

Distance Education Technology at the Algerian University: Between Reality and Hope.

*Salem Moulay**

*Higher School of Teachers, Messaoud
Zeggar, (Algeria)*

salemmoulay7@gmail.com

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Abstract:

Education is witnessing significant development in various scientific fields to improve the rate of achievement and the quality of performance in the educational system. Distance education is considered one of the most important innovations in this field, relied upon to achieve many positive outcomes. Algerian universities have adopted distance education technology as a fundamental alternative to activate the connection between the teacher and the learner and transfer knowledge between them, relying on advanced educational tools that ensure the success of the process. This pushes the wheel of higher education in our universities to keep pace with the latest developments adopted by developed countries. It also serves as a substitute for in-person education in exceptional cases where it is impossible to bring the teacher and the learner together.

Keywords Education, Distance, Technology, Field, Achievement.

1.Introduction:

Nations of various races continue to compete in improving their educational systems, striving to achieve progress and take the lead in advancement. Innovations are emerging, and developments in the field of education are increasing rapidly. The evolution of educational tools and the integration of technology into the educational field have enabled us to create many educational methods, foremost among them being distance education, which has gained significant importance among researchers and scholars in the field of education regarding its effectiveness and the possibility of adopting it as an alternative in exceptional cases and other situations where in-person education is not feasible. This has divided researchers into two

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groups: supporters and opponents. The former sees it as a way to reduce the burdens of attendance and travel, especially for special needs individuals and those with compelling circumstances that prevent them from attending lessons and courses in educational institutions. The latter, however, believes that it carries many negatives and shortcomings that hinder good academic achievement for the learner and that communication between educational parties is weak, reducing its success rate. Between these two perspectives, we have chosen the title of our intervention: "Distance Education in the Arab Environment: Pros and Cons," attempting through it to address the core of the issue and identify its obstacles to provide appropriate solutions, based on the latest findings from researchers in educational studies, as well as our own efforts as experienced and specialized individuals. To cover the details of the topic, we will attempt to answer a set of questions, including: To what extent are Arab universities interested in distance education? What are its pros and cons? What are the obstacles that prevent achieving the desired goals? These and other questions we will attempt to answer in detail through this research paper and a set of hypotheses that address the core of the issues, such as defining distance education in the Arab environment, its methods, tools, goals, and the problems hindering its development, adopting a descriptive approach. The general framework of this study aims to achieve precise scientific results through which we diagnose the obstacles that distance education still faces in our Arab universities and reinforce the positive results that education has achieved in this field.

2. The Nature of Distance Education, Its Characteristics, Types, and Goals, and the Role of the Internet in It:

Distance education is considered one of the modern educational methods, characterized by many features and types, and it has various goals in terms of the way it is conducted and how students receive courses and lessons. There are different methods and forms of distance education, although they ultimately achieve the same purpose and goal of this education: to accommodate many who wish to study but have not had the opportunity for in-person education for certain reasons, making this education more suitable for them. The method of receiving education in this context relies on the internet through technological communication tools. In this section, we will explore all these elements through points and topics studied around this education and attempt to detail them, distinguishing between each type.

1.2 The Nature of Distance Education and Its Importance

A. Definition of Distance Education:

Everything must be conceptualized and understood before delving into it and studying its content. Therefore, as we attempt to define distance education and highlight some definitions about it, we recognize it as a new method aimed at facilitating the learning process and a mechanism of modern education in the field of science and knowledge, especially in the Arab world.

Before defining distance education, it is necessary to define the tool through which this education is conducted, which is the internet.

The Internet: It is a network of interconnected networks that allow computers on these networks to communicate with each other in a common language, and there is no central control over this network, which is one of the most important features of the internet.

Thus, it is a network of interconnected information through computers, performing the function of communication between them, where no one has a controlling role in it.

Distance Education:

"It is the transfer of knowledge from centers of knowledge in the capitals of countries to their distant cities that lack massive and specialized knowledge resources. The connection between the receiving student and the lecturer is interactive, and the distance education system allows for receiving lectures from a source far from the lecture location at the same speed and in real-time. This system also enables the broadcasting of live and recorded lectures with high efficiency." (abdel-hay, 2009)

From this definition, we notice that this education is characterized by enabling the teacher and the student to interact despite the distance through transmission and reception at the same speed and in real-time.

