

**Prospects for the development of educational
interaction in Algeria: a study of educational
outcomes and digital interaction**

**آفاق تطوير التفاعل التربوي في الجزائر:
دراسة في مخرجات التعليم والتفاعل الرقمي**

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The Security Laboratory in the Mediterranean Region:

The Problem of Unity and Multiplicity of Contents

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Abstract:

Comprehensive education, in both its academic and vocational forms, is one of the main foundations of development and modernization worldwide. It seeks to meet the needs of all learners, regardless of their abilities and characteristics, in line with the requirements of the times and the labor market, and to achieve the greatest possible cognitive, social, and psychological growth.

Scientific research in the fields of education, and special education is also an effective tool for achieving continuous improvement and development, as educational and field studies contribute to the development of teaching methods and techniques, the evaluation of educational programs and curricula, and the monitoring of the reality of educational institutions, whether those serving regular students or those with disabilities. Education in Algeria, in all its forms and paths, is a fundamental pillar of sustainable human development and a key element in shaping the future. Hence the importance of this study in highlighting the challenges and opportunities in the field of inclusive education, and the role of teachers, researchers, and decision-makers in shaping educational policies and designing educational practices that take diversity into account and support excellence for all learners.

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Keywords: Digital education; educational interaction; educational outcomes; digitization; educational challenges.

ملخص:

تهدف هذه الدراسة الى التعرف على أهمية التفاعل التربوي والرقمي بين فاعلي قطاع التربية في الجزائر، من خلال التعرف على الأدوار الرئيسية لكل طرف من العملية التربوية، خاصة في المرحلة الرقمية التي تعيشها كافة القطاعات في الجزائر. كما أن البحث العلمي في مجالات التعليم والتربية الخاصة يمثل أداة فعالة لتحقيق التحسين والتطوير المستمرين، إذ تساهم الدراسات التربوية والميدانية في تطوير أساليب التعليم وطرقه، وتقويم البرامج التعليمية والمناهج، ورصد واقع المؤسسات التعليمية، سواء تلك التي تخدم الطلاب العاديين أو ذوي الإعاقة. ويُعدّ التعليم في الجزائر بمختلف أنواعه ومساراته، ركناً أساسياً في التنمية البشرية المستدامة، وعنصراً محورياً في صياغة المستقبل. ومن هنا تأتي أهمية هذه الدراسة في تسليط الضوء على التحديات والفرص في مجال التعليم الشامل، ودور المعلمين والباحثين وصناع القرار في رسم السياسات التعليمية، وتصميم الممارسات التربوية التي تراعي التنوع وتدعم التميز لجميع المتعلمين.

الكلمات المفتاحية: التعليم الرقمي؛ التفاعل التربوي؛ مخرجات التعليم؛ الرقمنة؛

تحديات التعليم.



Introduction:

Digital education and technological interaction in Programs and educational content have become some of the most prominent innovations in modern education, allowing students to learn anytime, anywhere. With the development of technology and the spread of the internet, there have been many successful experiences that have proven the effectiveness of this educational model around the world. In this article, we will review some of these experiences and highlight the factors that contributed to their success.

Millions of students around the world have been able to study various fields, such as data science, artificial intelligence, and languages. One of the reasons for the success of this experience is the provision of high-quality content and recognized certificates. Many successful distance learning experiences from around the world have shown that this educational model is not only an alternative to

traditional education, but also an effective and innovative way to improve the learning experience. With the continuous development of technology, distance learning is expected to become an integral part of the global education system.

Digital education has also undergone significant development thanks to new and emerging technologies that have reshaped the way we learn. The topic of digitization in Algeria has been a major part of scientific and academic discussions and in all sectors, including education. To align with the education system, the term “digital education” has become a challenge with potential implications and mechanisms that must be identified, before its implementation, and even before its results are known in practice.

Preparing for a digital future in all aspects of social and economic life is no easy task, as it requires developing the capabilities of institutions to include personal and cultural capabilities and infrastructure. Digital strategies are also linked to the strategies of the institutions themselves, which seek competitiveness and global positioning.

