



Technology and Education in Algeria
Mechanisms of Integration and Ways to Achieve Quality

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Abstract:

Through this research paper, we seek to highlight the effective role of technology and its most important products in promoting, reviving, and supporting the education process, which is one of the essential pillars in building societies and achieving their progress, development, and prosperity. Therefore, it has been the focus of attention of various nations and societies that have rushed to exploit and employ the most important technological mechanisms and media in learning and teaching processes in order to establish the pillars and foundations of quality in terms of curricula and modern teaching methods and ways of delivering information and cognitive attainment in order to achieve prosperity, keep pace with the civilizational march, and ensure economic, social, and cultural growth.

Keywords: *school, student, teacher, curriculum, knowledge.*

I. INTRODUCTION

There is no doubt that the processes of education and learning are among the most important pillars that support the development of nations and societies in all fields. The strength and prosperity of nations and their progress towards prosperity are measured by their ability to keep pace with education systems and push them towards quality through investment in the developments and products achieved by technology. Technology is one of the most important features of the modern era in revitalizing the education sector, with its digital media and technical mechanisms that enable it to engage in leading global experiences in the field of education and learning.

Algeria has not been isolated from the global developments affecting the educational system through the evaluation and reform processes that have been dedicated to the educational system and the education system. It has been open to Western experiences in terms of curricula, modernizing education through the introduction of technology into education, working to train components, and making the best use of modern teaching methods. This prompts us to question the quality of education in the Algerian school, and what are the measures that need to be taken in order to keep pace with the march of civilization through the education and training of youth in the best possible ways?

The following questions are included in the problematic of our research:

- What is the extent of the necessity of dealing with modern technologies in the field of education?
- Are technologies and modern teaching methods among the foundations of educational reform in Algeria?
- What is the effectiveness of digital media and technology products in the educational process?
- What are the mechanisms and ways of employing technology in education?

The research into the processes of education and learning and linking them with modern technological means that guarantee the continuity of the process effectively and successfully, undoubtedly aims at a set of goals that we tried to pursue in this research, which are:

- Highlighting the effective impact of technological media in raising the pace of education and achieving quality.
- The need to keep abreast of global developments in the field of education, including the most important modern methods of delivering information.
- Highlighting the importance of digital media in communication between the teacher and the learner.
- Trying to get out and combine traditional and modern methods in the process of indoctrination and cognitive acquisition.

1.The reality of education in Algeria

The nineties were a transitional period in the Algerian educational system, during which gradual modifications and transformations were introduced in preparation for the establishment of an educational system that meets the requirements of development. One of the priorities of this period was the generalization of education by establishing and expanding educational facilities, and the Algerianization of educational frameworks, meaning the removal of any trace of elements from other societies and cultures. This is because Algeria, in the early periods of independence, relied on neighboring Arab countries to cover and fill the void within the Algerian school.

The basic school is a slogan that the Algerian school carried after the deep reforms that took place after independence to erase what Algeria inherited from colonialism from an

educational system whose sole purpose was to erase the national personality and erase the language and history of the Algerian people, after the Qur'anic schools, kuttab, zawiyas, and especially the schools of the Association of Algerian Muslim Scholars played a fundamental role in preserving the identity and personality of the Algerian people.

After independence, basic education emerged with new perspectives that focused on Algerianization, Arabization, freeness, democracy, and compulsory education for nine years, with a focus on the process of forming cadres and guidance and framing based on internal and external competencies, in order to achieve the highest levels of quality in education. This leads us to question the quality of education in the Algerian school, and what are the measures that must be taken to keep pace with the civilizational march and achieve quality in education?

