulfilling their goals. These crises may result in the closure of educational organizations, and the university's incapacity may aggravate the problem of adjusting to emergency variables owing to a lack of time or an accurate database that assists the university in making a correct decision at the appropriate moment. These crises may include a lack of faculty members, natural disasters, sudden weather changes such as floods, rain, and dust, and a lack of laboratory equipment. The coronavirus pandemic aggravated the situation and harmed education. Although universities provide alternatives to overcome crises, such as distance education, many challenges and obstacles face them. Al-Bakri and Al-Shukurji [14] see that the most prominent challenges facing the success of education afterward are weak direct interaction between teachers and students, which affects the achievement of distance education goals. Hoshein [15] showed that one of the most critical obstacles to distance education is that Prince Sattam Bin Abdulaziz University quickly developed its infrastructure to face these problems and secure the continuation of university education and its efficacy and efficiency. University crisis: In light of those mentioned above, the main question is, "What is the reality of distant education and its contributions?"

## 1.2. Study Importance

- (i) This study is critical because of the following:
- (ii) This study may help the university manage future educational crises by increasing the distance education literature.
- (iii) This study adds to the human studies in this area, especially at Prince Sattam Bin Abdulaziz University.
- (iv) Monitoring impediments may impede the university from fulfilling its goals during an educational emergency.

## 1.3. Study Objectives. This study has the following aims:

- (1) To find out what distant education needs to do to address university educational issues
- (2) To determine the biggest impediments to distance learning to face university crises
- (3) To determine the role of distance education in addressing university educational challenges
- (4) To determine whether there are statistically significant differences at the 0.05 level (requirements, impediments, and contributions) of remote education to face university educational crises (gender, specialization, educational rank, and experience).

## 1.4. Study Limitations

- (1) The objective limitations: The current study focuses on online education and its benefits to university education.
- (2) The spatial limitations: Prince Sattam Bin Abdulaziz University in Saudi Arabia is studied.
- (3) The time limitations: The second semester of the academic year 1443 AH.
- (4) The human limitations: Male and female faculty members at Prince Sattam Bin Abdulaziz University

## 1.5. Terminology of the Study

- (1) Distance education: Other than educational and electronic media such as satellites, videotapes, audiotapes, computers, multimedia technology, or any other means accessible to transmit information [16].
- (2) Crises: It is a sudden change for the worse and an uncomfortable situation that the organization faces due to being exposed to an emergency that disrupts its path and hinders the achievement of its goals [17].
- (3) Educational crises: They are the final result of the accumulation of some influences or the occurrence of a sudden imbalance that affects the essential components of the educational system, and it constitutes an explicit threat to the foundations and powers of the system and the educational institution [18].

1.6. *Procedural Definition.* e-learning platforms are employed at Prince Sattam Bin Abdulaziz University to provide efficient education to achieve the university's educational and academic goals.

## 2. Theoretical Framework

Distant education refers to distance study, independent study in higher education, and all forms of study at all levels not under the direct supervision of faculty members in lecture halls [19, 20]. UNESCO defines distance education as the systematic use of printed and other media to bridge the gap between students and teachers, help students in their studies, and increase learning [21]. The combination of technical resources and new education methodologies has led to a revolution in teaching and learning processes, and many practical online learning tools have arisen [22, 23]. Distance education is a method that uses interactive communication tools to link teachers, educational resources, and students [24]. The following dimensions will be studied in distance education.

### 2.1. Distance Learning Tools

2.1.1. *Blended Learning.* Blended education is a distance education paradigm that combines classroom lectures and instructional sessions via the Internet, improving student interaction and stimulating the educational process. This is one of the most popular online education methods; because it balances the university and the Internet, universities are more interested in using it.

2.1.2. *Web-Based Education.* Online learning is popular. This teaching paradigm relies entirely on the Internet to aid the learning process, using e-mails, chat sessions, live broadcasts, references, and sometimes printed materials. This educational concept is controlled via a multidisciplinary virtual learning system [25, 26].

2.2. *Distance Learning Features.* The researcher can summarize distance education as follows [27].

- (1) Providing swift and secure distribution of educational media to those concerned with learning, employing printed, audio, visual, and other advanced technology media to link the learner and the teacher and transfer instructional material.
- (2) Students can access material and databases on the Internet, live chat with classmates, participate in discussions or discussion groups, and e-mail queries or answers to their academic supervisor without bothering or relocating.
- (3) Distance between learner and teacher in time and space frees learners from the place and time constraints compared to traditional education systems.