This raises the following question: **To what extent can satisfactory results be observed in digital education in Algeria, and how can educational interaction be developed to enhance the effectiveness of the entire education sector?**

the study points at some of the shortcomings and deficiencies pertinent to the implementation of this type of education, that depends primarily on information technology insofar, as most of the Arab countries demonstrate a technological flop that inflicts their e-education experience, This study seeks to identify weaknesses and shortcomings in Algeria, and to propose solutions to address these shortcomings and weaknesses in the future.

The study required the use of an analytical approach to analyze certain aspects related to digital education, determine its feasibility, and analyze its results. It also addressed the link between digital education and interaction with the various actors involved in the educational process and their participation in various activities. A reformist approach was also used to address a number of imbalances in the application of the digitization approach in the Algerian education system.



Article Outline:

- First Theme: Educational Interaction and Digital Education: A Study of the Concept and Relationship
- Second Theme: The Reality of Educational Interaction in Algeria within the Digital Education System
- Third Theme: Prospects for Developing Digital Education and its Outcomes in Algeria

1- Educational interaction and digital education: a study in the concept and relationship

The concept of digital education came to the rapid technological developments, so before we address the concept of digital education, we must go through the definition of digitization and then digital transformation; then we explain digital education and its objectives

First: The concept of digital education and its objectives:

Terry Kanye sees "digitization" as "the process of transforming sources of information in all its forms (books, periodicals, audio recordings, motion pictures...) to a form readable by computer technologies via the binary system (bits), which is the basic information unit of an information system based on computers, and converting information into a set of binary numbers "but to be called "digitization", and this process is carried out thanks to a set of specialized technologies and devices.(Naila, 2013).

Lica and Gucci (2017) explained that digital transformation has become an unavoidable requirement. The concept of digital transformation includes both technological and cultural transformation. This transformation is reflected in various fields, especially the field of university education, which contributes to enhancing ways to identify and choose new opportunities, methods and ways to form and restructure universities. (Yasmine, 2025).

Ibrahim bin Abdullah Al-Muheisen defines 2002for digital education as: "That education that relies on the use of electronic media in communication between teachers, learners and the educational institution as a whole. (Lunis, and Yasmina, 2011).

It is a type of education that relies on the use of digital technology in the process of learning and teaching; this type of education includes the use of electronic devices such as computers, tablets, and smartphones, in addition to educational programs and applications, and electronic platforms. (Das, N,2023).

The Arab Administrative Development Organization refers to digital education as: "The method of teaching and learning using electronic media in the process of transferring and communicating information between the teacher and the learner, such as computers, networks and media such as audio and video, electronic libraries, the Internet and others. The use may be simple, such as the use of these electronic means in presenting and discussing information inside the halls, and it may extend to the so-called virtual classes in which the educational process takes place through networking and video technologies and others. (Saudi, and Atoui, 2020). Some defined it as the materials used in classrooms or other educational situations for the purpose of facilitating knowledge and understanding of the meanings of written or spoken words. (Dent, E.C,1948).

Digital education is an educational system imposed by rapid global developments in the field of information and communication technology, through which the immediacy of communication between students, learners and teachers is achieved, not in the traditional way of teaching and education, but electronically through a network or electronic networks, and under which educational institutions become network institutions.(Omar, and Belkhader,2024).

That is, the application of the digital education system is linked to the existence of a balanced and integrated electronic environment. The digital education system consists of:

-The first component: It includes both professors and students, resources, educational programs and examinations, administrative staff at various administrative levels, financial staff, research centers and the library, and this is called educational.

-The second component is related to the technological aspect, which includes the various websites available on the Internet, as well as personal computers, in addition to digitizing the educational component.

-The third component is the administrative component of digital education: It includes the objectives of digital education and its philosophy, in addition to the plans, programs and budgets of digital education. It also defines the strategy and its objectives of implementing

the digital education system, while identifying mechanisms to achieve preventive and remedial control of deviations that can occur to digital education programs.