2.quality of education

Quality is the product of every original and sophisticated work, which leads to fruitful results through the employment of technical and mental mechanisms that can create a pattern that is characterized by flexibility and accuracy in planning and setting sound strategies, as is the case in the field of education, this sensitive sector that needs more than others to perseverance and effort from all its workers in order to put in place clues and mechanisms related to curricula, teaching methods, and various material and human requirements, including the teacher, the learner, and the administrative staff in order to raise the value of education, and raise the quality of outputs, **(the educational process is the interaction between the administrative and technical systems, and the quality may differ radically from the actual quality of graduates)**. (Saad, 2011)

2.1.principles of educational quality

Quality has principles and regulations that must be taken into account in order to achieve the set goal and desired purpose, namely to enhance the value and status of the educational process, and to raise the level of the learner, and all this for a major goal, namely to keep pace with the civilizational march and economic development. This can only be achieved through the regulation and definition of quality standards, which also rely on the selection of evaluation mechanisms that are contributed to its formulation by the educational administration team, and is supervised by the working team that is responsible for providing distinguished services, and this is done by involving all stakeholders in the educational affairs, and resorting to the frameworks of educational institutions to put in place the necessary measures to achieve quality, based on standard specifications that rely on the quality of functional performance, which is largely based on honesty, flexibility, and mastery, and avoiding loopholes and errors that can shake the trust of beneficiaries of educational services, not to mention the need to establish training programs and training courses for educational and administrative bodies, the operation of which requires high levels of ability, competence, and creativity in the field of dealing with the learner, and this requires mobilizing all material and human factors in order to establish rules and systems on which the educational and educational process is based, in addition to pride and pride in the quality of the work provided that meets the requirements and aspirations of sophisticated societies. (Muhammad, 2003)

2.2.Educational quality standards

The quality of the educational process is based on several regulations and standards that would raise the pace of mental activity through the process of evaluation and assessment of the frameworks and curricula followed in order to ensure comprehensive quality. The most prominent of these standards are the following:

- **Standards related to the learner:** which depends on the ratio of the number of students compared to teachers, as well as the average cost per person, and the most important services provided to them.
- **Standards related to the teacher:** where the importance and role of the teacher can be determined in providing scientific addition and increasing the student with different knowledge, and contributing to cultural achievement, and job integration...

- **Standards related to the frameworks and curricula:** which depends on the formulation of new curricula that are in line with the level of the learner and the changing social conditions, and the creative technological revolution...
- **Standards related to the administrative organization:** Every school has an administrative team that supervises the smooth running of human relations and curricula, and regulates communication processes between school members, which requires opening training courses to train and train administrators to carry out their duties in order to ensure the quality of education.
- **Standards related to material means:** Here we can talk about educational structures and facilities, and their ability to achieve the desired goals, and what the amphitheaters contain of technical mechanisms such as loudspeakers, screens, not to mention what libraries provide of books and computers, and internet rooms, to facilitate research processes ...
- **Standards associated with the relationship between the school and society:** In this case, the school must open up to the social environment through the activities it provides, scientific and cultural, and contribute to finding solutions to some of the problems that society suffers from, not to mention what can be presented in the way of economic development and social development, and preservation of the foundations of national identity, and the cultural heritage of the Algerian nation.. (Nofal, 2000)

2.3.Quality of education and the measures taken

Perhaps the most important feature of the current era is the process of reforms that have affected the education sector in different countries of the world, due to the importance of this sector in building nations and building civilizations. The Algerian state is among the countries that have rushed to reform and formulate its educational system, and inject new blood into it through modern curricula and teaching methods, in order to keep pace with the emerging developments in the world. This has prompted it to move away from the mold of outdated classical systems to adopt more effective, dynamic and participatory methods. The learner has become an active participant in finding and proposing appropriate solutions in light of modern technologies that require the interaction of the learner with the teacher and the knowledge he provides in the context of digital media that have spread widely in the field of the educational process. This is in order to ensure the quality of education, which can only be achieved by relying on the following measures:

- **Quality of Educational Outputs:**The concept of quality in the field of education and training emerged in the United States of America at the hands of Malcolm Baldrige, who continued to advocate for the application of the comprehensive quality concept until his death in 1987. (Abdeen, 2000) Comprehensive quality is not limited to financial and economic relations in order to ensure the progress of societies, but it must also be embodied and adopted in the field of education and training, through the programs and modern curricula that are being drawn up, which will reflect positively on the outcomes of education, and thus consolidate the factor of quality, efficiency and technology that can make a difference in the field of development in all its forms
- **Investing in technological products in the educational process:** The technological revolution must have a profound impact on the process of scientific and cognitive production, and a prominent role in directing educational and social systems, because of the dynamism it provides in the field of education and education, and what it leaves of time and providing opportunities to learn about the latest sciences and knowledge in all parts of the world with the least effort and least cost in order to achieve the lofty goals, and it is impossible to reach this level unless technology is accompanied by human capital. (Al-Saleh, 2007)
- **Democracy and human rights:** The concept of democratic education did not appear in its current form except after passing through different stages and great strides, to become available to everyone under the umbrella of the principle of equal opportunity. It was never the exclusive domain of a particular class, enabling everyone to integrate

into the educational process in order to learn, train, and acquire knowledge that allows the individual to contribute to progress and development, through the acquisition of skills, technology, and scientific attainment without any discrimination between members of society, away from violence and abuse. **(The United Nations, through the United Nations Educational, Scientific and Cultural Organization (UNESCO), considers democratic education a human right and emphasizes the need to reject discrimination, regardless of its source.)** (Watkins, 2015)

- **Comprehensive development:** It is imperative to pay attention to the human element, which is the essential and effective factor in any educational process because of its problem-solving capabilities. Therefore, it is essential to invest in this human factor by developing strategies that guarantee the optimal training of the pedagogical and administrative staff in order to keep pace with the emerging developments at the level of technological media, modern teaching methods, and the administrative management style. All of this falls within the comprehensive development policy, taking into account the rules and standards that would guarantee the quality of education, such as paying attention to the student, as he is the cornerstone of the educational process, and motivating the learner by directing him towards cooperative activities, which contributes to stimulating his creative energies, while relying on modern approaches to evaluation, attainment, and training. **(The evaluation of the student's level of memorization and retrieval negatively affects the development of other abilities in the student, such as the ability to criticize and be creative.)** (Faden, 2005)
- **The effectiveness of the school administrative staff:** Every initiative for reform and quality assurance and the formulation of new frameworks and curricula must have a wise leadership and a body that oversees the planning and implementation of the procedures and measures that must be taken in order to achieve the goals and outputs that lead to the improvement of the level of the educational process. This requires holding meetings and consultations with the trusteeship authorities in order to establish and formulate the foundations and methods of reform of the educational system, which is based on all material and human means, such as activating the educational and educational councils, and placing the training process at the center of attention and within the strategies of educational institutions to ensure the process of framing and scientific and cognitive attainment.

2.4.The quality of education in Algeria in the context of reform

Education is the foundation of any development that countries aspire to achieve in all fields and levels. Since the school is the basic building block that feeds human energies and contributes to economic development and social development, it is necessary to place the latter within the changes that the world is witnessing at the technical and technological level that affects the educational process and imposes on it to keep pace with the emerging developments in the mode of reception and scientific attainment, which requires the adoption of a set of measures and procedures within the framework of what is called the reform of the educational system, taking into account the administrative staff and its impact on the education process, (as experience has shown that weak administrative performance and lack of efficiency led to the failure to keep pace with reform.) (Jaber Nasr al-Din, 2009) This prevents the realization of the expected outputs, and negatively affects the reform process in the absence of expertise and foresight, the weakness of the pedagogical team and the administrative staff, and the decline of the training process, which leads to a decline in quality and confusion of the entire educational family. This requires a review of the educational system, focusing on modern means instead of traditional in the educational process, relying on practical training in addition to theoretical, as well as proposing training programs in the field of computer science, adopting modern teaching methods, and exploiting digital media that can drive the wheel of quality in school, with a focus on the role of the teacher and his effectiveness in ensuring attainment through modern methods and approaches, such as curriculum theater, encouraging initiatives, and encouraging the student to be creative and innovate solutions through the process of discussion and participation.