Another definition of distance education: "It is a systematic and organized education where learning groups are separated, and interactive communication systems are used to link learners, educational resources, and teachers together."

The author of this definition mentioned four basic components that distinguish this definition and are based on:

First Component: This education is based on the idea of institutional systems, which distinguishes the concept of distance education from the concept of self-education or independent study.

Second Component: The concept of separation between the teacher and the students. Some may think that this separation is only spatial, with the teacher in one place and the students in another, but it also includes temporal separation, where education is provided at one time and received by students at another time according to their choice.

Third Component: It revolves around interactive communications, which is extremely important in the learning system, through interaction between the teacher and students via electronic media or "communication systems."

Fourth Component: "The availability of educational media, their comprehension, and methods of dealing with them. The presence of these available educational resources makes this type of education possible and achieves the connection between learners, resources, and teachers together. If they are absent, the situation will differ from what is supposed to be the concept of distance education." (simonson, 2015)

Dodd's Tony also defines it as a system of teaching and learning where learners are separated from their teachers for most of the period they are studying, and it is assumed in this definition that learners rely more on themselves in learning, where study is conducted through correspondence or independent study using educational tools that replace learners.

Distance education is also defined as "an attempt to deliver educational services to groups who cannot attend educational institutions, eliminating some constraints that accompanied the emergence and development of traditional educational institutions, whether constraints in age, financial capabilities, or academic qualifications." (Amer, 2014)

3. The Importance of Distance Education:

Given the high and increasing demand for education and the huge numbers of learners who wish to study, and on the other hand, the inability of universities to accommodate these large numbers, this type of education provides educational opportunities for everyone who desires to benefit from knowledge and obtain university qualifications, not to mention the cultural role it offers to various segments of society through courses provided to students outside the boundaries of the university and educational institution. This method of education aligns with the developments of the era, especially the developments in the field of information and communication technology, on which distance education fundamentally and entirely relies. The ease and flexibility that distance education offers in terms of receiving lectures and lessons by learners and the sources they receive from them in performance, timing, and speed of execution, and what suits each individual's circumstances and requirements, along with other facilitations of interaction through educational media via this advanced educational technology.

4. Types of Distance Education, Its Characteristics, and Goals:

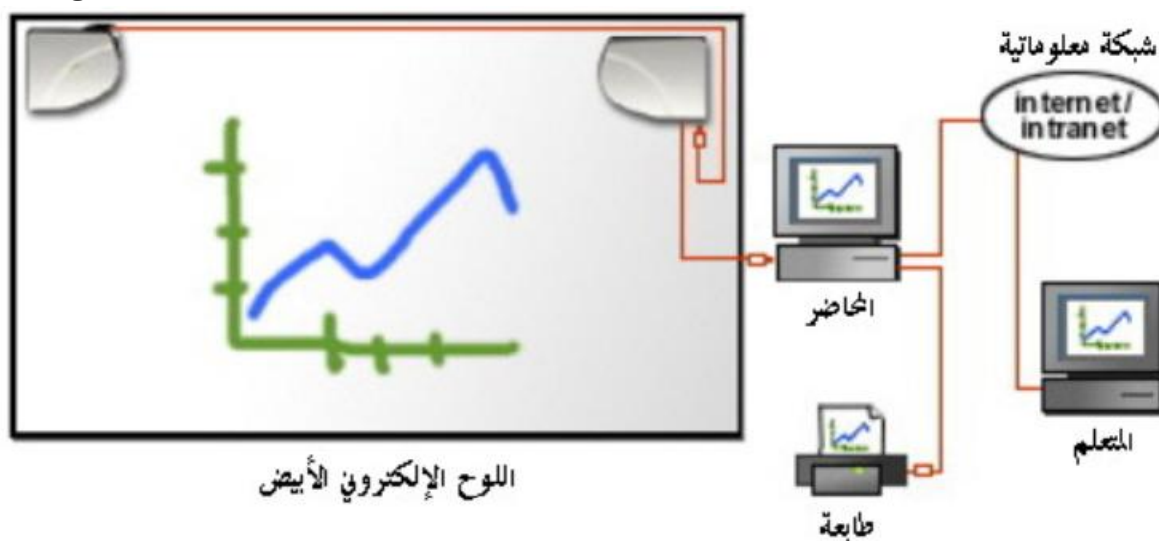
1.4. Types of Distance Education

1. Education via the Internet:

This is the most important type of distance education, which is conducted through computer networks that distribute educational materials and courses to students in various locations. "Given the ease of accessing information on the network, along with the other advantages it offers, the internet has attracted many to benefit from it in their respective fields, including educators who have started using it in the field of education. However, in this regard, some weaknesses must be addressed to achieve the ultimate goal in this education, including:

