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Developing Digital Citizenship As An Entry Point To Bring About Digital Transformation: Towards A New Approach To Reduce The Digital Gap In Algeria

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Abstract:
The development of digital citizenship constitutes an important entry point to bring about digital transformation in Algeria, as spreading the culture of digital citizenship in its various aspects (digital access, digital commerce, digital communications, digital literacy, digital fitness, digital rights and responsibilities, digital laws, digital security) is an urgent necessity. It is a vital requirement and a global interface that imposes itself on education systems and the requirements of life. Rather, it must be transformed into programs and projects in our schools and universities in parallel with civil society initiatives and media institutions, so that we can actually enhance the optimal use of technology to contribute to reducing the digital gap, building a knowledge society, and keeping pace with the development of society Digital.

Keywords: Digital citizenship, digital divide, digital transformation, information and communication technology, knowledge society.

1-Introduction:

French journalist David Colombled says in his book The Digital Citizen: “The world is currently experiencing an important, decisive and rapid turning point in its entire history. It is moving towards a new civilizational pattern, by adopting the culture of the Internet, the “digital empire”.

Since the beginning of the twenty-first century, human societies have been going through leaps of economic, social and cultural development, represented by the massive spread of information and communications technology. It is noted that there is a large disparity in the levels of development between individuals, groups and countries, and between developed countries and developing countries in the development of information and communications technology and the shift towards an information and knowledge society. This is known as the “digital divide”. However, in order to successfully achieve digital transformation at the level of any country, the digital gap must be bridged, which represents one of the basic challenges for any country’s digital transformation initiative, especially with the continuous increase of Internet users globally.

Thus, digital citizenship, with its various aspects (digital access, digital commerce, digital communications, digital literacy, digital fitness, digital rights and responsibilities, digital laws, digital security), has become a vital requirement and a global interface that imposes itself on education systems and the requirements of life. Rather, it has topped the educational objectives, and topped the throne of global and international curricula, in a number of developed countries such as Britain, America, Canada, and Australia, so that it has become necessary to include digital citizenship curricula within the plans and strategies for the localization of information and communication technology in any country, as it is the ideal means of preparing individuals to fully engage in The knowledge society, through the optimal use of modern technology data, by creating a culture that helps technology users deal with it in an appropriate manner, in preparation for preparing citizens to integrate into the digital society and participate positively in it.

Spreading the culture of digital citizenship at home among family members, and at school between teachers and students, and their scientific and moral formation, has become an urgent necessity and a necessary requirement in the context of current scientific developments and their challenges, in order to achieve integration and bridge the gap between them, and at the level of Algeria, education is still at a disadvantage Digital citizenship It is one of the topics that did not receive attention, while several Arab-dominated countries (Egypt, Jordan, and the Arab Gulf countries), not to mention developed countries such as Britain, Australia, and the United States of America, were keen to prepare digital citizens by launching initiatives and including digital citizenship in their curricula. Educational. Digital literacy requires a very specific set of knowledge and teaching skills compared to other goals currently under the umbrella of digital citizenship.

From this standpoint, this research attempts to shed light on the importance of developing digital citizenship in achieving digital transformation in Algeria by emphasizing the importance of generalizing the teaching of digital citizenship to students while training parents and teachers on it according to an integrated national plan, based on integrating topics related to digital citizenship into curricula and academic curricula. At various educational levels, this makes the issue of digital citizenship a major national issue, aiming to reduce the digital gap and elevate Algerian society to the ranks of knowledge societies.

2 Digital Citizenship in the Digital Age:

Digital citizenship is one of the concepts that students must be taught and trained about. It is described as one of the important educational skills in the current era, and accordingly, a number of countries, including Finland, Belgium, and Korea, have focused on digital citizenship as an important skill that must be taught and trained for students and included in the school curricula, in light of the need to develop the old concept of citizenship in accordance with For rapid technological developments, which can be achieved by combining the elements of citizenship and the use of technology, or in other words, the proper use of technological means.