- (4) Teaching and remote learning institution that oversees program development, material preparation, evaluation, and follow-up.
- (5) Two-way communication between the educational institution and the learner to help him profit from the programs or engage in a discourse with the teacher and his classmates to participate positively in the educational programs he needs.

2.3. *Distance Learning Principles.* The actual distance education principles are as follows [28].

- (1) The principle of availability emphasizes that higher education opportunities are open to all, notwithstanding spatial and objective restrictions. Distance education can provide useful instructions for those who do not have access due to educational, geographic, social, physical, or other reasons.
- (2) Flexibility principle: It overcomes any restrictions caused by the system or those in authority so the learner can study anytime, anywhere.
- (3) The reliability concept entails comparing study programs and academic degrees to others.
- (4) The need for a mediator between the teacher and student, and this mediation comprises technical, human, and organizational components.
- (5) The need to choose the student's learning period without a predetermined schedule.

2.4. *The Educational Crises.* It is important to think scientifically to develop appropriate solutions to confront and deal with crises effectively, reducing their adverse effects while allowing those in charge of these educational institutions to benefit from their positive results. The success of the decision maker depends on two main crises:

- (1) Quick shock absorption.
- (2) Anticipating the worst-case scenario is termed crisis planning.

Crisis causes include the following [29].

External factors include earthquakes, epidemics, volcanoes, hurricanes, and severe weather swings.

Internal causes: Weak material capacities exacerbate crises, turning them into disasters and double losses. These reasons derive from the following:

Weak material and human capacities to deal with crises exacerbate crises and multiply their losses.

Professional dread discourages employees from expressing their ideas and suggestions, which leads to bad morale.

Inadequacy of knowledge and decision-making and failure to consider other alternatives.

Insufficient crisis planning, training, and development.  
Ignoring crisis warning indicators.

Individual causes: These are factors relating to the individual, his employer, or societal trends.

Societal reasons: hopelessness, dissatisfaction, and social imbalance leading to estrangement.

*2.5. Types of Crises.* There are several economic, social, cultural, and political crises with overlapping effects. Some examples are as follows:

- (1) A personal or communal moral dilemma affects humans or society, such as job loss.
- (2) A societal catastrophe that trembles, like earthquakes and volcanoes.
- (3) A materialistic economic catastrophe affects people, society, or the state, like bankruptcy.
- (4) A radioactive spill caused an international crisis.
- (5) An organizational crisis, as a strike.

It can also be classified as follows. [18].

- (1) Economic or political catastrophe.
- (2) Time dimension: frequent and predictable; crises might be shallow and easy to contain or sudden and hard to forecast in breadth and depth.
- (3) Crisis' local, national, regional, and international scope.
- (4) The size of the crisis is generally decided by its losses.
- (5) Crisis parties: If there is an external party, it is a shallow, regional, or global crisis.

*2.6. The Stages of Crises.* The stages that the crisis is going through are as follows [30].

The crisis emerging stage begins with a hazy sensation of danger due to a lack of information about its causes.

The crisis grows by failing to deal with and contain it, developing a little bit through inherent and external triggers.

The problem reaches advanced phases of development due to poor planning, corruption, randomness, and inadequate confrontation strategies.

The crisis victory stage: once reaching maturity, the crisis begins to fade away as it loses elements and impetus, especially after achieving its purpose.

The disappearance of the crisis stage begins when the elements generating the crisis have vanished, and the institutions return to the stage of natural equilibrium before the crisis happens. No matter how great or severe, the crisis will cease when the factors preparing for it are lost and vanished.

*2.7. Factors of the Emergence of Educational Crises.* Some factors contribute to the emergence of educational crises; the most important of which are the following [18].

- (1) The educational organization's failure to keep up with world advancements and policy trends.
- (2) The educational organization's remoteness from management science, new administrative technology, and failure to use their results and instruments to improve itself or overcome its challenges.
- (3) The educational organization's failure to open or pave the way for regular or required developments in the coming years.

### 3. Study Methodology

The study used a questionnaire to determine the requirements, obstacles, and contributions of distance education in the university education crisis. The survey used mean, standard deviation, Cronbach's alpha, Pearson's correlation coefficient, *t*-test, one-way ANOVA, and Scheffé's test for variance directions.