Through the previous definitions of the concept of digital education, we can conclude that digital education is:

“The use of digital technology in the process of learning and teaching. This type of education includes the use of electronic devices such as computers, tablets, and smartphones. It is a new system imposed by rapid and new technological changes related to the idea of change in teaching and the transfer of information in ways that differ from traditional methods, and the introduction of a group of actors in the educational process. Parents as an actor in the educational interaction, which we will address in the next elements”.

Through the previous definitions, we can present some of the advantages of digital education; flexibility, which gives the learner the freedom to choose to benefit from knowledge regardless of the obligation to receive conditions.*

Digital education as a system and concept seeks a set of objectives that determine its effectiveness and can be mentioned in the following:

- Creating an interactive environment by taking advantage of modern technologies and diversifying information sources.
- Supporting the process of interaction between learners and teachers through the exchange of educational experiences and opinions through various communication channels such as e-mail, smart applications and group chat applications.
- Strengthening the relationship between parents and the educational institution on the one hand and between the educational institution and the external environment on the other.
- Expanding the circle of learner communication through global and local communication networks, and not only the teacher as a source of knowledge. (Mohamed, and Abdelkader, 2022).

Second: Pedagogical Relationship and Educational Interaction:

What is meant by educational interaction is the occurrence of conviction and psychological response between the two parties to the educational process (the educator and the educator) that leads to the cognitive and behavioral response of the second party to the first party and to be affected by it. educational interaction is an important element in the educational process, as it reflects the depth and vitality of the information and experiences transmitted to the learner, and reflects the

long-term impact of the educator in absorption and application, in addition to accelerating the educational process.

Awareness of the educational rules that create interaction: In every educational work, one needs an intellectual increase and a base of information related to it, and educational interaction has theories, rules and methods, which must be familiar with those who are keen to establish an interactive and influential education. (Abdelaziz, 2025).

Known as three indicators of successful and leading pedagogical practices around the world, global survey research has identified them: learner-centeredness, embedding lifelong learning skills, and integrating media and communication technologies. (Maria ,2010)

The pedagogical relationship is not indoctrination and mobilization, but rather multiple relationships. It is clear that the pedagogical relationship has developed through its association with the knowledge revolution based on information technology and digitization, which has a fundamental impact on the educational system, as e-learning and distance education have been oriented towards.* * Terms and concepts related to the concept of pedagogical relations have emerged, such as educational communication, educational interaction, educational cooperation and educational coordination. (Fatima, 2020).

In this context, the pedagogical relationship has been linked to the new forms of education, represented in self-education, cooperative education and the ability to research, and learning according to abilities and energies that led to the manifestation of entries and theories that seek to achieve pedagogical relations that are included in social and cultural motives related to educational action and authority, and to structuring the educational environment, teaching and learning situations, media, techniques and pedagogical rules. Thus, pedagogical relations reflect the representation of the pedagogical cultural authority of education. (Fatima, ibid)

The transition from the traditional pedagogical relationship to the digital pedagogical relationship through the employment and use of new digital technologies of information and the uses of the educational process of the Internet.

Digital transformation is an important step in many sectors, including education, as it contributes to improving communication and interaction through the development of digital tools. This development contributes to enhancing effective communication between the various parties. In educational institutions, teachers, students and parents can easily communicate via digital platforms, fostering collaboration and partnership in the educational process.

Digital technologies have also contributed to enabling their ability to work in distance education, especially in the COVID-19 pandemic. (Bloom, and. Krathwohl, 1956).

Technology has proven its ability to provide alternative educational solutions such as distance education, which has maintained the continuity of education despite the challenges. In addition to encouraging innovation in teaching methods and learning methods. Teachers can try new learning strategies, develop innovative learning content, and use technological tools to enhance the learning experience. This enhances the quality of education and makes the educational process more creative and interactive. (viola, 2025).