- The necessity for the student to have the ability to use a computer.
- The necessity for the teacher to have a high level of knowledge in dealing with virtual classrooms and how to interact with students through them (educational media and interaction with learners through them).
- The necessity for the educational institution to have a good internet or information network so that everyone can benefit from this education that replaces in-person education.
- "The necessity to provide appropriate educational content for publication on websites in a language that students can understand." (E-learning and Distance Education, 2024)
- The necessity of having a management and monitoring system for virtual classrooms, which relates to the technical aspect, through the work of technicians in helping students access lectures and interact with resources and the lecturer, as well as obtaining various lessons, courses, and recordings via the internet and on the educational institution's website to which these learners

belong.



2. Specialized TV Channels:

This is another form of distance education, represented by specialized satellite channels received via satellite receivers (receivers) broadcasting educational lessons and sessions for learners at various levels, delivering information through sound and image in the form of lectures explained on TV screens, in addition to various educational and cultural programs. It is also possible to contact these channels via phone or the internet to answer students' questions for further details.

"There are also educational TV programs presented on most channels, where specialized professors in various fields of science lecture, which is considered a type of distance education." (abdel-hay, 2009)

Other types and forms fall within the educational process that connects students with the teacher, relying primarily on the technological tools used in this field, including:

3. Educational Radio: It is one of the auditory communication tools that provide educational audio lessons for students, relying on audio recordings broadcast on radio waves, aiming to enrich radio programs with educational programs directed at students to obtain educational curricula without the need to be in a specific place and time, giving the opportunity for choice, as some students benefit from the auditory method of reception, in addition to aiding repetition.

4. Correspondence Education: It is considered one of the mechanisms of distance education, relying on correspondence between the teacher and the learner to receive guidance and conduct personal evaluations through it.

The establishment of distance education through correspondence education dates back to Germany by Charles Toussaint and Gustav Langenscheidt, who were teaching languages in Berlin. This type of correspondence crossed the Atlantic in 1873 when Anna Eliot Ticknor founded the Society to Encourage Studies at Home, which attracted more than ten thousand students in 24 years. Students enrolled in these traditional courses (mostly women) received periodic monthly letters from their teachers, including instructions, guidance, corrections, and even periodic tests. Those who supported this type of education believed that its importance

would expand, and a time would come when correspondence education would be more effective due to:

- "The student who receives a set of lessons in a correspondence school will know more about the subject included in these lessons and better than the student who takes the same amount of subjects in traditional classes."
- The day will come when they see the work done by correspondence greater than the amount of work done in classrooms, whether in institutes or colleges, when the number of students enrolled in correspondence learning programs increases over those studying in traditional classrooms." (simonson, 2015)

5. Characteristics and Advantages of Distance Education:

There is no doubt that distance education represents a new method and a different system from traditional in-person education. Therefore, this transition from traditional education to distance education makes the latter characterized by features and things that assist the teaching process, and among its most prominent characteristics are:

1. Flexibility, as the learner can study while working and also has the opportunity for practical training in a place that suits their study program.
2. The teaching process does not occur face-to-face between the teacher and the student.
3. Educating a large number of students without the constraints of time or place.
4. A large number of students benefiting from education in a short time due to the speed of execution and performance that distance education offers.
5. Suitability for needs: The programs and courses designed take into account progression and diversity, and the learner is given the opportunity to choose according to their needs, circumstances, and readiness.
6. Sense of equality: Distance education allows for the exchange of dialogue, discussion, and interaction with the teacher by students or among themselves through media, helping students to express their opinions and inquiries and reinforce their scientific knowledge more intensively (Amer, 2014), as these communication tools give the student the opportunity to express their opinion without embarrassment or shyness, unlike traditional classrooms.
7. Use of various educational aids and tools that may not be available to many learners, such as audio and visual aids (abdel-hay, 2009).
8. It includes different patterns of study at all educational levels that are not subject to continuous supervision by teachers over their students or direct interaction between students and their teachers or among themselves in classrooms but benefit from indirect guidance and educational organizations.
9. This type of education comes to meet individual and social needs imposed by the nature of scientific and technological transformations that contemporary societies are

undergoing, and even the circumstances that allow for in-person education in the context of the spread of epidemics and infectious diseases.

