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Digital Education And Human Development

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Abstract:

As a result of the scientific and technological revolution, the digital economy has recently emerged as a new branch of economic sciences. In line with meeting people's and society's needs, the digital economy's development is dependent on digital education, which is the foundation for achieving true human development, beginning with the process of education and education, as they are critical factors for increasing the efficiency of human capital to achieve growth and development in various countries around the world.

Key words: digital economy, knowledge economy, digital education, human development .

JEL Classification Codes: A2, D83, H52, I23, I28, I29 .

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Introduction :

The digital economy is a new branch of the economic sciences that appeared recently as a result of the scientific and technological revolution. In line with meeting the needs of people and society, the digital economy depends in its development on digital education, which is the basis for bringing about real human development, starting from the process of education and education, as they are essential factors for raising the efficiency of human capital to achieve growth and development in various countries of the world.

The digital economy is the main driver of the human development process, sustainable growth, wealth creation, and employment opportunities in all fields. Its work depends on the availability of information and communication technology and the use of digital innovations, while human resources represent the most valuable asset.

Accordingly, the question of the problem at hand refers to the foundations, principles, characteristics, features, and approach of the educational system in the age of digital knowledge. Assuming that digital education possesses the elements that make it one of the basic requirements for the era of the scientific and technological revolution, we proceed from the goals that answer the questions of the problem at hand by adopting the method of reviewing and analyzing the theoretical foundations of the subject.

Based on the foregoing, we will try, through this research, to review important theoretical propositions, including the role of education in building human capital as the cornerstone of human development. Human development, human development and information, and the role of education in building a society of information and digital knowledge On the other hand, the second topic dealt with the educational system, its elements, characteristics, and curricula, not to mention the tasks of the education staff, the characteristics of the student, the characteristics of the educational system, and the role of technology in developing education in the age of digital knowledge.

I. Principles and foundations of digital education

A. Learning economy

In light of the digital economy, physical capital and natural resources no longer represent the main source of the economy, as raw materials do not constitute an important factor in the productive process, but the use of ideas and knowledge can become the cornerstone of the digital economy. When we buy a product, we do not

actually pay the real price of the materials that make up this product and its production costs, but rather the cost of the knowledge that brought the product to what it is. Therefore, education received the attention of various developed and developing countries alike after they realized that education was the starting point for their development.

Adam Smith (A. Smith) stressed the importance of education in the acquisition of useful capabilities and skills by members of society through their training and educational programs and that the capital spent in developing their talents is part of societal wealth. Investing in human development is the best type of capital, and education itself is an investment process at the national level. Likewise, most countries in the world have realized that there is no alternative way to prosper, which makes education and the knowledge industry of fundamental importance in an economy whose products, ideas, work environments, resources, and the human mind are its basic tools[1].

B. Learning Curve Analysis

This analysis links learning, the increase in the level of work skills, the improvement in productive art and expertise, and the total number of products that are produced of a certain type during a certain period of time. With regard to the ability of workers to learn, it was observed that the number of hours spent by the worker in the manufacture of a particular product tends to decrease at a regular rate as production doubles, and by expanding the application of that analysis, it can be said that production expenses decrease with learning and the accumulation of production experiences and expertise.

When applying the previous analysis to the international economy, it gives important results. For example, in the case of two countries, one of which is a pioneer in the manufacture of a labor-intensive product and the other entered the field of the same industry at a later stage, although the second country enjoys a comparative advantage in that industry, it has little expertise and experience in it. Therefore, at the beginning, this country cannot compete with the first leading country in industry, and the gap remains between the leading country and the subsequent country if the leading country is able to double production at the same speed as the subsequent country. The subsequent country, as long as the burden of technological superiority is eliminated and therefore the optimal ratios of production factors and comparative advantages appear, and if we take into account the obsolescence of high-cost capital equipment, faces

difficulties and problems later than the leading country. An example of this is the newly industrialized countries (the countries of the Asian tigers), led by South Korea at the present time, which has given its exports an international competitive advantage that outperforms many industrialized countries in Europe[2].