Incorporating technology into education is imperative to keep pace with the rapid changes in the digital world, teachers are able to design interactive and stimulating learning environments, and use innovative teaching strategies such as collaborative learning and project-based learning. These innovations would not have been possible without ongoing research efforts that discover the best ways to use technology for maximum educational benefit. (viola, ibid)

In general, education plays a vital role in equipping individuals with the necessary skills and knowledge to keep pace with the rapid shifts in the modern labor market. By strengthening these aspects, education can contribute significantly to building resilient and prosperous societies in the face of future challenges.

Third: Developing educational interaction as a mechanism for the success of digital education

Developing pedagogical interaction in digital education: To enhance interaction and communication in digital education, a holistic approach can be taken that focuses on building a rich and stimulating learning environment. This approach starts with providing an interactive learning platform that is easy to use and inclusive.

Communicating with students and parents through digital means has become an essential part of the modern era, as it plays an important role in promoting strong and supportive relationships that contribute to the success of the educational process. It is essential that teachers master effective communication skills using email, through which they can professionally and systematically share feedback and updates on student progress. This method of communication allows parents to follow the academic level of their children and see any issues that require special attention.

In addition, social media platforms and instant messaging tools are effective ways to interact with students and their families directly and quickly. Through these channels, teachers can share school activities,

important announcements, and even learning materials in an easy and accessible way. This continuous communication enhances the sense of belonging and participation of students and parents in the educational process. (viola, ibid).

Mastering these skills helps teachers build positive relationships with students and their families, which enhances the support students receive in their educational journey. Effective communication creates a learning environment that encourages participation and interaction, and ensures that everyone works together to achieve common learning goals.

2- The reality of educational interaction in Algeria according to the digital education system

Education is a major axis in the social, political and economic activity of any country, especially in this era, whose features have been determined by the rapid pace of change and the explosion of knowledge in various fields such as information technology, biotechnologies, space science, education, and other fields. Algeria is among the countries that accompanied this development with all possibilities, efforts and attempts to develop educational interaction through a correct understanding of educational interaction and educational outcomes in Algeria under the digitization system.

First: The educational system and its transition to the digital education system in Algeria.

The interest in the educational system in all its components in order to prepare specialized scientific cadres and frameworks in the various branches of science and knowledge. Our educational systems are facing a great challenge, especially after the emergence of technologies and multimedia in the field of information technology. Therefore, the development of our educational system has become urgent and even considered necessary. Therefore, it is one of the good phenomena that must be given every importance with the participation of specialists and the crystallization of their opinions and proposals in a clear platform to draw the philosophy and objectives of our educational system to reach specific actionable basics. (Yahia, 2005).

The digital age has not only transformed the nature of resources and knowledge; it has dramatically transformed the nature of social existence itself. The volume of information and the possibilities of accessing it have increased according to a geometric sequence. (Janet, and Michael, 2001).

The educational process needs educational means as well as a shift in the educational system. In general, a qualitative shift in the educational system is not expected without taking into account the following points:(Mohammed Al-Sailawi,2023-2024)

- The child is the focus of the educational process.
- The school must reconsider its mission and function so that it becomes a place that does not exclude any of the children. - There are individual differences between children and the educational system must take into account and understand diversity.
- The active participation of the family in the educational process is indispensable. - There is a need to adopt legislation and policies that ensure the right of everyone to education to the best of their abilities.
- The development of educational systems requires cooperation, solidarity and the exchange of experiences and knowledge. - There is a need to reconsider teacher preparation programs, curricula, methods and means of education so that the general educational system becomes inclusive and flexible and responds to the special needs of all learners

In Algeria, a project has been launched at the university since 2007 for e-learning, and it has faltered due to the absence of infrastructure and weak human resources. However, some platforms were found, such as Ganesha, Model, and then the experience of the National Center for Distance Vocational Education, which adopted the first experience of virtual education. (Sumaya, 2025).

The education sector has lagged behind the higher education sector. It has also opened the way at the level of free education websites affiliated to the system of the Ministry of National Education for all stages of e-learning that parallels formal education and is allowed, and from which learners derive knowledge and even parents.