10. "Diversity of knowledge sources due to connection to various sites on the internet."
11. The ability of the internet to individualize education and consider differences, allowing the learner to choose the content, time, sources of education, learning methods, educational tools, and evaluation methods that suit them.
12. This type of education provides an opportunity to improve the use of technological skills through communication and learning, resulting from students' connection to educational media as an alternative to other education, and it helps develop research and reading skills and improve the cognitive level of students.
13. Financial return for the learner, as distance education is considered one of the most suitable educational systems with a high economic return for the learner.

6. Goals of Distance Education:

There is no doubt that the distance education system is based on a philosophy that attempts to bring education closer to everyone who desires it and has not been able to attend the university or educational institution they wish to study at. Through this system, they can obtain the available educational opportunities. On the other hand, this type of education suits the nature of all members of society, regardless of their ages, genders, and social status, and this is the primary goal of distance education. Therefore, they benefit from science and knowledge through various and diverse educational communication and information media, and among the most prominent goals of this education are:

- A.** Creating suitable educational conditions that meet the needs of learners to continue learning, as distance education is described as flexible and capable of adapting to all educational conditions of learners. It suits housewives, farmers, and workers, and it can meet the needs of learners no matter what they are experiencing.
- B.** Contributing to the education of women and encouraging them to do so, as in developing countries, women's education still poses a significant problem, especially in some agricultural societies, and achieving fairness in training opportunities by making it a legitimate right for all.
- C.** Providing educational methods that differ from those adopted in traditional educational institutions, relying on modern technology to deliver education to learners.
- D.** Contributing to the formation of the learner's personality, facilitated by the nature of distance education, and capable of overcoming geographical, social, and economic barriers thanks to diverse technical media (Amer, 2014).
- E.** Keeping pace with ongoing cognitive and technological developments, as today's world is characterized by tremendous development in cognitive aspects and modern communication tools, making adaptation and compatibility with this type of education more flexible, easier, and harmonious with learners' conditions.

F. It can also seek to address the shortage of qualified faculty members and trainers in some fields, as well as to mitigate weak capabilities (Arab Republic of Egypt, 2024).

2. The Pattern of Education in the Arab Environment:

Education is considered a mechanism for acquiring knowledge and a means to achieve goals and develop capabilities at the individual and societal levels. No society can attempt to ride the wave of development and strive towards the components of civilization without education, as without it, it would be unable even to meet the necessities of life.

The Arab environment, like other societies, has strived towards education and set educational curricula, striving to provide the best possible capabilities and resources to invest in the educational aspect through the best methods and tools to provide an interactive educational environment to attract students' attention and encourage them to exchange opinions and experiences. It has also tried to focus on many fields and scientific specializations of utmost importance to society, such as medicine, engineering, architecture, astronomy, and language education, and has provided significant care towards reforming many aspects of weakness and deficiency in the educational system in various Arab countries, especially in higher university education, relying on practical competencies of doctors and researchers, and opening research centers to reach educational experiences and experiments aimed at developing various fields of life, economic and social.

As for distance education, it is an old method known as regular enrollment in some Arab countries and is applied in many Arab universities, such as King Abdulaziz University in Jeddah, Cairo University, Beirut University in Lebanon, and others in Arab countries. In the enrollment system, the student can follow their studies from home outside the university's country and be evaluated through an exam held at the university or exam centers determined by the university.

The Arab world does not lack scientific competencies, but it suffers from insufficient support for scientific knowledge, especially outside universities, despite the existence of more than 175 universities and over a thousand research units and centers, and an annual growth rate of 9.5% in the number of PhD holders. Arab scientists contributed in 1996 alone to the publication of nearly eight thousand scientific researches in international fields, but the rate of scientific and technological innovations produced independently in Arab countries is close to zero. (Zahlan, 1996)

It has become necessary for the Arab world to work on advancing its society in the field of e-learning and working to bridge the digital divide between Arab countries and between them and the developed countries, and this will only be achieved through an Arab strategy to advance Arab society as a single unit according to studies and work plans based on the actual reality of Arab countries, and according to technical and advisory support for countries wishing to use electronic culture and distance education.