C. The role of education in human development

The new curricula in education, which is one of the first concerns of educational institutions, seeks to be an integral part of the development process so that the topics presented contain modern material familiar with all technological developments and modern life and enable people to deal constructively with the requirements of the times. It is assumed that the new curricula will depend on digital education, which is on its way to light and expansion and which includes a message that revives and enhances the spirit of creation and creativity among learners and addresses contemporary issues, especially interest in knowledge, people, and the environment. Since education has a fundamental role in the process of human development, every person must be given the opportunity to develop his teaching and educational abilities, among the most important conditions necessary for the realization of the human right to culture and education are the following[3]:

1. The right to education for all, because it is one of the basic human rights in life, and to provide the opportunity for every individual to develop his energies through the institutions of culture and education.
2. Spreading freedom in cultural and educational institutions and consolidating the foundations of democratic dialogue in order to guarantee the raising, renewal, and development of work efficiency.
3. Eliminating illiteracy is important because illiteracy is one of the obstacles to development.
4. Emphasizing the years of basic education for all and expanding and diversifying secondary, university, and higher education institutions to meet the demands of the labor market.
5. Focusing on the principle of lifelong continuous education and preparation for self-learning, which helps a person adapt to his reality as he becomes an actor, not just a follower or a receiver only.
6. Establishing equality and appreciation for all branches of human knowledge and experiences, whether mental, practical, organizational, artistic, productive, educational, or aesthetic.

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7. Equal appreciation of the various societal activities and their integration because man is a composite being of different energies: physical, mental, social, spiritual, and sentimental. The development of these energies requires fulfilling their biological, physical, and moral needs. The reality of our education focuses on the partial human being through indoctrination and filling the minds with information.
8. Adopting digital education as a feature of the era of the scientific and technological revolution is a sure thing, as it prepares the appropriate ground for teaching and learning at the lowest time and at the lowest cost, thus raising the efficiency and quality of the educational process.

D. Human development and information

Information technology has brought about radical transformations in the world of business and has changed the direction of many concepts, methods, and ways in which economic tasks are performed. Therefore, the human skills necessary to perform these tasks will change in response to this transformation in means and capabilities. It needs a new workforce that differs greatly from the previous one. Therefore, taking care of human resources requires strengthening and developing their skills in light of the requirements of modern technology. Human skills are not fixed but rather changeable according to work needs. The integration of technology with human resource management works to increase employee interaction and communication processes between them, in addition to changing the work procedures and skills required by all members of the organization. Accordingly, the characteristics that must be available in human resources in the age of digital knowledge are[4]:

1. Human resources with high skills and capabilities should be available to business organizations that competitors cannot obtain.

2. Human resources must be capable of unprecedented organization, homogeneity, and integration of skills and expertise.

3. The inability of competitors to imitate distinguished human resources, whether through training or qualification, so that human resources are the source of competitiveness that cannot be imitated. Perhaps what is mentioned about human resources in Japan is a type of resource that is difficult to imitate. In this direction, the

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American Labor Administration has embarked on a study that allowed it to renew the basic skills that the working individual should have in order to succeed in the era of digital knowledge and information, which are:

-Critical and effective thinking (for workers): It requires working individuals to be able to identify problems and use available tools in research, analysis, investigation, development of applied solutions, evaluation of results, and development of solutions with continuous changes in an easy way, in addition to understanding the knowledge content of the field in which the study takes place.

- Creativity and Innovation: New skills should help to reach new solutions to old problems, produce new products, and create new ways of communication and ideas.

-Cooperation: Working in a team spirit is the only way to solve complex problems, and teamwork skills have become the main factor for work in the era of the digital knowledge economy. The model adopted today in manpower management is the formation of an integrated work team in which each individual, at any stage, can express his observations and suggestions to solve any problems he faces.