2-1-The concept of digital citizenship:

When defining citizenship, it is necessary to refer to relationships at three levels of this definition: “the citizen and the state, the citizen and the citizen, and the citizen and the space in which he

lives.” If effective citizenship is, in essence, a set of rights for the citizen in exchange for a set of duties on the state, and if Citizenship takes many forms in accordance with the nature and variables of each era, and in light of the nature and variables of the digital age and the emergence and spread of information and communications technology, citizenship has taken a new form and other forms, and its rights and duties have taken forms in accordance with the nature of life and the demands of the citizen in the digital age, as Jason B. Ohler explains in His book, Digital Community, Digital Citizen, published in 2011, stated that citizenship includes three connotations: that citizenship occurs within a specific society, and the members of this society have certain rights, such as the right to freedom of expression. The third sign is that with these rights come responsibilities, which are the limits within which members of society must live, and since societies consist of individuals who must teach to make society effective, so the bodies that make up society must be principled members to create an effective society. Digital citizenship similarly requires ethical principles to operate effectively within online, time-separated, geographically independent, multicultural, and global communities. According to Ohler, the digital citizen is an individual with morals who reflects on his actions and their consequences, and realizes both the risks and benefits inherent in easy access to information that has never been seen before in history (Al-Qahtani, 2018, p. 60). The digital citizen should be able to possess a set of skills, including: (Al-Qahtani, 2018, p. 62)

-Confident and proficient user of information and communications technology.

-Uses technologies to participate in educational, cultural and economic activities.

-Uses and develops critical thinking skills in cyberspace.

-He is familiar with reading, writing, the language of symbols, texts, and digital technologies, and uses them efficiently in cyberspace.

-Aware of the challenges in ICT environments, and able to manage them effectively.

-Uses information and communications technology to communicate with others in positive, meaningful ways.

-Demonstrates honesty, integrity, and moral highness in the use of information and communications technology.

-Respects the concepts of privacy and freedom of expression in the digital world.

-Actively contributes and promotes digital citizenship.

The characteristics of a digital citizen are to understand human, cultural, and social issues related to technology, practice legal and ethical behavior, use the safe, legal, and responsible use of information and technology, demonstrate positive attitudes toward the use of technology that supports cooperation, learning, and production, demonstrate personal responsibility for lifelong learning, and provide leadership initiatives for digital citizenship. (Aytekin, 2014, p. 73)

For her part, Hala Al-Jazzar defined the specifications of the digital citizen in the following elements:

-Commitment to intellectual honesty.

-Maintains personal information.

-Manages time spent using digital media.

-Respects cultures and communities in the digital environment

-Stands against bullying on the Internet.

- Protects himself from the corrupt beliefs that spread in digital media (Al-Jazzar, 2014, p. 402)

Accordingly, digital citizenship is considered an inevitable necessity in light of the digital revolution, as it establishes a set of principles, foundations and controls to guide citizens towards the safe use of digital technology. Digital citizenship is defined as: "the responsible, ethical and safe use by individuals of information and communications technology." (Literacy, 2009)

Ribble also defined it as "a method that can be employed to help learners understand the issues that must be known in order to use technology optimally. Instead of focusing on the process of digital communication with information, attention is paid to the ethics and responsibilities associated with the digital use of information (Mike, 2019)

Digital citizenship involves preparing individuals for a society full of technology by giving them various technological skills, and training them to adhere to standards of acceptable behavior when using technology, meaning preparing individuals with strong, penetrating minds that analyze ideas to distinguish the original from the intrusive, which contributes to preserving national identity and strengthening. The bonds of interdependence between the members of one society, so that it becomes a strong and established entity that no one can destroy. (Al-Muslimani, 2014, p. 36)

Digital citizenship thus means preparing young people and teaching them how to use technological means in sound, appropriate and safe ways that bring them benefit, by training students to adhere to standards of positive behavior when using these means for social communication purposes or the like, whether at home or in an educational and pedagogical institution. In this context, the concept of digital citizenship takes on an educational character by providing students with skills in using technological means, critical thinking skills for digital content, as well as social skills. (Al-Sulaihat et al., 2018, p. 19)

Since citizenship is one of the goals of the educational process that essentially prepares active members of society, digital citizenship constitutes a form of active participation in society using technological methods. The matter does not stop at merely preparing students to use technology, but rather extends to a comprehensive view of the use of technology that includes security. The individual, his safety, and the legal and ethical behaviors that the individual must practice as an active, responsible citizen in society (Wang, 2018, p. 186). Digital citizenship can be measured in social terms, as this concept involves the use of social media, in addition to focusing on The ethical aspect that relates to the possibility of participants in digital social media being exposed to some risks as a result of misuse of the media by some participants. Since digital citizenship is a technological issue in one of its aspects, the technological dimension must be included in measuring this concept. From this standpoint, three dimensions can be identified to measure digital citizenship: the social, the ethical, and the technological. (Al-Sulaihat et al., 2018, p. 22)