Using a correlational research design, 2114 Prince Sattam Bin Abdulaziz University faculty members make up the study population. The study sample was determined by rigorous random sampling using numbered, alphabetized community data using multiples of 3. The tool was sent online to 705 faculty members (34% of the dispersed number of faculty answered (239)). The number of valid questionnaires is related to the technology used to collect study data. Table 1 shows the sample's variable distribution.

#### 3.1. The Validity of the Study Tool

*3.1.1. Apparent Validity.* The validity of the questionnaire was ostensibly validated by providing it to 5 educational specialists and experts to appraise its phrasing, arrangement, importance, and useability. The questionnaire has two sections: the first comprises information and the significant study variables (gender, specialization, rank, and experience), and the second has 45 items on the three study aspects (requirements, obstacles, and contributions). The triple Likert scale is used to note the availability of each item. The following rating (low, medium, and high) was used to determine the most critical requirements, challenges, and contributions of distant education in university educational crises:

- (i) Low from 1 to less than 2.33
- (ii) Average from 2.33 to less than 3.67
- (iii) High from 3.67 to 5.00

*3.1.2. The Construction Validity.* The correlation coefficients of the questionnaire questions with the total score were derived in an exploratory sample of 20 faculty members outside the study sample to extract validity. The correlation coefficients of the items with the tool as a whole ranged from 0.38 to 0.90 and with the dimension 0.49–0.90; see Table 2.

It should be noted that all correlation coefficients were of acceptable and statistically significant degrees (Table 3). Therefore, none of these paragraphs has been deleted.

TABLE 1: Distribution of the study sample according to its main variables.

Variable	Category	Frequency	Ratio
Gender	Male	113	47,3
	Female	126	52,7
Specialization	Theoretical	136	56,9
	Practical	103	43,1
Rank	Assistant professor	106	44,4
	Associate professor	81	33,9
	Professor	52	21,8
Experience	Less than 10 years	61	25,5
	From 10 to less than 20 years	61	25,5
	From 20 to more	117	49,0
Total		239	239

TABLE 2: Items, total score, and dimension correlation coefficients.

Item no.	Correlation coefficients with the dimension	Correlation coefficients with the tool	Item no.	Correlation coefficients	Correlation coefficients with the tool	Item no.	Correlation coefficients	Correlation coefficients with the tool
1	0.84**	0.71**	16	0.86**	0.72**	31	0.82**	0.77**
2	0.89**	0.77**	17	0.76**	0.57**	32	0.87**	0.81**
3	0.80**	0.70**	18	0.85**	0.60**	33	0.90**	0.81**
4	0.76**	0.68**	19	0.89**	0.64**	34	0.71**	0.65**
5	0.85**	0.76**	20	0.70**	0.57**	35	0.86**	0.81**
6	0.85**	0.78**	21	0.64**	0.60**	36	0.88**	0.81**
7	0.86**	0.81**	22	0.87**	0.72**	37	0.88**	0.86**
8	0.55**	0.63**	23	0.84**	0.53**	38	0.70**	0.72**
9	0.83**	0.74**	24	0.83**	0.56**	39	0.76**	0.73**
10	0.74**	0.81**	25	0.80**	0.59**	40	0.80**	0.90**
11	0.57**	0.68**	26	0.69**	0.77**	41	0.73**	0.82**
12	0.82**	0.74**	27	0.72**	0.48**	42	0.90**	0.81**
13	0.86**	0.81**	28	0.81**	0.59**	43	0.88**	0.86**
14	0.87**	0.75**	29	0.79**	0.66**	44	0.52**	0.45**
15	0.78**	0.68**	30	0.70**	0.55**	45	0.49**	0.38*

\*Statistically significant at the significance level ( $\alpha \leq 0.05$ ). \*\*Statistically significant at the significance level ( $\alpha \leq 0.01$ ).

TABLE 3: Correlation coefficients between dimensions and overall score.

	Requirements dimension	Obstacles dimension	Contributions dimension	The tool as a whole
Requirements dimension	1			
Obstacles dimension	0.511**	1		
Contributions dimension	0.685**	0.577**	1	
The tool as a whole	0.831**	0.781**	0.854**	1

\*Statistically significant at the significance level ( $\alpha \leq 0.05$ ). Statistically significant at the significance level ( $\alpha \leq 0.01$ ).

