The Contribution of Digitalization to overcoming the Crisis of the Educational process during the covid-19 Crisis – Iraq as a case study

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Research Summary: Saida Research to shed light on the role of digitization in education and the urgent necessities that respect it is an important and necessary matter in the world in general and Iraq in particular, especially after the successive events that occur at the local level and today for three years the world has not witnessed a major reason, the total and partial, the reason for the spread of the Corona virus and then the Ukrainian war. As for Iraq, the pandemic witnessed massive demonstrations that swept the central and southern governorates. I gloat in researching education in the two educational institutions, and from here began its transition from traditional education towards whether it was a necessary matter and the note of emergency events, not to mention the rhythm of the advantages that emerge electronically, which will be highlighted through current studies

INTRODUCTION: Educational institutions do not preform their role in isolation from the rapid and endless developments in the field of knowledge and technology.

The Changes in the field of digitalization and its effects in the short and long term require universities to provide human resources at a high level of competence and efficiency.

The development of scientifically qualified human resources by universities is one of the most important pillars and components of the era of digitalization and facing the challenges of the current millennium.

- **Research problem**

The challenges and obstacles, especially social distancing and health bans, that resulted from the Covid-19 a widespread trend worldwide towards the employment and development of digital technologies in an effort not to interrupt the educational process during the pandemic, as well as to expand the continued use of those technologies after the pandemic is over.

- **Research Importance**

1. There is an urgent need to go beyond the traditional methods prevalent at the level of university education in particular and education in general by activating and enhancing the use of digitalization tools and information and communication technology.

2. Comparing the elements of the experience in Iraq with Arab universities in the era of digitalization.

- **Research Hypothesis**

Digitalization has effectively contributed to avoiding the negative effects on education resulting from the corona pandemic and developing the performance of universities worldwide.

- **Research Objectives**

1. Learn about digital learning and its technologies.

2. Explaining the importance of applying e-learning at the level of education in Iraq.

- **Research Methodology**

The inductive method and the descriptive method were used for the purpose of identifying the results of practical experiences of digital transformation in Arab universities to be a model for universities in Iraq.

- Research Structure:
- The first section:

The concept and components? Of digitalization.

- The second section:

Local, regional, and global models of digitalization in education.

- The third section:

Digitalizing education in Iraq and how to overcome its obstacles.

- **Key Terms:**

digitalization, digitalization of education, virtual laboratories.

The first section

The concept and components of digitalization.

Digitalization refers to the use of digital technologies in daily life by digitalizing everything that can be digitalization.[1] Hashemi,2021.

Celeste McLaughlin, Head of Academic Development for digital Education at the university of Edinburgh defines digital education as the innovative use of digital tools and technologies for the purpose of teaching and learning, often referred to as technology-enhanced learning or e-learning.[2] Afouna, 2021, p. 477.

The concept of digital transformation in education means dedicating digital technologies in the educational system and integrating information and communication technology to facilitate the performance of the educational process, which also includes administrative procedures such as the admission process and electronic registration through the websites of the relevant educational institutions.[3] Afouna, The same source, p. 278. Also, the digital transformation in education includes the process of teaching with modern educational means or distance learning, where the student receives lectures through interactive and non-interactive educational platforms using the internet.[4] Shaheen, in Egypt.

moreover, digital transformation in education is defined as a process of providing educational content to the student through multiple media available on the internet that provides the possibility for the student to communicate with the lecturer and with his colleagues, media available on the internet that provides the possibility for the student to communicate with the lecturer and with his colleagues, choosing the time and place of the lesson to suit the circumstances and capabilities of all parties, and so on. In the same context, digitalization provides the capabilities of entering texts, images and, Sounds to be processed, stored anol Presented as information, as well as the preservation, communicating and sharing educational content at any time and any where[5] Plans and Strategies 5-28-2018.

Digitalization in its broad sense is capable of creating a competitive

environment that achieves the highest levels of quality and at lowest costs. Accordingly, the application and practical use of digital transformation techniques or applications in the education sector entails the achievement of several goals, including[6] Shaheen, Egypt...

1. Ensuring the level of performance of educational tasks for teachers and administrative tasks for employees with minimal errors.

2. Providing a variety of electronic Services to all parties of the

3.

educational Process.