Second: Requirements for digital education in Algeria:

The Ministry of Education sought to obtain the necessary support to achieve the requirements of providing e-learning through a partnership with the concerned ministries, supporting bodies and the private sector, which are:

1.Infrastructure and technical support: It includes the electronic connectivity network and the structure on which the network will be based, which determines the electronic connectivity devices and computers used for communication and browsing, and then the software that provides educational applications that facilitate dealing with educational content.

2.High-capacity network: This ensures high-flow transport capacity and ensures fast downloading of curricula and applications and data exchange in interactive learning situations.

3. System-based architecture: By harnessing devices with high computational capacity, a high connectivity network, and storage capacity, which requires an initial investment in the establishment of a high-capacity educational network.

4. Educational software: which provides applications for learning management, electronic content management, and control and follow-up systems.

5. Human resources: The most important element in the requirements of digital education is the provision of a sufficient number of qualified human cadres capable of following up and maintaining the work of the sprawling system and ensuring the flow of information in all directions within the network, and this requires a change in the thinking pattern of the teacher and the student.

Building a real will by fulfilling all the previous requirements and providing the possible environment that supports the steps of implementing the national e-learning strategy in educational institutions of various categories and levels.

Third: Challenges associated with digital education in Algeria:

Algeria has achieved a set of positive results in the process of digital transformation in the education sector, but it still suffers from a set of problems that stand in the way of the success of the digital education system project in Algeria. Therefore, all actors must participate in order to succeed and develop digital education in Algeria. We can say that the most prominent of these challenges are:

-Internal challenges: These are

-Technical challenges: The limited capacity of educational institutions to establish wide networks and provide large numbers of devices and equipment with the technological developments taking place and accelerating, which requires the acquisition of various technologies, as for software, the lack of e-learning applications in Arabic has posed a major challenge, which made ministries seek to coordinate among themselves in order to produce local software that takes into account the specifics of the teacher and the learner.

-Legislative challenges: To ensure the dynamism of the educational system, it is necessary to provide laws that protect freedom of thought and the acquisition and generation of knowledge, which requires amending some laws that are an obstacle to electronic interaction.

-Human resources: It is a great challenge for teachers who are accustomed to the traditional system, so it is necessary to raise awareness, motivate and accept change.

-Funding: The lack of funding for the education sector and the educational process is a challenge, which made the government give special priority to this area by encouraging and expanding the partnership between the communications sector, media technologies and the education sector in order to support and develop e-learning systems. (Mohamed, and Abdelkader, op cit,)

The development of curricula and their translation into the reality of educational activity and the development of educational methods and evaluation methods depends on teachers in terms of their efficiency, awareness of their tasks and sincerity in performing them, because the teacher is the basis of the educational process and the main factor on which the success of education depends in achieving its goals and achieving its goals in developing life in our new world, and it is also an essential element in any educational situation.(Gabriel, 1986).

There is also a weakness in the capabilities, effort and difficulties faced by many students and learners, especially since most Algerian families lack the requirements and conditions of digital education, and the lack of adequate support from parents.

As well as the lack of readiness by teachers and professors in the application of digital education and the lack of readiness to use modern technology in the process of education.

Weak Internet networks and other capabilities that require capabilities in order to put digital education in its correct and successful form.

External challenges: These are challenges at the level of the external environment and are represented in the following points:

The knowledge explosion; The knowledge explosion that has increased in the volume of scientific knowledge, what is the share of Algerian educational institutions of all this knowledge

E-administration: Algeria is forced to keep pace with technology and its developments and how to integrate it in educational institutions and in various stages.

Globalization: Globalization is a challenge facing education in Algeria through how to control the good handling and management of Algerian educational institutions, and their imposition of competitiveness and ranking.