- Understanding the cultural overlaps: Today, management has become used to operating in a world that transcends temporal and spatial boundaries. Human cultural and social diversity has become one of the most important characteristics of business organizations today. Therefore, working individuals will need to cross the barrier of cultural and cognitive differences.

-Communication: Workers in the digital economy need to master effective means of communication in many fields, in addition to determining the appropriate method of communication to deliver the message as effectively and efficiently as possible, as they will have to choose between reports of books, the internet, regular mail, e-mail, etc.

-Using computers: Every individual in the age of knowledge and information needs not only to overcome computer ignorance but also to start and learn about the high levels of dealing in the electronic or digital field, with the possibility of using computer-based tools to accomplish business and tasks and achieve success.

-Self-reliance is the basis of the future career: workers must rely on themselves to acquire the knowledge and skills required to succeed in scientific life, and this is a natural result of the facilities made available by information technology in this field. There are huge opportunities on the information network to develop

competencies through programs designed as needed, modern technology has allowed for lifelong learning and development.

Table 1: The basic skills of the information age and digital knowledge

	The seven skills	The components
1.	Critical thinking and actions (work)	Problem Solving, Research Analysis, Project Management
2.	creativity and innovation	Creating new knowledge, design, solutions
3.	Cooperation	Efficient work team
4.	Understanding cultural overlaps	Knowledge and organizational cultures overlap between genders Different
5.	Connection	Industry mastery and effective use of the media
6.	Use of computers	Effective use of electronic tools of knowledge and information
7.	Self-reliance in the future career	Controlling change and redefining careers and lifelong education

Source: prepared by the researcher.

E. Learning principles in the age of digital knowledge

The principles of learning in light of digital knowledge can be identified as follows:

1. Knowing how to learn, and here teaching students what is meta-knowledge, i.e., creating their ability to self-reflect and develop skills.

2. Computing technology and communication levels appropriate to the level of each student to activate creativity, research, and studies in addition to new skills.
3. Lifelong education (education that is not linked to a specific age level).
4. Supporting courses and curricula with a wide range of software, personal computers, CDs, and educational TV.
5. Adoption of interactive multimedia prepared by specialized international scholars.

6. Establishing a general culture for everyone by not focusing on one specialization, as Jerome Bruner indicated that knowledge means interpreting things, and interpretation is done through the culture itself.
7. The knowledge and sciences that the student or learner receives must be linked to the reality of his practical life.
8. Paying attention to early education.
9. Courses should be prepared in a way that develops students' sense of responsibility, accountability, ability to make decisions, and thinking of all kinds.
10. Adopting horizontal and vertical integration and the integration of the courses that the student learns and not fragmenting them.
11: Promoting spiritual values to contribute positively to moral and ethical development, as education must make an important contribution to the development of medical habits related to health, nutrition, and exercise, including the promotion of sports and recreational interests among young people.

F. The role of education in building the information and digital knowledge society

Peter Drucker emphasized in his topic on the importance of education in the information and knowledge society that enrollment in school, or what is called schooling, is the main process in the educational process. Any educational system, since the school forms the basis for building the minds of the learners and directing their interests.

The indicator of improving and developing education is based on the school as being the first product of knowledge societies, and accordingly, our schools and universities are the ones that will determine the future, so we do not exaggerate when we say that building a digital knowledge society must stem from reforming the educational system in general and the school in particular [6].

The provision of institutional frameworks for building the information and digital knowledge society includes several aspects, including institutions for knowledge production and dissemination among all, such as schools, colleges, and universities, as well as distribution and publishing centers and public libraries.

In order for educational institutions to play their role in building a digital knowledge society, they must carry out their tasks in accordance with the requirements and standards of the times, which should be compatible with the characteristics of the digital knowledge society.

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In this context, Drucker refers to a number of characteristics that characterize educational institutions in the digital knowledge society:

1- Providing a high level of general culture.

2- Qualifying learners for self-learning through research and a survey.

3- Enhancing the principle of motivation and discipline for continuous learning in the minds of learners at all levels and ages.