For education in the Arab environment to be at the level of education in other countries, it is necessary to establish a base specializing in the aspect of electronic communications, such as producing Arabic software and operating systems that suit the Arab environment and the nature of education in it. Arab countries must also improve the infrastructure of communications and technology and move towards exploiting technologies and employing them fully, and work on qualifying and training human resources capable of understanding

these technologies and employing them through a strong and successful educational system and encouraging engagement in scientific and engineering specializations. (abdel-hay, 2009) To develop distance education methods, it is necessary to review various educational and pedagogical curricula and adapt them to the pattern and style of distance education and what suits it, so that the same programs offered in traditional education are not delivered through distance education, as the method of education changes, including the reception by learners and their level of understanding and in dealing with the teacher behind the screen and others. E-learning has provided instant tools for evaluating the educational process with modern and diverse methods that enable teachers to evaluate and assess learners and monitor their progress and development continuously, facilitating control over this type of education, especially in the Arab environment, in terms of follow-up and development according to the method and performance and tracking the information to be obtained and the educational curricula on which a group of specialists in educational curricula focus continuously for their utmost importance, especially with linking them to the field of electronic technology and delivering them through distance education in terms of content related to the educational environment, and social mobilization among members of society with this type of education, taking into account a set of programs and steps to achieve the required communication and achieve the purpose to ensure success in e-learning and distance education in particular.

3. Requirements for the Success of Distance Education and the Reality of Distance Education in the Arab World (Pros and Cons):

Distance education is considered one of the most important electronic education methods that many countries and universities have turned to using and working with even in normal circumstances, to provide educational opportunities for various students wishing to study by attracting them and providing all the conditions that help them follow lessons and courses electronically from a distance, through educational resources at the level of universities and educational institutions. However, this does not come easily, but rather requires means, requirements, and the availability of many technologies that ensure direct broadcasting via the internet or even in the form of TV or radio recordings, and through the management of this type of education and its organization and working on financing its material and human aspects, especially in the Arab environment. Therefore, it needs requirements related to the learner and others related to the source, which is the educational institution, as the success of distance education depends on providing these requirements and coordinating between them and the recipient, and overcoming the obstacles that affect its positive results, so that they become negatives and deficiencies that express the failure of this system of education. We will learn about some of the requirements that must be met in this education, then talk about the pros and cons that surround it by evaluating its aspects.

4. Requirements for Activating E-Learning in the Educational Process:

To attempt to include e-learning in the educational process and make it an effective method of communication between the teacher and students, it must have requirements that must be met at the level of the educational environment to help achieve the success of this type of education, increasing its motivation to focus on the learner to obtain information in various forms that suit their abilities, and allow them to choose the method they wish to communicate with, and even make communication easy through the internet or the channels and forums to

be followed, which help exchange experiences through this aspect, and among these requirements (Al-Faleh, 1425):

1. Attempting to prepare a coordinated strategy and a solid base for e-learning according to the philosophy of the curriculum and according to the available capabilities.
2. Providing the necessary equipment and infrastructure, connecting educational institutions to the internet with sufficient quality, and providing the necessary software to facilitate the educational process and accomplish its tasks.
3. Qualifying the human element through training and qualification of human resources from supervisors and managers, and qualifying the executive team in the educational institution to use various media and electronic devices included in the educational process, including teachers and learners.
4. Developing standardized digital content through the interactive digital aspect, according to what educational standards require, especially in:

5. Pros and Cons of Distance Education:

1.5 Pros of Distance Education:

Since the discovery of the distance education system, education has gained a set of characteristics and advantages that have increased its value and improved its output rate, thanks to the attention that institutions have given to distance education processes. It is no secret that distance education has many pros and benefits that have pushed the wheel of education forward, some of which are shared with the general education process and some of which are unique to it. We will list them one by one as follows:

1. Education plays an active role in raising cultural, scientific, and social levels among individuals.
2. It addresses the significant shortage of teaching staff and trained personnel in various fields.
3. It achieves communication between the educational and teaching bodies and learners through regular educational methods.
4. It reduces individual differences among learners by providing diverse educational resources at their disposal, in addition to providing full support to training institutions with everything they need to produce effective education through educational media.
5. It helps individuals to rely entirely on themselves by choosing the sources from which they derive their information, with the possibility of multiple references to clarify ideas and diversify knowledge, which is not allowed in in-person education as it is time-bound.