3.Technology and Education

The rapid development of technology that the world is witnessing today has contributed greatly to the openness of most sectors to this development, and the human mind has inclined towards investing in various new technologies, and employing them in all fields and institutions. Technology has become a necessity today, especially educational institutions. This is confirmed by "Ahmed Mansour" in his saying: **(Educational technology enters into all educational fields in its modern concept, such as: devices, tools, materials, educational situations, educational strategies, continuous assessment, and positive feedback... It also leads to effective development and increased flexibility of the educational process.)** (Mansour, 1986)

The school has become obliged to enter the challenge of technology and exploit it in the educational process, and to communicate and communicate with the learner, through the use of various technical media produced by technology. This contributes effectively to the process of training, refining knowledge, and providing opportunities for the renewal of knowledge and the exercise of the mind, in order to put forward proposals and find solutions to the problems that stand in the way of scientific research, through the development of strategies based on technological developments, saving time, and ensuring the delivery of information and its exchange and discussion among learners. For this reason, it has become incumbent on educational institutions to keep pace with technological fluctuations through the processes of training and practice that must encompass the entire education team, including the teacher, the learner, and the administrator, so that everyone can control modern technologies for the purpose of achieving the desired goal, which is to achieve quality, the outputs of which can be reflected in solving the obstacles facing education such as the lack of classrooms, taking into account the individual differences between the students, ensuring training and training processes for development and combating illiteracy, and controlling software and technological mechanisms, in order to keep pace with the modern educational process.

3.1.Technology and Academic Achievement

There is no doubt that technology plays an important role in the formation and effectiveness of the educational process. Therefore, most countries, including Algeria, have adopted modern strategies within what is called the reform of the education system, through the development of strategies that rely on modern technological tools and techniques.

In the era of technology and the digital age, we find ourselves facing major challenges in the face of this huge influx of technologies, media, and software that must be invested in and used in the field of education in order to create a modern vitality and dynamism that is in line with the information age, which relies heavily on various media to ensure optimal training and achieve quality.

This helps to enhance the sensory perception of the learner, and makes him always in search of and discovering what is new in the field of technology, which in turn leads to the expansion of the scope of understanding and academic achievement for the student. It also facilitates the process of communication with colleagues, teachers, and the administrative staff, and develops in him the desire to participate and expand experiences and knowledge.

3.2.The role of technology media in the educational process

Since technology and its most important products are an essential necessity for the development of the education sector and the achievement of comprehensive quality in educational institutions, countries must make these new mechanisms a top priority and work to invest them in the process of education, attainment, and training. With the emergence and domination of the world of technologies in all sectors and all economic, cultural, educational, and educational practices, the means have varied and multiplied according to the climate in

which they are to be employed. In the field of education, for example, some of the means that can help to raise the pace of attainment, the scientific level, and its quality include:

- **Computers:** Computers are essential in many school administrations, and they contribute to the control of the pedagogical and statistical process, such as creating lists of students, printing various administrative documents and lessons for students, and preparing correspondence.
- **The Internet:** The Internet is one of the most important time-saving means, searching for information under the best conditions, and helping to achieve at the lowest cost without effort or travel. Most of the search engines it provides contain millions of accurate and organized information, which gives the learner or teacher the opportunity to prepare lessons and use the hidden information from him, which may cost him a lot of effort and time to obtain. There are many researches, articles, and information that serve the learner researcher.
- **Email:** Email is one of the most prominent means that contribute to linking communication relations between learners themselves, and between learners, teachers, and the administrative staff, in a record time to save time and effort, which allows the parties to exchange e-mails, information, and lessons, through various media such as: yahoo, gmail, hotmail.
- **E-books:** Among the products of technology in the field of education, we find e-books, which are one of the means that the Algerian educational system has adopted to serve the teacher and the learner. They can be easily and flexibly transmitted via discs and flash drives, and even through social networks and emails. They can also be downloaded at any time and in any place to view them and use the information they have. Through search engines, you can find any book in various specializations, simply by typing the title of the book.
- **Model schools:** It is one of the strategies that countries are striving to embody through the design of model schools, which have all the modern equipment, such as computers, internet flow, electronic display screens, and replacing wallets with electronic tablets. It is a long-term process that requires mobilizing all material and human resources in order to achieve it on the ground, and to provide the conditions that help to achieve its success in order to achieve the quality of education.
- **Social media:** Social media is one of the most important technological means that help the process of communication between the teacher and the learner on the one hand, and between the learner and his colleagues on the other hand, where information, books, and emails can be exchanged, and communication can be made to exchange ideas and experiences, and discuss educational materials. Social media such as Facebook, WhatsApp, Twitter, and other media are a window to keep up with the latest news from colleagues and friends, and to communicate between the learner, the teacher, the administration, and the parents... (Tanqab, 2021)