Challenges of the economic reality and the labor market: Education and the labor market are separate in Algeria, which led to the weakness of the Algerian University and its outputs in achieving economic development. (Benali, 2023)

3- Prospects for the development of digital education and its outputs in Algeria:

First: Problems facing the development of educational interaction in Algeria:

The objectives of the reform of the national educational system in Algeria are to seek to address the deficit in the arsenal of knowledge capital and to improve the level and quality of knowledge being produced and applied in order to meet contemporary global challenges, which requires Arab educational systems to prepare future learners with a high level of skills and competencies across disciplines and knowledge , in addition to their control of technology , that is, preparing the Arab learner for the future based on knowledge, complex sciences and technologies.(Hadjallah, and Mekbad, 2022).

Deficiencies in terms of organization and management:

- The mismatch between the real needs and the financial allocations granted and their misuse.
- The lack of training of the administrators and their limited knowledge of modern techniques of school management, as Boufalja Ghia Than considers this aspect to be one of the weak links in the Algerian school, because the teacher rises to the position of director after a number of years of seniority , and thus the process of assuming responsibility in the administration is a stage before leaving for retirement , as there are no specific criteria nor an appropriate composition.
- The boring control that has been applied to the operation of educational and training institutions, the formal application of legislative texts, the lack of follow-up and evaluation of their results, in addition to the lack of importance given to school management, and the misuse of available competencies and capabilities.
- The lack of interest of customers in the institution, including guardians, local authorities, and other institutions, and their weak contribution to strengthening it financially and morally. (Hadjallah, and Mekbad, ibid).

Deficiencies from the educational side in Algeria:

- The lack of reception structures led to overcrowding within the educational cohorts, where the number was 42pupils in the educational cohort, and the use of structures to the maximum extent by resorting to the two-hour system in primary education, and resorting to converting educational institutions from one educational stage to another to meet national needs. Weak internal efficiency, that is, the relationship between the inputs and outputs of the educational system through the

high dropout rate. A study carried out by the National Center for Population and Development Analysis revealed that the phenomenon of school dropout affects about 32% of students in various educational stages between the ages of 16 and 24 years , as between 480 and 500thousand pupils stop studying prematurely, that is, 8pupils out of 100 pupils who obtain a baccalaureate degree.

- Poor academic level, lack of achievement among students, low results in official examinations and their poor level, as studies of the National Center for Population and Development Analysis confirmed that out of 100baccalaureate holders, only 5 can continue their university education.

Lack of control over the evaluative dimension, which aims to reduce the differences between the results of education and the objectives of the official curricula, so that they are lacking. The evaluation process was based on assignments and examinations, in addition to the evaluation methods in objective basic education, and does not lead to the identification of the pupil's real possibilities, nor to the diagnosis of deficiencies. There is no pedagogy of support in the real sense that can be exploited to address deficiencies.

- The intensity of the programs and their poor compatibility with each other, despite the amendments made to them and their incompatibility with scientific and knowledge progress, and their containment of a lot of stuffing , accumulated information, and traditional teaching methods, as it was stated, in the new curricula, that the programming applied before the new educational reform in educational institutions dates back to its design, and the determination of its content to decades ago, and thus it does not keep pace with the scientific, technological, and knowledge progress brought about by modern technologies in the field of media and communication.

- The lack of the textbook despite the attempts made to provide it, the lack of periodic and continuous review of its contents, and the absence of supplementary documentation in the service of the student and the professor. (Zinet, 2022).

- Lack of teacher training in terms of training patterns and quality, whether from the scientific or pedagogical side.

- The lack and harmony between the educational institutions, especially basic, secondary and higher education, and the needs of the labor sector, because the latter is not available to respond to the need for development of technicians and skilled labor and prepare them in quantity and quality.

- The increasing phenomenon of lack of follow-up of parents, and the reluctance of students to study and education in general. Deficiencies from the technical side:

- The absence of a clear development strategy with its general objectives, the priorities of the sector and the human needs of the disciplines led to confusion of the educational process and the disruption of its content and ambiguity of its purpose.
- The absence of effective educational research that contributes to improving the quality of education and evaluating the educational returns of the educational system.
- Lack of a comprehensive and integrated view of the educational system and a clearly defined philosophy in line with the change at the internal and external levels. (Zinet, ibid).