3.2. *The Stability of the Study Tool.* The test-retest approach was used to ensure the questionnaire’s stability by administering it twice, two weeks apart, to twenty faculty members who were not part of the study population. Table 4 displays the internal consistency coefficient according to Cronbach’s alpha equation and the repeatability of the dimensions and the tool. These values matched the study’s goals.

#### 4. Study Results and Discussion

The results of the study will be discussed by answering its central questions, which can be addressed as follows:

The First Question: What Are the Most Important Requirements for Distance Education to Face University Educational Crises?

Table 5 shows the mean and standard deviations of study sample responses to distance education requirements dimension items to face university educational crises.

The results contained in Table 5 indicate that the general average of the most important requirements for distance education to face university educational crises amounted to about 2.69, with a standard deviation of 0.507 and a rating of average. Item number 9 of the

TABLE 4: Cronbach's alpha, dimension repetition stability, and questionnaire degree.

Dimension	Repetition stability	Internal consistency
Requirements dimension	0.90	0.95
Obstacles dimension	0.89	0.95
Contributions dimension	0.92	0.95
The tool as a whole	0.92	0.97

requirements dimension came above the general average of the dimension by 60%, where their averages ranged between 2.80 and 2.71, while item number 6 of the requirements dimension came below the general average of the dimension, with a percentage reaching 40%, with its averages ranging between 2.63 and 2.57. On the other hand, 15 of the requirements dimension items came with a rating of average, at a rate of 100%, and their averages ranged between 2.80 and 2.57. Item no. 15, which stated "emphasis on a quality system for distance education," came in the first place, with an arithmetic mean of 2.80, a standard deviation of 1.369, and a rating of average, while item no. 12 that stated "It enhances students' abilities to self-educate" in the last rank with a mean of 2.57, a standard deviation of 1.121, and a significance rating mean.

The study justifies this by improving the educational process to achieve its goals efficiently and with high quality. Since distance education at Prince Sattam Bin Abdulaziz University is still in its infancy, most respondents have lost the importance of building a strategic plan that contributes to its improvement, allowing them to activate their strategies and produce consistent results. The Algerian experience in distant education is still in its infancy. Thus, it needs to take much work to create the system's rules [15]. The sample results support focusing on excellent distant education in emergencies.

The Second Question: What Are the Most Important Obstacles to Distance Education to Face University Educational Crises?

To answer this topic, the arithmetic means and standard deviations of study sample responses on barriers dimension items to education were estimated in Table 6.

The data in Table 6 indicates that the general average of distance education obstacles dimension in the light of the university educational crises was 3.25, with a standard deviation of 0.535, and of medium relative importance, where the item number 8 was above the general average at a rate of 53%. Its averages ranged between 3.33 and 3.25, while number 7 of the obstacles dimension came below the general average at a rate of 47%, and their averages ranged between 3.23 and 3.11. On the other hand, 15 of the obstacles dimension items came with an estimation of

importance medium at a rate of 100%, and their averages ranged between 3.33 and 3.11. Item no. 4 states that "The poor quality and speed of communication networks and the Internet" came in the first place, with a mean of 3.33, a standard deviation of 0.993, and an evaluation of importance mean, while item no. 14 which states the following: "The need for continuous-time management in the distance education process" ranked last, with a mean of (3.11), a standard deviation of (0.802), and an evaluation of importance (mean).

This may be owing to the experience of Prince Sattam Bin Abdulaziz University faculty members during the recent coronavirus pandemic, which prompted the university to identify the most significant hurdles to distant education goals. Inadequate training programs and inadequate student talents limit the implementation of online education programs, according to Badu-Nyarko and Amponsah [31]. An effective quality system is a significant challenge for online education. It agrees with [32] that confirmed obstacles facing distance education, which are limited access to electronic and digital equipment, weak Internet, and the family's inability to offer networking.

The Third Question: What Are the Most Important Proposed Solutions to Overcome the Obstacles of Distance Education in Facing the University Educational Crises?

To answer this question, the arithmetic means and standard deviations of the study sample responses were calculated on the proposed solutions to overcome the obstacles of distance education in facing the university educational crises.