4. Ensuring the development of the outcomes of the educational process and the achievement of the required objectives.

5. Keeping abreast of modern technical developments.

6. Finding better to solve ways problems through innovation and creating an environment that encourages Creativity, excellence and competition.

Education in light of digitalization can be done through the following

models and methods:[7] Ramadan, 2021.

1. Online Study:

Design and develop classrooms by experts with qualifications in their field and give students the possibility to experience learning within a specified period of time.

2. Taking exams online:

Digitalization provides the possibility of conducting exams remotely and appropriately in terms of time and place for all concerned parties

3. Providing textbooks and digital resources for students:

Students are now able to access books, texts, Videos, etc, through the use of various electronic technologies.

4. Animation:

This meth ed is considered one of the most successful methods of teaching, especially in kindergarten and primary school, where even the most difficult topics can be presented in a simple and smooth way using animation.

5. Electronic platforms

The transformation of the education system to digitization at the level of schools and universities and the use of electronic technologies via the internet has helped to meet the educational needs of students who face problems Related to the geographical distance of their areas of residence.

6. Availability of various resources on the internet:

The process of providing various resources through the internet has developed in such a way that these resources are available to students resources are available to students of all levels and to those seeking to develop their culture and encyclopedia knowledge, which means the expansion of knowledge of societies in all aspects of life.

7. The presence of smart content:

Smart content means digital books, educational platforms, artificial intelligence applications and video lectures that contribute to conducting conferences and meetings remotely. All of these means help teachers to prepare digital electronic curricula in order to deliver information to the beneficiaries.

In the same context, starting to digitalize education requires providing an appropriate environment based on the following stages:[8] For digital transformation (digitization) 2020

Training and qualifying of teachers and supervisors.

1. Connecting all educational forums to the internet, in cooperation with the relevant ministries and telecommunications companies.

2. Providing the necessary educational media, such as screens, computer tablets, and so on.

3. Providing digital educational content.

The Second Section

local, Regional, and Global Models of Digitalization in Education .

The digital transformation is an urgent necessity for educational institutions as it contributes to reducing the operational costs of universities, facilitating their performance in all areas, and avoiding the effects of exceptional and emergency circumstances that can confront the educational process. The use of digital transformation application in the educational process has proven its feasibility and effectiveness in the world as a whole during the past three years in the face of the repercussions imposed by the Corona pandemic.

This feasibility and effectiveness at the level of education sector has extended to include administrative services, education using electronic explanation, the application of the electronic examination system, as well as the correction of answers electronically, In this regard, professor Arledge asserts that "Technology can become the Wings that will allow the education Sector to fly faster and farther

than ever before))[9] Shaheen, previous source. .

The following is a review of practical experiences in the areas of digitalization in higher education:[10] Al-Fansh, 2021.and Naji, pp. 6-9.

and Ramadan, previous source.

1. The European Commission:

the modernization of the educational process is one of the European commission's top priorities. This endeavor is manifested by providing the necessary funding for research and innovations to advance the use of digital technologies in the field of education.

The European commission's strategy for 2020, which is an extension of the 2014 strategy, has been characterized by a focus on expansion of use of digital technologies and the introduction of digital methods In most educational activities of the level of the European Union.

The European Union, through the national tutoring program (NTP) and managed by Hewlett Packard enterprise, is working to create highly intelligent networks for the benefit of student with higher levels of intelligence.

2. Britain :

Britain is one of the first countries to use engineering programming techniques and information technology in compulsory education institutions, especially for students in the early stages aged between 5-16 years.

3. India:

India has been ranked as the third largest country in the use of the internet after the United States and China. This fact, therefor, means that there is a greater possibility of accessing and obtaining various educational services and the application of broader educational activities, whether at the level of public or private education.

4. The United Arab Emirates:

In 2019, the vice president of the United Arab Emirates announced the government's plan to build modern schools at (1.5) billion dirhams, as an embodiment of the strategy of considering education as one of the priority sectors, these

schools will contain laboratories designed to develop capabilities and qualifications to create applications in the areas of digital transformation and artificial intelligence.

5.   Kingdom of Saudi Arabia :

More than a year ago, the ministry of education announced an initiative called (the gateway to the future).

This initiative seeks to expand in the educational system and radically change the educational environment at all academic levels.