4- Establishing the principle of education for all and for all levels and groups.

5- Not monopolizing education, as education in the knowledge society is supposed to be general for all members of society.

In this regard, the Arab Human Development Report 2002 mentioned that Arab countries have become isolated from global knowledge, information, and technology, and if the status quo is allowed to continue, it can only get worse, according to the United Nations Development Program.

In order to address this issue, the Arab Human Development Report 2003 made clear in Chapter Nine (Strategic Vision) the following recommendations related to the role of education in building a knowledge society[7]:

1- Giving priority to early childhood education.

2- Spreading the principle of basic education for all.

3- Building institutions for lifelong adult education.

4- Ensure the quality of education at all levels.

5- Paying attention to the advancement of higher education.

II. Characteristics and features of the digital educational system

A. Characteristics of the digital teaching and learning process

There are a set of characteristics of the digital teaching and learning process, including the following:

1- (Margaret Riel) indicated that technology cannot replace the teacher, and indicated that the importance of the teacher is gradually increasing in the age of digital knowledge, as technology is used to establish the learning process of students and not to facilitate it, and for this reason she gave the teacher special attention in terms of training, qualification, and acquisition of skills [(8)].

2- Attention to the first years of education (from the first year to 8 years) is a distinct interest and priority. According to Paul Romer, the first years of learning give the individual the basic skills associated with himself, and William Baker

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emphasized that the greatest private social gains from education are achieved. in primary levels of education. [9].

3- Promoting early developmental programs requires the involvement of parents so that they are an important part of them.
4- Teaching adults and children alike solid academic skills and knowledge related to work.
5- Hashimoto emphasized the role played by schools in preparing students to work in cooperative groups (cooperative learning), which is one of the best learning methods for all learners.
6- Providing knowledge from multiple approaches that suit all types of intelligence.
7- In order to focus on the educational method, the learner must be actively involved in what he learns.
8- Getting rid of the method of receiving only by teaching the learners not to accept events as they are, but to develop critical thinking in them.
9- The development of motivation among recipients of lifelong learning requires the employment of modern technologies in educational institutions, as they provide educational institutions with great opportunities to improve the educational process, whether through designing interactive software that makes the learner engage in what he learns, or by providing opportunities for discussions and dialogues that take place between parties in the educational process.

B. A method under digital education

A method was defined by Ralph (Tyler) and Hilda (Tapa) as "a plan of action or a written document that includes strategies to achieve the desired educational goals and objectives." As for Gallen Saylor, it was defined as "a plan that provides a set of learning opportunities for educated persons." John Dewey, Caswell, and Campbell defined the method as "all the experiences that the child goes through under the supervision and direction of the school," while Hass provided a broader definition of the method in that it is "all the experiences acquired by individuals in an educational program that is planned in terms of theoretical research and present and past professional policy." It is the nature of curricula, teaching methods, and traditional assessment methods currently used with learners that explain the failure of most learners to identify problems and find solutions to them. They learn, as it does not provide education that helps develop higher-order thinking skills and does not rely on inquiry and reflection during the

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education process. In short, they are curricula that revolve around content rather than around the learner, and this contradicts what graduates will face in the knowledge society in terms of competition that they do not have the knowledge stock and perhaps the skill to deal with. There are some advantages to curricula based on digital education, which we can summarize as follows:

1. The educational method should include, in its preparation, studies on educational psychology and brain research, which in their entirety emphasize the active participation of the learner in what he learns because of this impact on his preparation to help him in self-learning. Michael Fullan indicated that he has the best ideas about education. This includes the best of brain research and cognitive psychology, and this is the focus of education [(11)].
2. Focusing on the approach of considering the student as the focus of the educational process, as this approach determines what the student should know in general and what he should be able to do in particular, as well as leaving the teacher with wide areas to use many effective methods and provide additional topics and means that go beyond books and are able to meet the interests of students.
3. Developing and developing the students' skills, attitudes, and tendencies through the curriculum feature.
4. Adapting the method to the technical and informational developments witnessed by digital education so that students are able to deal with these developments and coexist with them.
5. The method must take into account the differences in the levels of intelligence that are generally possessed by the individual to this extent or that according to the genes that he carries from birth and develops through education.
6. The method deals with all the experiences of the learner inside and outside the school, with attention to the applied side.