Hence, digital citizenship can be defined as a set of controls and standards adopted in the uses of multiple digital technologies, which are represented in a set of rights that young and old citizens should enjoy while using its technologies, and the duties or obligations that they should perform and adhere to during that, such as using them for Electronic exchange of information, full electronic participation in society, buying and selling goods via the Internet and other digital activities and events, enabling people to use the technologies associated with it regularly, effectively, and even in a safe manner, and through fair availability processes, support for electronic access, and guidance

towards benefiting. Among the benefits of digital technologies and protection from their dangers. (Al-Dahshan, 2016, p. 79)

2-2-The concept of the information or digital gap: Digital Gap

The term digital divide appeared at a local level in the beginning. Its origins were in the United States in the year 1995 AD with the issuance of the famous State Department report entitled: "Falling through the Net," which drew attention to the great difference between segments of American society in using computers and the Internet, especially blacks and displaced people. It came from Asia, Mexico, and Latin America, but the concept quickly expanded beyond the local scope to spread its use globally. (Ali and Hegazy, 2005, p. 26)

The digital divide is defined as the distance between the state of widespread use of the Internet in developed countries, including changing patterns of interaction in the areas of trade, human relations, and labor relations, and the state of spread of the Internet in developing countries in general. The term digital divide is also used to indicate the gap. Which separates those who possess the knowledge and ability to use information technologies, computers, and the Internet from those who do not possess such knowledge or ability, because society has become divided in this way, in addition to its other traditional divisions on class, social, and economic grounds.

Thus, it expresses the difference between countries in access to and distribution of information, which is the information distance that separates developed societies from developing societies, that is, between the countries of the North and the countries of the South, as well as the degree of disparity in the level of progress - whether in use or production - in the field of communications and information technologies between them. One country and another, one bloc and another, or between regions of one country. It is measured by the degree of availability of knowledge bases about the components of the digital economy that is based on information and communications technology, the degree of connection to the global information network, the Internet, and the availability of information highways, mobile phones, and digital information exchange services. (Alawi, 2008, pp. 69-71)

Given that the digital divide has many facets, it is natural for this to have multiple political, economic, and social points of view: (Khawi and Amer, 2017)

From a political point of view: The digital divide is a problem that falls within the issues of political economy, and there is no solution to the digital divide in their view without the support of legislation and regulations in the form of a system imposed by politics in order to protect society from the chaos that could befall it due to informational variables.

From an economic point of view: The digital divide is the result of the inability to catch up with the knowledge economy and to exploit information resources to generate added value. There is no solution to bridging the digital divide except by liberating markets and dropping barriers to the flow of information, goods and services, and the movement of capital, all of which require rapid integration. In the global economy and protecting intellectual property with the aim of attracting foreign direct investments and stimulating local investments as it is a basic condition for narrowing the digital gap.

From the point of view of communications specialists: They believe that the digital divide is mainly due to the lack of availability of communications networks, the means of accessing them, and the lack of sufficient capacity to exchange different types of information messages to serve all purposes. The solution, in their opinion, is to provide cheap alternatives to establishing communications networks and disseminating them on a wider scale.

There are many reasons that led to the emergence of the digital divide. These reasons can be summarized in the following points:

-Technological reasons: the speed of technological development, ostentatious use of technology, weak investment in information technology.

-Economic and political reasons: high cost of localization of information technology, unequal distribution of infrastructure, bloc and monopoly, weak individual income.

-Social and cultural reasons: low level of education, digital illiteracy, language barriers.

3-Education on digital citizenship: themes and stages.

Digital citizenship is taught within the framework of the digital education and confident communication curriculum. These curricula include training parents and teachers on the principles of digital citizenship, creating an integrated educational vision, as the concept of digital citizenship has a strong relationship with education as a means of preparing the individual for full interaction in society and active participation in serving the interests of the nation. In general, in the field of technology and digital media in particular.

3-1-Digital Citizenship Axes and Teaching Methods:

Digital citizenship education includes planned guidance by teachers and learners in the actual use of digital resources and technologies with the aim of developing skills and behaviors that enable them to become digital citizens, interacting with others through direct contact in a way that is consistent with teaching. There are several methods for teaching and clarifying the axes of digital citizenship, and the concept of (Respect, Education, Protection)/ (REP-Respect, Educate and Protect) is one of these methods. This method divides the axes of digital citizenship into three categories, each category includes three axes. It must be taught to the user from his first stage of joining the digital community, according to what is shown in the following table:

Table No. (01) Categories of digital citizenship and the axes each category includes (Mike, 2019)

Categories of digital citizenship		
First: self-respect / respect for others	**Second:Self-education/communication with others**	**Third: Protecting oneself/protecting others**
*Dignity and digital behavior standards *Digital access	*Digital communications *Digital literacy *E-Commerce	*Digital rights and responsibilities.