6.   Algeria :

In 2013, Algeria announced the e-digitalization strategy for education. Within the framework of practical application, the ministry of education has introduced digitalization since 2016 by adopting (100) schools, as a preliminary stag, for education using digital technologies.

Positive and negative effects of digitizing education

digitalization in general represents a strategy with wide effects and dimensions and has a number of positive and negative effect alike when applied in all fields, especially education. Those effects related to the education sector can be summarized as follows:

First: The positive effects:[11] Ramadan, andQashi, 2013, Pages 83-112and Nasima and Mustafa, 2013

˙ Improving the educational process by applying different strategies in educational institutions, such as cooperative group learning and learning by discovery and innovation.

1. The various digital applications have made the educational process more enjoyable and attractive for the student and the teacher alike.

2. Contribute to meeting all the requirements of students with special needs.

3. Teaching advanced curricula related to contemporary scientific reality and modern and future technologies.

4. Achieving the possibility of communication between the educational institution and parents.

5. Ensuring the provision of high quality education and features that contribute to raising the efficiency of the teacher and student.

6. Strengthening the flexibility factor of space and time in the educational process.

7. Helping raise a generation capable of self-learning.

8. Enancing student-specific skills such as managing time and cost, directing efforts, and confronting and solving problems.

-    **Second: the negative effects**[12]: Ramadan, andQashi, 2013, Pages 83-112and Nasima and Mustafa, 2013

1. The possibility of not having the necessary skills and technical training required for the use of digital technologies by the teacher or student.

2. Lack of acceptance from society for change towards the use of digitalization in education and adherence to traditional education.

3. Weakness or lack of access to networks is one of the most prominent problems that hinder the use of digital technologies in education.

4. Risks arising from exposure to cyber attacks.

5. The possibility of a state of social isolation and weak social interaction as a result of the use of digital technologies in education.

6. Obstacles related to the policies of some governments towards their people with regard to the freedom to use digital Technogym, especially during crises and turmoil.

7. The negative and harmful consequences of the unproductive use of digital technologies in education, especially in developing countries.

8. Problems related to power cuts or unavailability.

The Third section

Digitalizing education in Iraq and how to overcome its obstacles

Internet service and its applications in various areas of life entered Iraq relatively late[13] Digitizing the education. At the level of education sector, most teachers nowadays use digital applications to communicate with students and various educational institutions use these applications to provide lessons and lectures to students. Also, students can now follow and watch videos; study topics and their explanations available to everyone on specialized websites.

In 2019, the education process in Iraq faced a severe crisis due to the demonstrations that swept the central and southern cities of the country for a period that exceeded three months. In conjunction with that crisis, the corona pandemic began to appear and spread, and the consequent imposition of a comprehensive ban. As a result, the responsible authorities in Iraq decided to introduce the use of digitalization in government institutions, especially sector.

In the context of seeking to adopt digital technology in education, the Dutch government and a group of international experts have communicated and held meetings (through the zoom application)

With more than (300) professors from ten Iraqi universities.[14] - Digital Media Center

In the summer of 2020, the university of Mosul for the first time relied completely on the performance of exams remotely, as Dr. (Rawa Qasha) from the university of Mosul explained that the exchange of experiences through remote meetings created our ability to deal with the variables imposed by the corona pandamic.[15] Al-Khatib and Al-Fansh 2021,

Reducing the operational costs of universities, creating an appropriate, competitive and enabling environment that is attractive to learning and acquiring knowledge, the increasing number of the school-age population, and the targeting of reducing the illiteracy rate in society are among the most important reasons for the government in Iraq to develop a comprehensive strategy for the transformation towards digitalization in education.[18] Al-Jubouri, 2018

Among the most prominent aspects in the education sector in which digitalization of education can make a qualitative shift are.[16] bin Naji p. 16.

1. The Virtual classes:

Virtual classes are considered one of the most important applications of digitalization because they create on environment that brings together teachers, students, and study subjects.

Ease of access to the browser or smart phone applications, ease of student interaction with the subject, the possibility of re-presenting the lesson at any time, the possibility for the teacher to follow up the performance of homework by students, the participation of a greater number of students compared to traditional classes represent the most important advantages achieved by virtual classes.