Researchers in the field of education in Algeria believe that the failure of the Algerian school is due to its consumption of modern educational ideas and theories, through the ready importation of ideas and theories, which led to its inability to adapt to social and economic reality.

This indicates that the success of education is measured by the speed of its response to emergency changes. The problem also lies in the acceleration of the information age compared to the slowdown that characterizes the educational renewal processes. Therefore, the educational gap arises between the demands of society and the performance of its educational institutions. When this educational gap arises, the so-called features of the educational crisis arise. One of the features of this crisis is the weak relationship between education and the labor market, and thus the spread of unemployment in all graduates of educational institutions, which requires the retraining of surplus graduates in education and training institutions to qualify them with the requirements of the information age. - The weak realization of the principle of equal educational opportunities, which means that computer-based education opportunities are available to some and not others according to the material situation and social class. (Saada, Ben Setti, 2022).

- The multiplicity of education paths, where many feels that there is an educational duality, in the education of the elite and the education of the public and between the children of the homeland, and the children of expatriates. This has led to the entry of trade in the field of educational services and hence, the need to work on setting future educational goals, commensurate with the era of globalization and the information revolution.

The family and society also have an active role in the success of the educational system. Learners in different educational stages spend limited time in educational institutions. The teacher may be surprised that parents abandon their children's studies, encourage them and give

them hope, in addition to the social problems that the learner suffers from poverty, family disputes and others, which is another reason that prevents the success of the educational system. (jabber, and Rahima, 2009).

Second: Mechanisms for reforming and developing digital education in Algeria:

Algeria is working to provide the requirements of the evolving digital environment and its success in order to facilitate the process of digital transformation; by adapting the legal texts and legislation issued by the legislative institution in Algeria in a way that ensures the effectiveness and dynamism of the educational system in light of the digital environment and its challenges.

Within the framework of unifying training systems at the national level, Resolution 932 included a number of axes that fall within the pedagogical accompaniment program organized in the form of training courses and classes.

Article 9 of Executive Decree No. 20-69 on measures to prevent and combat the spread of the Corona virus also stipulated, among the sectors concerned, the education sector (distance education).

Algeria has made many efforts in the field of digital education, the most important of which we can mention:

1/ The iPad Digital School Experience: The iPad Foundation launched the digital school for secondary and intermediate students by developing a special online program at the beginning for those taking the baccalaureate or intermediate education certificate exams. It was called your education, which is a virtual pedagogical space or distance learning arena. It is a comprehensive and integrated solution that allows all actors in the schooling process in distance education. (Mohamed Amin, and Abdelkader, op, cit)

The second most important because it is directed especially to students, their parents and educational institutions alike, which is "your upbringing," according to Mr. Muhamad Aparisan, Director of the Distance Education Program at the iPad Foundation, " This space would allow the educational institution to prefer automated media and communication technologies, that the school goes in good conditions and deepens education and training by entering into a new system of directing lessons and examinations for students, which are additional to what is provided in the sections, and the system also allows parents to follow the education of their children in the administration, students and parents in one network.(Zahia, and Warda, 2019).

It has also developed a virtual school that allows students to enroll in it and prepare for exams and subjects that are taught in conformity with the official program established by the Ministry of Education.

The supervisors of the program and the guardians say that the level of students rises and they get positive results, and Ms. Amal Pharaon, the official of the distance education program, says, " Through the messages we receive daily, we can say that we have succeeded in this project to a large extent, and this is what motivates us to develop and circulate it more at all levels."

2/ Generalized and Complementary Correspondence and Distance Education: Algeria has given great importance to education after gaining independence by building educational institutions and adopting a democratic and free education. The National Center for Generalized and Complementary Correspondence Education was established in 1969, and in higher education, the National Distance Education Project was launched to alleviate the shortcomings of framing and improve the quality of training. (Wafa, and Others, 2019).