It is evident from Table 7 that the general mean of the distance education contributions dimension in the face of university educational crises amounted to 2.92, with a standard deviation of 0.345, and of medium relative importance where item number 8 of the dimension of the proposed solutions is above the general average of the dimension at a rate of 53%, its averages ranged between 3.09 and 2.92, while item number 7 of the dimension of the proposed solutions came below the general average of the dimension at a rate of 47%, their averages ranged between 2.91 and 2.85. On the other hand, 15 dimension items came with an evaluation of importance medium at a rate of 100%, and their averages ranged between 3.09 and 2.85. No. 15, which states, "The students acquire the skills of searching for knowledge," came in the first place, with an arithmetic mean of 3.09, a standard deviation of 1.019, and a rating of average, while no. 14, which states "Teaching" came first. Some rare specialties" ranked last, with an arithmetic mean of 2.85, a standard deviation of 0.621, and an evaluation of importance mean.

The study ascribed this to the fact that faculty members at Prince Sattam Bin Abdulaziz University realized the importance of remote education in strengthening students' qualitative skills [33] stressed the relevance of

TABLE 5: Arithmetic means and standard deviations of the requirements dimension items are arranged in descending order.

Rank	Number	Items	Arithmetic means	Standard deviations	Esteem
1	15	Emphasis on a quality system for distance education.	2.80	1.369	Medium
2	7	Empowering faculty members with distance education strategies	2.78	0.927	Medium
2	13	The existence of a supportive administrative environment for distance education	2.78	0.927	Medium
4	5	Benefit from the distinguished experiences in distance education	2.77	1.075	Medium
5	8	Adequate and adequate stock of educational media.	2.74	0.944	Medium
6	6	Developing the technical competence of the faculty member.	2.73	0.914	Medium
7	9	Effective and documented measurement and evaluation methods	2.73	1.051	Medium
8	1	The existence of a clear policy for distance education at the university	2.72	0.980	Medium
9	10	The presence of technical and technical support around the clock	2.71	0.859	Medium
10	4	Training of faculty members on distance learning operations.	2.63	1.202	Medium
11	11	Provides a plan and programmed mechanism for distance education	2.62	0.957	Medium
12	2	Provides components for a modern digital and technological environment.	2.62	0.975	Medium
12	14	Provide an approved legal status for distance education software and applications	2.62	0.975	Medium
14	3	Awareness of faculty members of the importance of distance education	2.57	1.116	Medium
15	12	It enhances students' abilities for self-education	2.57	1.121	Medium
		Requirements dimension as a whole	2.69	0.507	Medium

remote education in giving students many talents, such as discourse and technical skills, in attaining its aims. It agrees with [14], which emphasized the importance of distance education in employing technology to serve their educational goals and allowing them to interact simultaneously with faculty members and benefit from audio files and video clips without being affected by time and place.

The Fourth Question: Are There Statistically Significant Differences at the Level of Significance ( $\alpha \leq 0.05$ ) in the Study Members' Average Responses about (Requirements, Obstacles, and Contributions) of Distance Education to Face University Educational Crises due to the Variables (Gender, Specialization, Academic Rank, and Experience)?

To answer this question, the arithmetic averages and standard deviations were calculated for the most important requirements, obstacles, and proposed solutions to confront the challenges facing distance education in the face of university educational crises, according to the variable of gender, specialization, scientific rank, and experience, for the variables of gender and specialization, and the unilateral analysis of variance for the variables of rank and experience, and the tables below illustrate this.

### 5. Gender Variable

It is clear from the data in Table 8 that there are statistically significant differences ( $\alpha \leq 0.05$ ) due to the gender variable in the dimensions of the requirements and the contributions, and the differences came in favor of females at the expense of males' specialization variable.

Table 9 shows that there are no statistically significant differences ( $\alpha \leq 0.05$ ) due to the effect of specialization at the

level of all dimensions (requirements—obstacles—proposed solutions).

### 6. Academic Rank Variable

Due to the varied categories of the scientific rank variable, Table 10 shows a disparity in the arithmetic averages and standard deviations according to the requirements, difficulties, and recommended solutions to the hurdles of distance education in the face of university educational crises.

It is evident from Table 11 that there are no statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) due to the effect of the scientific rank in all dimensions except for the requirements dimension. The dimensional comparisons were used to show the statistically significant pair differences between the arithmetic averages (Scheffé's test), as shown in Table 12.

Table 12 shows that there are statistically significant differences ( $\alpha \leq 0.05$ ) between an associate professor and an assistant professor in the prerequisites dimension, with the disparities favoring the assistant professor.