2. The virtual laboratories virtual laboratories allow students to make practical applications of what has been studied in a virtual environment that can be accessed anywhere and anytime, certainly, the virtual laboratories are less expensive than the traditional laboratories in schools and universities. Also, companies specializing in digital technology applications are constantly innovating the latest technologies, which means that students can repeat laboratory experiments more than once and not rely on traditional laboratories that cannot always replace old equipment with new ones due to the high cost.

It is important to point out here the gains that the government in Iraq can achieve from virtual classrooms and laboratories:[17] Al-Jubouri,

1. Reducing the cost of the study, as just a smart phone at a price of (80) dollars can provide the possibility of using related applications instead of using a computer worth (800) dollars. Or more.

2. Introducing and in novating more effective teaching methods through which students and teachers can access content at the same time and connect other devices for the purpose of drawing, writing and sharing files.

3. When the student is unable to attend school for any reason, he can participate in remote lessons and participate and interact with his colleagues and teachers.

4. In light of the use of digitization in education, there is no need to print textbooks and correct errors in those books, which cost the government high expenses.

5. Providing opportunities for those who were forced by circumstances to leave school to return to complete their education and reduce illiteracy rates in Iraqi society.

First: digitalizing the education system in Iraq

The digital transformation strategy at the level of the education sector in Iraq necessarily means changing the teaching strategy or changing the ways of providing educational services by relying on modern digital technologies. The most important technologies that underpin the digital transformation process are big data, the internet, artificial intelligence, cloud computing, blockchain, laptops, social media, and so on.

It is important here to clarify the difference between digital transformation and digital modernization at the level of the education sector, as the first means changing the strategy or method of providing educational services, and the second means updating or developing a specific product using modern digital technologies (for example, software systems for students', smart boards and download curricula on the website)[18]. Education in Iraq

On the other hand, the education system in Iraq, according to UNESCO reports, was considered one of the best educational systems in the middle east in general and at the level of neighboring countries in particular. However, over the past three decades, the educational system in Iraq witnessed a sharp decline of political, security, economic and social conditions. The continued deterioration of the educational system in Iraq, especially after 2003, led to the growth of several negative phenomena such as cheating, corruption, forgery and absenteeism. As a result, students graduated without the skills and qualifications required for practical and functional performance[19] Ben Naji ،p91. The negative effects and results may be exacerbated when a number of these graduate students are accepted into postgraduate studies and obtain certificates that qualify them to teach in universities, which means that education in Iraq will continue to decline in the future.[20] Ben Naji ،p92

Second: Electronic platforms in Iraq

   Teaching staff at all levels of study in Iraq have relied on two types of electronic platforms to communicate with students during the corona crisis, which are:

1. The google classroom platform and the Moodle platform which are sites dedicated to e-learning. The google classroom platform is considered the easiest, but it lacks the official aspect, and anyone can open on electronic class through it, and it cannot be monitored by the university institution and is completely subject to the google website.

As for Moodle platform, it is considered an educational platform that the university can completely manage and control, but it lacks smoothness in work.

2. The second type is the auxiliary platforms such as the Telegram application and YouTube.

These applications ensure communication between teachers and students regarding notes, notifications, and so on. But on the other hand, these applications are not originally intended for education and lack many of the features necessary for education.[21] Ben Naji ،p92

It is important here to note that the government in Iraq has adopted digitalization in several areas in addition to education, including:

1. Electronic forms for distributing residential land to citizens.
2. Electronic form for admission of students to Iraqi universities.
3. Granting loans from government banks to state employees.
4. Submission of applications for the unified Identification car.

   But on the other hand, there are several challenges facing the digitalization of education in Iraq:

1. Continuing and recurring power outages.

2. The high costs of subscribing to the internet compared to the levels of income. The impact of this challenge is evident by nothing that a group of professors at the university of Mosul funded a subscription to the internet to help students attend lectures.

   This initiative has led to an increase in the attendance of students to electronic lectures by[22] Digitizing the education, 2020.

3. The weakness of the internet in Iraq in general.

4. The lack of or weak qualifications and skills of faculty members necessary to deal with the e-learning process.

5. The deterioration of the economic situation in Iraq and the uncertainty of obtaining suitable income jobs after completing university studies led to a decrease in the number of those wishing to complete the study.[23] Digitizing the educationK previous source.