Third: Prospects for Digital Education in Algeria:

The transformation towards digitalization and digital education has become a must choice at the level of education in Algeria through following strategies represented in:

- Strategic planning, by drawing the future direction of education institutions in Algeria, fine-tuning the objectives, and providing all the possibilities and resources available for implementation.
- Drawing the future direction of digitization and the digital education system in Algeria requires adjusting all procedures and requirements.
- Performance evaluation, which is to follow up all the executive stages of programs and strategies and to determine the capabilities and capabilities of material and human resources.
- The success of the digital transformation process in Algeria requires the development of a clear and precise strategy for all the requirements of digital education.

The idea of digital education in Algerian universities has faced difficulties such as the lack of references and the absence of financial support for research provided by universities, the bureaucracy faced by students inside research places, and other difficulties

- As for digital education at the level of the three phases, the lack of awareness among some parents, the weakness of the

Internet, and the difficulty of accessing the platforms activated by the Ministry of Education.

Linking education and the labor market in Algeria

- The linking of education to the labor market began to be clear through the interest in technical education and the establishment of educational "mastery", which has become an important part of education policy and objectives, due to the indicators indicated in the reports of the Ministry of National Education that about 70% of secondary education facilities are directed to building "mastery".(Snoussi, and Adel, 2022).

However, it is no longer sufficient to reach an educational level that reaches the level of competition for the educational outputs of superior educational systems.

If we look at the horizons that achieve the development of educational interaction in Algeria, we must consider the provision of all the requirements of digital education, the creation of the appropriate environment of teachers, pupils, guardians, the involvement and collaboration of all community actors that have a link with educational institutions and the dissemination of awareness among them, that the educational process is participatory in order to improve the level of education that amounts to achieving competitive advantage at the national and external levels.

CONCLUSION:

What was imposed by environmental conditions and external variables, of the digital system and digitization, at the level of education in all its fields, and what resulted from the Covid-19 crisis in the world in general, and Algeria in particular, made it necessary and inevitable in order to ensure the continuity of some sectors remotely, the most important of which are educational institutions. This was encouraged by the Ministry to invite the teaching staff to engage in recording lessons online and downloading lessons from floors by students.

The use of technology and its integration into the educational system create an educational interaction, between the teacher and the learner and the educational content, and provide personalized and integrated educational experiences.

Algeria is working to provide all the requirements of digital education, and to achieve the quality of the educational process by raising the efficiency of the teacher and the student and keeping pace with international standards.

Some reforms have been accepted by parents, teachers and all beneficiaries, but the shortcomings of the lack of awareness of some parents in accepting communication through electronic platforms, the weak flow of the Internet, the weight of networks and the difficulty of accessing them sometimes remain.

Therefore, all community actors must contribute to the development of educational interaction through coordination and harmony between the various actors within educational institutions, and provide all energies and material and human resources to embrace digitization as an idea and application.

Include parents in a way that is based on dialogue and hard work to achieve the school's short- and long-term goals, and open the way for all parties and actors related to the field of work in the education sector.

Finally, we can make the following recommendations:

The success of digital education, depends on the administrative component if its plans are accurate, precise and specific.

Relying on educated parents and their teachers to identify the obstacles as they are the closest and most experienced in the digital education process, and the extent of their interaction.

Digital education is of great importance for its flexibility, as it does not oblige the learner and leaves him the field to choose the time that suits him.

The lack of awareness, the weak cooperation of parents, the high costs of technological means and the poor financial situation of the family are what must be taken into account in the list of priorities to address the weakness of educational interaction in educational institutions in Algeria.

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* The American Distance Education Federation has also calculated a set of characteristics for digital education; for more see Rafika Ikhlef, Quality of Digital Education, Journal of Humanities and Community Sciences, Issue 05, 2019, pp. 166-185.

* * Between the teacher and the learner, between the learners among themselves, between the teacher and the educational administration, and between the learner and the educational administration to develop common goals, behaviors and motives in the educational environment in the institution.