### 7. Experience Variable

Table 13 indicates an apparent discrepancy in the arithmetic averages and standard deviations regarding the requirements, obstacles, and proposed solutions to confront the university educational crises due to the different categories of the variable of experience and to indicate the significance of the statistical differences between the arithmetic averages, a one-way analysis of variance was used according to Table 14.

The results of the statistical analysis indicate that there are no statistically significant differences at the level of significance ( $\alpha \leq 0.05$ ) due to the effect of experience in the dimension of the proposed solutions, while it was found that

TABLE 6: Arithmetic means and standard deviations of the obstacles dimension items, arranged in descending order.

The rank	Number	Items	Arithmetic means	Standard deviations	Esteem
1	4	Poor quality and speed of communication networks and the internet	3.33	0.993	Medium
2	5	The high operational cost of distance education devices and systems	3.33	1.150	Medium
3	8	Weakness of students' abilities in dealing with educational programs and applications	3.30	0.992	Medium
4	1	Society's negative view of distance education	3.29	1.036	Medium
5	6	Frequent malfunctions of distance education communication devices and systems	3.28	1.224	Medium
6	15	The need for much stimulating effort for the effectiveness of student communication	3.28	0.991	Medium
7	2	The reluctance of official authorities to rely on distance education.	3.25	0.989	Medium
7	3	Weak infrastructure for distance education devices and applications	3.25	0.989	Medium
9	9	The lack of distance education meets the applied aspect of education	3.23	0.923	Medium
10	7	The continuing need to develop the capabilities of faculty members	3.22	0.927	Medium
11	10	Lack of personal impact of distance learning	3.22	1.078	Medium
12	11	The loss of the human factor in the educational process	3.21	0.883	Medium
13	13	Lack of technical support from technical specialists	3.21	0.956	Medium
14	12	Weak reliability and honesty in distance education evaluation activities	3.20	1.066	Medium
15	14	The need to continuously manage time in the distance education process	3.11	0.802	Medium
		Obstacles dimension as a whole	3.25	0.535	Medium

TABLE 7: Averages and standard deviations of proposed methods to overcome distance education hurdles during university crises, sorted descendingly

Rank	Number	Items	Arithmetic means	Standard deviations	Esteem
1	15	Providing students with knowledge search skills	3.09	1.019	Medium
2	5	Attracting distinguished faculty members	2.97	0.761	Medium
3	9	Providing the flexibility of education necessary to achieve an excellent education	2.95	0.633	Medium
4	7	Complete and diversified access to educational resources	2.95	0.728	Medium
4	13	Filling the shortfall in the number of faculty members	2.95	0.633	Medium
6	8	Transcend temporal and spatial conditions	2.92	0.631	Medium
7	1	Forming the elements of the educational process in electronic groups	2.92	0.656	Medium
8	4	Accommodate large numbers of students in programs and courses	2.92	0.839	Medium
9	6	Continuing the educational and academic process without interruption	2.91	0.598	Medium
10	10	Individualization of education and consideration of differences	2.88	0.529	Medium
11	3	Communication of individuals and elements of the educational process	2.86	0.742	Medium
11	12	Students deal directly with the technology and communication environment	2.86	0.742	Medium
13	11	Creating virtual classes that meet the demand for education	2.85	0.596	Medium
14	2	Students rely on themselves to learn	2.85	0.615	Medium
15	14	Teaching some rare specialties	2.85	0.621	Medium
		Contributions dimension as a whole	2.92	0.345	Medium

TABLE 8: Arithmetic averages, standard deviations, and *t*-test for gender's impact on distance education requirements, difficulties, and proposed remedies in the face of university educational crises.

Dimensions	Categories	Number	Arithmetic Average	Standard deviations	" <i>t</i> -" value	Freedom degree	Statistical significance
<i>Requirement</i>	Male	113	2.62	0.526	-2.075	237	0.039
	Female	126	2.76	0.482			
<i>Obstacles</i>	Male	113	3.31	0.478	1.671	237	0.096
	Female	126	3.19	0.578			
<i>Contributions</i>	Male	113	2.87	0.338	-2.151	237	0.033



TABLE 9: Arithmetic averages, standard deviations, and *t*-tests for the impact of specialty on distant education requirements, difficulties, and proposed solutions in the face of university educational crises.