6. The incompatibility of current teaching methods with the concept of e-learning and the inability of Iraqi universities to keep pace with the rapid change in information technology, including hardware and software, and the high cost of modern technology needed for e-learning.

7. There is a fear among the teaching staff, especially in the faculties of the medical group, that the use of e-learning could result in a lower level of graduates of those faculties.

   Here, it is necessary to refer to the procedures that have been taken by the countries of the region to facilitate the application of electronic digitization in education due to the repercussions of the corona pandemic. The governments in Saudi Arabia, Egypt, Tunisia, Morocco, Jordan, Bahrain, and Palestine have worked to develop digital education platforms, provides free internet access for teachers and students, provide computers and smart phones to access educational platforms, and other procedures that have enhanced the effectiveness of the e-learning application.[24] Al-Jurmazi,2020.

The most important pillars of the success and sustainblility of the process of digitalizing education in Iraq can be summarized in the following points:[25] Ort, Martin,2020.

1. A modern teacher capable of keeping pace with technological and scientific development.
2. A diligent student who seeks to continuously improve his scientific level in order to achieve his goals.
3. A modern university that contains research centers, advanced laboratories, and modern technologies.
4. Interactive educational curricula that ensure harmony between traditional paper curricula and electronic curricula. enhancing education based on technologies modernity and the use of technologies in communication between all parties relate to the educational process.

The impact of digitization on the economy

All of the above was mostly concerned with the impact of digitization in education, but from an economic point of view, the Covid-19 pandemic contributed to focusing attention on the side of electronic digitization by large German companies, and this is what was found in a representative survey conducted by (Baytcom Research Foundation), which was prepared on behalf of the company (Tata Consulting Service (TCS) Informatics, and the results found that (75%) of large companies whose number of employees exceeds 100 workers or more, have increased their investments in technologies and applications. Digital, during the Covid 19 crisis, and that 40% of these companies stated that the Covid crisis contributed to accelerating the work of digitization and its adoption in line with their business, as they changed their offers of services provided in addition to products, while the remaining 25% of the

75% companies increased their reliance on digitization in their business, but by 0.2%, so the impact of the pandemic is negligible in introducing digitization in their business(26) Ort, Martin,2020. This pandemic could be credited with launching digitization in a very large and large way, which is considered the historical starting point throughout the world. (27) Al Jazeera Arabic،2020 of several areas and as follows: 1- 1- Expansion of electronic rumination

2- Expansion of the business sector factory for computers, mobile phones and chips

3- Allowing the electronic aspects to work at a greater rate than before the pandemic

4- Turning the world into small villages on the one hand

- Exchange of information
- Open Education
- Cognitive interactions
- Commercial transactions
- Transfer of experiences and exchange of cultures

Conclusion:-

1. The digital transformation in education has become an urgent and necessary need in light of the current and future challenges and crises that confront and obstruct the traditional educational process.

2. The combination of e-learning and traditional education is the best option at all levels of study in order to reach an integrative state that will result in achieving the greatest degree of effectiveness and efficiency for society as a whole.

3. The positive impact of digital transformation in the education sector depends fundamentally on the level of teaching skills of teachers and the level of learning skills of students.

4. The introduction and promotion of digital transformation applications in the education sector contributed to the provision of educational infrastructure at a lower cost compared to the cost of establishing and maintaining traditional infrastructure (schools), laboratories, etc).

5. The development of clearly defined visions, appropriate goals and objectives, flexible implementation meachanisms, and comprehensive standards by the authorities responsible for the education sector in Iraq and in cooperation with the relevant parties means, as a result, a higher effectiveness and efficiency of digital transformation in the education sector, whether at the level of education or at the level of society as a whole.

Recommendations:-

1. Preparing an integrated vision for the components of the digital educational system for universities in Iraq.

2. Encouraging and motivating students to accept e-learning and enhance their capabilities in this field.

3. Urging the society to accept the digital transformation in education and cooperate with parents of students to avoid the negative effects of using social media.

4. Establishing annual development courses for teaching staff and making them part of the university staff assessment.

5. Cooperation among universities to create official websites that students can access and benefit.

6. The establishment of free educational platforms by specialized telecommunications companies to enable students to keep pace with the educational process.

7. Improve the internet and reduce power outages.

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