C. Teacher tasks in the age of digital education

The rapid technical and informational development that the world is witnessing imposes pressures on the educational system to become a wide-ranging system of general scientific knowledge, and this is not considered sufficient to eradicate illiteracy, as declared by UNESCO, the United Nations Development Program, and the World Bank at the Jomtien Conference in 1990. Therefore, it has become necessary to advance scientific and technical knowledge so that the general community becomes scientifically

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knowledgeable and able to adapt to the new knowledge-based world. Of the need for qualified teachers and advanced training methods, and adds that we need to increase investment in human resources and in the professional development of educators and teachers [12].

(Henshi) indicates that there is a need for a new type of teacher who is a model of skillful skill and a good means of communication in the era of digital education and whose educational skills are reflected on the learners, and it is necessary for the teacher to have the following in the age of digital education [11].

1. Scientific specialization.
2. Training and scientific qualification.

Among the tasks assigned to the teacher in the era of digital education are the following:

1- The teacher directs his students in the shortest and most successful ways for the purpose of developing their skills and cognitive abilities.
2- He has the ability to listen and understand the circumstances of the students and to establish good relations with them inside and outside the educational institution, which enables him to play the role of a guide.
3- The teacher is responsible for transmitting the culture and history of previous generations to the learners.
4- The teacher should diagnose problems, make decisions, and treat them. 5- The need for the teacher to have the ability to diagnose the talents and tendencies of students, help them develop them, and direct them in the right scientific direction.

D. Characteristics of the student in the era of digital education

There are a set of characteristics that distinguish the student in the era of digital education, including [14]:

1- Follow the one-team approach in solving problems, planning, and participating in decision-making.
2- Time management planning.
3- Continuing education and adapting to the requirements of the times.
4- Critical thinking and the ability to make decisions.
5- Benefiting from information technology and employing it in a large way in learning.

6- Students determine their future goals in a realistic manner, based on their intellectual abilities and level of creativity.
7- Developing self-reflection and skills through research and cognitive surveys.
8- Establishing links between what students learn and the environment, and informing them of the reality of applying knowledge in their practical lives.
9- The need for modernization, renewal, and development in their lives on the personal and societal levels, while at the same time preserving heritage and originality.
10- Learn and be fluent in at least one foreign language.

E. Features of the educational system in the era of digital education

The feature of this era is the survival of the smartest and fastest in the use of knowledge and expanding the scope of its applications in various affairs of life, and since the educational system is the source of knowledge, the transfer of society to the knowledge economy is essentially an educational transfer event. When this educational system is established in the context of the knowledge system, from obtaining information and knowledge and its dissemination, to the production of knowledge and its functions, to the transfer of knowledge and its market through networks, digital education is effective in development processes [(15)].

The more the educational system is developed in form and content with the availability of material and human support, its role will be effective in preparing and qualifying the community and enabling the development of their knowledge, skills, creativity, and innovations. Thus, it helps in the production of knowledge and expands the scope of its employment in society. Then the structures of the knowledge economy took root, and here we mention some of the features of the system. Education in the light of digital education:

1- Providing educational institutions with modern scientific curricula, concepts, and methods, which leads to the emergence of many scientific branches on the one hand, and the emergence of a kind of integration between the various sciences and the multiplicity of their applications in various aspects of life on the other hand, which contributes to the generation of knowledge and modern technology.

2- Transforming educational institutions, especially universities, into incubators for small and medium knowledge industries projects, especially software industry projects and information technology services.