2.5 Cons of Distance Education:

Distance education, as previously mentioned, has a great ability to achieve communication between teachers and learners, which is the foundation of the educational system, enabling it to achieve many pros that have covered many educational aspects and achieved interaction among those involved. However, this does not prevent the existence of some deficiencies in the interaction process in distance education, making it suffer from some cons that reduce its effectiveness and make many researchers view it negatively. Among the most important deficiencies that distance education suffers from are:

1. **Weak communication:** The most important tool that education relies on in general is communication between the teacher and the learner. The stronger the effectiveness of communication between them, the more likely educational success is expected. However, the effectiveness of communication in distance education is considered deficient compared to in-person education, as the teacher cannot gauge the level of understanding among their students and achieve all aspects of communication with them one by one as in in-person education, nor can they continuously observe the student's movements. Some educational cases related to learners are difficult to control except through in-person education, and perhaps they cannot be addressed even in person, which has led some researchers to view achieving communication through distance education as nearly impossible.
2. **Lack of discipline:** Among the deficiencies and cons that surround distance education is the lack of discipline, including the lack of discipline in the timing of lectures and lessons primarily, as distance education is linked to a tool that may be absent at any time, which is the internet. Its interruption leads to changing study schedules, and its weakness results in weak communication as well.
3. **Loss of focus:** It is known that the student has open freedom in distance education, which reduces the student's discipline and attention during distance learning, as they do not feel the presence of the monitor who tracks their movements—the teacher—and for the slightest reasons, they are distracted from follow-up and achievement. Additionally, the side issues that are not absent from smart devices distract the student's mind from continuous follow-up, making the achievement rate weak for distance learners, especially for students in advanced educational stages.
4. **Neglect of much information:** We have previously proven that distance education lacks strong communication between the teacher and the learner due to the absence of the tool at times or its poor quality, as is the case in our Arab environment in particular. This makes students miss valuable information, as this will lead teachers to limit and skip many details that the student cannot grasp on their own at times.
5. **Weak interaction:** Among the issues that distance education suffers from to this day is weak interaction among educational parties, for which no suitable solution has been found. This is because the rate of dialogue between the teacher and their student is very weak due to weak communication between them for the aforementioned reasons, and weak interaction is due to the absence of the tool that achieves effectiveness among educational parties, which disrupts the learner's achievement aspect.

4 Conclusion:

In conclusion, distance education is considered one of the fundamental priorities that occupy the attention of researchers in many aspects related to it, including distance education methods, the technologies used in it, the obstacles it faces, and how to overcome them, which we have addressed under the title of the pros and cons of distance education in Arab universities. To conclude our intervention, we summarize it in a set of points as follows:

1. Distance education is considered an alternative in achieving communication among educational parties and linking the teacher and the learner in transferring knowledge and information.
2. Distance education is a fundamental condition for achieving effectiveness in education and strong output in teaching, relying on the abundance of advanced technological tools that ensure complete communication between the teacher and the learner.
3. Distance education works to fill the gaps of in-person education and complete its deficiencies in cases of educational and teaching inability in exceptional circumstances such as epidemics, time constraints, and the inevitability of absence among educational parties, etc.
4. The success rate of distance education remains weak in the Arab environment due to the absence of the tool and the lack of the condition required to ensure the desired results from it.
5. The effectiveness of distance education varies from one educational stage to another, as it relies on mastering the tool and the student's discipline, which differs according to educational stages and the maturity of learners.
6. The distance education process requires a competent administrative body capable of managing or facilitating communication among parties.
7. Distance education needs a well-planned study before embarking on it to ensure the success of the scientific achievement process in it.

Research Recommendations: Finally, we offer a set of recommendations that represent the future achievement that achieves the goals and results reached by the study, as follows:

- Distance education in Arab universities needs a special body to study its deficiencies and propose appropriate solutions for them.

- The technical tool and its proficient user are considered a necessity that must be available for the success of distance education in our universities.
- Specialized training sessions for professors, students, and administrators in the field of distance education technology to remove the fear of education through this technology.
- Emulating major global universities that have precedence in this field to benefit from their positive experiences and avoid the negative deficiencies that have reduced the effectiveness of education among them.

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