Dimensions	Categories	Number	Arithmetic Average	Standard deviations	" <i>t</i> -" value	Freedom degree	Statistical significance
<i>Requirement</i>	Theoretical	136	2.71	0.516	0.563	237	0.574
	Practical	103	2.67	0.495			
<i>Obstacles</i>	Theoretical	136	3.24	0.566	-0.393	237	0.695
	Practical	103	3.26	0.492			
<i>Contributions</i>	Theoretical	136	2.92	0.348	0.324	237	0.746
	Practical	103	2.91	0.341			

TABLE 10: Arithmetic averages and standard deviations of scientific rank's impact on distant education requirements, impediments, and potential remedies in the face of university educational crises.

Dimensions	Categories	Number	Arithmetic Average	Standard deviations
<i>Requirement</i>	Assistant professor	106	2.78	0.507
	Associate professor	81	2.56	0.528
	Professor	52	2.71	0.431
	Total	239	2.69	0.507
<i>Obstacles</i>	Assistant professor	106	3.17	0.492
	Associate professor	81	3.32	0.610
	Professor	52	3.29	0.480
	Total	239	3.25	0.535
<i>Contributions</i>	Assistant professor	106	2.97	0.389
	Associate professor	81	2.86	0.337
	Professor	52	2.90	0.233
	Total	239	2.92	0.345

TABLE 11: Analyzing the impact of scientific rank on requirements, challenges, and solutions for online education in the face of university educational crises.

Dimensions	Source	Sum of squares	Freedom degree	Squares' average	<i>F</i> -value	Statistical significance
<i>Requirements</i>	Between groups	2.303	2	1.151	4.623	0.011
	Inside groups	58.780	236	0.249		
	Total	61.083	238			
<i>Obstacles</i>	Between groups	1.162	2	0.581	2.049	0.131
	Inside groups	66.924	236	0.284		
	Total	68.087	238			
<i>Proposed solutions</i>	Between groups	.581	2	0.291	2.474	0.086
	Inside groups	27.714	236	0.117		
	Total	28.295	238			

TABLE 12: Dimensional comparisons using (Scheffé's test) for the impact of the scientific rank on the requirements, obstacles, and proposed solutions to overcome distance education obstacles in the face of university educational crises.

Dimensions	Categories	Arithmetic mean	Assistant professor	Associate professor	Professor
Requirements	Assistant professor	2.78			
	Associate professor	2.56	0.22*		
	Professor	2.71	0.07	0.15	

\*Statistically significant at the significance level ( $\alpha \leq 0.05$ ).

there are differences in the requirements and obstacles dimensions, and to show the statistically significant pair differences between the arithmetic averages; the dimensional comparisons were used (Scheffé's test) as shown in Table 15.

It is evident from Table 15 that there are statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) in the requirements dimension, between (20) years and over and less than (10) years, and the differences came in favor of less than (10) years. There were statistically significant

TABLE 13: Arithmetic averages and standard deviations of the impact of experience on requirements, obstacles, and proposed solutions to overcome distance education obstacles in the face of university educational crises.

Dimensions	Categories	Number	Arithmetic average	Standard deviations
<i>Requirement</i>	Less than 10 years	61	2.83	0.601
	From 10 to less than 20 years	61	2.71	0.515
	From 20 years to more	117	2.61	0.431
	Total	239	2.69	0.507
<i>Obstacles</i>	Less than 10 years	61	3.08	0.620
	From 10 to less than 20 years	61	3.24	0.486
	From 20 years to more	117	3.34	0.494
	Total	239	3.25	0.535
<i>Contributions</i>	Less than 10 years	61	3.00	0.466
	From 10 to less than 20 years	61	2.90	0.343
	From 20 years to more	117	2.88	0.254
	Total	239	2.92	0.345

TABLE 14: Experience impacts requirements and problems and offered ways to overcome obstacles of distance education in the face of university educational crises.

Dimensions	Source	Sum of squares	Freedom degree	Squares' average	F-value	Statistical significance
<i>Requirements</i>	Between groups	1.863	2	0.931	3.712	0.026
	Inside groups	59.220	236	0.251		
	Total	61.083	238			
<i>Obstacles</i>	Between groups	2.548	2	1.274	4.587	0.011
	Inside groups	65.539	236	0.278		
	Total	68.087	238			
<i>Proposed solutions</i>	Between groups	0.661	2	0.331	2.824	0.061
	Inside groups	27.634	236	0.117		
	Total	28.295	238			

TABLE 15: Dimensional comparisons using (Scheffé) way of the experience impact requirements, obstacles, and proposed solutions to overcome distance education obstacles in the face of university educational crises.