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3- The educational systems in light of digital education are characterized by their interest in education from childhood to an advanced age, as lifelong education is the distinguishing feature of the digital knowledge society.
4- Educational systems are characterized by the introduction of contemporary innovations and developments in light of digital education in response to the knowledge economy as a renewable economy.
5- The development of formal and informal education, school and non-school, to provide education for all according to their different needs.
6- Building and forming knowledge capital through educational systems for digital education. The knowledge economy is an economy of abundance, thanks to the transformation of knowledge into a renewable resource and the main factor of production, so that the variation in the productivity or development of any country does not depend on the lack or absence of natural resources, but on the ability of the country to form knowledge capital and develop it constantly, which requires educational systems to speed up the steps to form knowledge capital in order to provide the assets of the productive process.

F. The role of technology in the development of digital education

Digital education is characterized in light of the knowledge economy as a more vital commodity, a precursor to success, and a driving force for change. Such as the current stage, where the success and survival of countries are linked to their ability to learn, and there is no room in society today for the unskilled who cannot use the sources of knowledge, identify problems and solve them, and learn modern technology.

There is no doubt that information technology represented in the computer and the Internet and its related multimedia has helped solve many problems facing human societies and the completion of many tasks that would not have been accomplished without its existence and use, and thus this technology has become a part of the culture of society. Invading the educational system, it has become an essential part of it [(16)].

In the study of Wheeler, Waite, and Bromfield in 2002, which aimed to identify the possibility of developing creative thinking through information and communication technology for students of basic studies in the southwest of the United Kingdom, its results indicated that computers made it possible for students to perform tasks. It has open ends and has contributed to the development of students' creative thinking skills. It also provided an opportunity for the proliferation of learning patterns and to achieve

better levels of achievement through the student's choice of tasks that he wanted to pursue, which enhanced their creativity.

As for Norman Henchey , he explained that information and communication technologies together represent an important element in education, as they constitute the subject of learning, while Margaret Reel puts forward a vision of the ways in which the forms of technology and their uses can be used in the development of education, explaining that traditional educational practices did not It is sufficient to meet the needs of a society rich in information, and it is no longer sufficient to meet the needs of citizens who know how to use different resources and capabilities in a consistent way to solve existing problems, as real evidence indicates that Internet technology has provided a rich structure for the general community to participate in the education of the next generation and has enabled technologies (printing, photography, films, computers).

Many of us share ideas with students without actually attending school, but this was done through a one-way communication method, while online communication enabled students to interact with many other people, transforming The classroom becomes a learning community that makes it possible for many people to be part of the educational process. The reflection of modern technology in the educational process requires taking into account some requirements, including:

1- Training and retraining teachers to use technology effectively.
2- The necessity of preserving the traditionally important human relations in education in order to face the possible dehumanizing effects of some types of technology used.
3- Paying attention to and taking care of the widening gap between rich and poor countries, and rich and poor regions in one country.

Conclusion

The importance of information technology in the field of digital education may appear in a set of points, some of which we will discuss as follows :

- The rapid development of communication and information technology helped facilitate instantaneous communication and interaction between people, which brought the distances between parts of the world closer together, which used to constitute an obstacle and prevent communication and interaction.

- Technological progress has enabled some educational institutions to provide better and faster educational services, as modern technology helps to make learning experiences that are based on active learning, such as self-learning, problem-solving, and cooperative learning, more active and interactive.
- The possibility of modern technology replacing traditional teaching and shortening distances by teaching via the Internet, whether at predetermined times or at times that suit the learner (virtual university).
- Communication technology is an effective means of linking the parties to learning societies with each other, facilitating their communication, and obtaining information at an appropriate speed, as it brings the distances between them closer and helps them exchange opinions and experiences.
- Regarding the management of educational institutions, by using communication technology, which increases its effectiveness in organizing and facilitating the management of education, it is possible to raise the level of effectiveness of performance and provide high-quality services embodied in the field of libraries, where it is possible to obtain periodicals, books, and magazines in a faster time and at a lower cost, as well as with regard to guidance, registration, exam management, and communication between the center and educational institutions.

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