4.Ways to Use Technology in the Educational Process

There is no doubt that technology has a profound impact on all areas of development. The quality of a product requires high-tech techniques that are based on accuracy and skill in manufacturing the product. This is also applicable to the modern educational process, which relies on technical means to increase the pace of quality and the educational level in schools, especially after the emergence of a group of technological and digital media that can drive the wheel of quality in education, such as the emergence of the computer and the expansion of the information network "the Internet".

However, these means always need to know how to deal with them, keep up with them, and find the best ways to use them, such as creating new strategies that attract competencies in the field of educational technology, establishing specialized teams within educational institutions for the training and development of teachers and administrators, and acquiring equipment and computers, display screens, and various digital media in order to create a

dynamic field that is in line with modern technologies, in order to integrate the student and put him at the heart of those fluctuations and modern developments, not to mention the development of educational means, and establishing partnerships and cooperation agreements with institutions of a technical nature in order to acquire expertise and experiences that allow the school to open up to the science of technology and exploit what can be exploited from its products.

The introduction of technology in the field of education has become necessary and inevitable. **(Every time man achieves a scientific breakthrough, the school has a share of this production. Why not, it is the field from which thinkers and creators emerge to achieve the goals of science. The microscope, television, cinema, video, computer, and the internet are all tools that are exploited in the educational field.)** (Withrow, 2008)

Conclusion:

The services that technology provides to societies are great, and its effective contribution to the development and prosperity of countries requires keeping pace with this amazing development that the technological revolution has brought about at all levels. This will enable all facilities and institutions, especially educational institutions, to achieve quality and reach the level of progress and prosperity. This is what prompted the Algerian state to undertake a process of reforms in the education system in order to create dynamism in the field of education that is in line with global developments. Every reform process, especially in education, is a sensitive chord, so other sectors must undergo evaluation and assessment processes with the participation of various stakeholders from parents of students, unions, associations and those interested in education issues, in order to accurately analyze and evaluate the education process and reform it in terms of programs and curricula, or in terms of the contents and contents contained in the texts, and thus put long-term strategies in place to modernize this sector. However, reality almost proves the opposite through the decline in the level of education among our children, and the lack of a qualified teacher capable of framing, training and optimal education, especially with regard to the use of modern technologies in teaching methods, that is, education is still in its traditional stages. Also, the various recommendations that are made in various sessions, conferences, seminars and meetings are not taken into account, in addition to the participation of committees that are unable to formulate the correct curriculum on which the Algerian school is based and can raise its level compared to European schools and even sister countries. For this reason, it is necessary to take into account the recommendations and the most important proposals, which are:

- Working to develop a long-term strategy that is rooted in the environment and traditions of Algerian society, with an openness to modern Western experiences.
- Partnering with all stakeholders in the educational affairs in Algeria and taking into account their opinions and proposals.
- Taking care of the teacher as he is the educator and the framer.
- Working to keep pace with modern teaching methods, and adopting programs and curricula that are in line with the requirements of the modern era.
- Optimal exploitation of technological means and their investment in the field of education and training.
- Adopting field education and the participation of other institutions, cultural, educational, psychological, libraries and youth institutions.
- Embodying the recommendations and proposals presented in the meetings by specialists and those interested in education in Algeria.

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