Dimensions	Categories	Arithmetic mean	Assistant professor	Associate professor	Professor
<i>Requirements</i>	Less than 10 years	2.83			
	From 10 to less than 20 years	2.71	0.11		
	From 20 years to more	2.61	0.21*	0.10	
<i>Obstacles</i>	Less than 10 years	3.08			
	From 10 to less than 20 years	3.24	0.16		
	From 20 years to more	3.34	0.25*	0.09	

\*Statistically significant at the significance level ( $\alpha \leq 0.05$ ).

differences at the significance level ( $\alpha \leq 0.05$ ) in the obstacles dimension between those (20) years and over and less than (10) years, and the differences came in favor of (20) years and over.

## 8. Conclusions

The current study reached some critical results: first of all, regarding distant education requirements, stressing a quality system scored first, empowering faculty with distance education methodologies ranked second, and a supportive administrative environment ranked third. Secondly, the poor quality and speed of communication networks and the Internet came first, followed by the expensive operational

costs of distance education devices and systems, and last, the students' inability to deal with educational programs and applications. Thirdly, in terms of the proposed solutions to overcome the challenges facing distance education, the item that emphasizes attracting distinguished faculty members came first, followed by the item that emphasizes providing students with the flexibility of education required to achieve an excellent education. The fourth point is that the current study adds scientific value to addressing some hurdles preventing distance education from attaining its targeted goals in confronting educational problems plaguing universities. Lastly, this study helps create a safe and stable motivational, educational environment capable of addressing educational crises that arise in the university

education environment while limiting their consequences and repercussions.

## 9. Recommendations

The study recommends the inclusion of distance education activities in the university's strategic plan, emphasizing performance measures that reflect the quality of these activities according to international standards. This study also raises university personnel's expertise and abilities in distance education, notable research and knowledge components of e-learning, by implementing specialized training programs and drawing on regional and international expertise. Moreover, this research provides techniques of assessment and evaluation, specialized technical assistance programs, supported technical infrastructure, and financial resources to operate remote education systems efficiently and with high quality. Promoting distant learning among university staff and the community is another point recommended by this study. In addition, this investigation encourages students to use online education systems develops research and knowledge skills. Lastly, this study addresses the issues raised by the study, namely, the poor quality and speed of communication networks and the Internet, the high operational costs of distance education devices and systems, and students' inability to use educational programs and applications that support distance education.

All in all, there is a correlation between using distance learning and increased levels of accomplishment and learning. During pandemics, it is safer for pupils to remain at home and do their learning so that this reduces the stress they experience. Some students have mental and physical health issues as a result of their participation in distance education, including fear, worry, stress, and an inability to concentrate. Because of the rapid shift toward online education brought on by the epidemic, many institutions now have inadequate infrastructure. Researchers in the future might study what kind of models there are for distant learning that could do away with the issues that students have. The students' capacity to benefit from their distance education programs is influenced by the favorable attitudes they have toward their programs and the amount of pleasure they feel with them. Therefore, institutions that are interested in implementing distance education should first focus on building a structure, content, and pedagogical approach that will increase the level of satisfaction experienced by their students.

Distance learning has many benefits. One of the key benefits of distant learning might be the tailored method to acquire instruction regardless of the channels or media you are employing for this objective. Whether you are acquiring study materials online or by post, you may learn only when a link is created between the subject of the course and you. You receive flexibility to work with the study material in distant learning method. You may organize your learning process as per your convenience instead of adhering with a predetermined timetable. With distance learning, both the instructor and the student are allowed to choose their own speed of learning, and they

also have the additional advantage of being able to participate in the courses from any location of their choosing. Because there is no set schedule or routine to adhere to, having access to an online learning platform makes it possible to create a work-study plan that is more flexible and comfortable. Learning through online platforms can teach you valuable skills, such as time management and organization. This makes it possible to strike a healthy balance between employment and school. All of the participants will be encouraged to take on new duties and to develop their own sense of independence if the student and the instructor work together to develop a plan.

## Data Availability

Primary data of the effective study tool were processed quantitatively descriptively (the questionnaire).

## Conflicts of Interest

The authors declare that they have no conflicts of interest regarding the publication of this paper.

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