*Digital laws		*Digital security (self-protection) *Digital health and safety.

Ribble emphasizes that an individual cannot become a responsible digital citizen except by learning the aspects of digital citizenship in schools, as the purpose of schools is not merely to teach reading, mathematics, and science, but rather to prepare students for the future. As a means of understanding digital citizenship and issues of technology use, the nine axes were included into three categories or requirements according to the goal of each axis. The nine axes form the basis on which the digital society is based in the appropriate use of technology. These elements help technology users understand the basics of their technical needs, and can be clarified. Below: (Ali and Al-Demirdash, 2014, pp. 131-133)

-**Digital Access:** It is defined as digital availability or digital access. Digital availability is equal opportunities for all individuals without exception with regard to accessing and using digital technologies so that these individuals become digital citizens. Therefore, it is necessary to search for alternative resources and opportunities to achieve this requirement. Availability to all.

-Digital Commerce: Technology users should be aware that the process of buying and selling goods and supplies has become widely and quickly carried out through various technical media in what is called electronic commerce. This requires awareness of the processes, the laws regulating them, and the ethics that govern the behavior of individuals while carrying out the process. With digital commerce operations, which ultimately makes them active users of modern digital commerce tools.

-**Digital Communication:** It means the electronic exchange of information, and the individual's ability to invest digital technologies in communicating and communicating with others, no matter how far away the places are and how different the times are, in order to achieve an appropriate goal through many media: e-mail, mobile phones, instant messaging... This requires educating and training individuals to know the appropriate options for communicating through these media.

- Digital Literacy: Technology has made its way into educational institutions, and has some of the main structures and requirements in some educational and training fields. With the belief in the importance of technology in the educational process, it has become necessary to be aware of its use and possess the necessary skills to benefit from and apply it, which is what It means the necessity of eradicating digital and technological literacy among many of its users.

-Digital Etiquette: It is called digital etiquette or digital behavior, and it means electronic standards for behavior or procedure, and that the individual represents self-responsibility in the digital world, so that he sets for himself specific standards for good digital behavior and values and principles of his own that he implements and follows while dealing with people. Digital technologies, i.e. a person with digital etiquette who acts with elegance and civility.

-Digital laws: The digital community has become acquainted with a set of laws that represent the ethics of this society, and abandoning them is tantamount to committing violations and crimes that expose individuals to falling under the penalty of the law, such as theft of intellectual property, and

this requires the digital citizen's awareness of these laws and ethics to protect them from these. Violations and crimes.

-**Digital Rights & Responsibility:** Related to the aforementioned digital laws are rights that must be preserved for every digital citizen, and corresponding duties to preserve this freedom and privacy. Digital citizenship enhances rights, such as: privacy and freedom of expression, and also helps in clarifying the responsibilities owed. The individual must adhere to these principles, such as: treating others with respect.

-Digital Safety: Technology users are exposed to some forms of physical, physical and psychological stress, and this requires educating and training the citizen on the optimal use of these technologies when dealing with them. This is why digital citizenship has demonstrated the science of ergonomics, which means the physical and psychological compatibility between digital devices and tools. And individuals who use it continuously.

-Digital Security: The technology user is exposed to some forms of theft and violations, and this requires preparing the citizen to be able to deal with such matters by relying on protection software and taking digital precautions to ensure safety, or the preventive measures that users of digital technologies follow to preserve their personal identity. And the security of their information, devices, and programs.

Based on the above, it is clear that digital citizenship can be linked to four overlapping and regular components, which are: (Rabhi, 2018, p. 14)

-Digital ethics, which refers to responsibility for behavior online.

-Digital culture that includes access to the Internet, technological skills, and psychological abilities to use the Internet to communicate effectively with others.

-Critical protection is where the most important and subtle engagement in challenging the status quo and promoting social justice online.

-Actual online participation in the sense of political, cultural, economic and social participation in existing electronic social structures.

It is clear that all nine axes of digital citizenship agreed upon by researchers and specialists - except for the first element - relate to the necessity of teaching the individual what he must do to deal with the digital world. The first axis relates to the state's commitment to providing access to the information society, and the role of educational institutions in promoting the concepts of And the skills of the elements of digital citizenship, and empowering specialists and learners with the mechanisms of forming the digital citizen in society, by including them in educational programs and activities from the early stages, as they are the cognitive vessel from which the student receives science and knowledge.

3-2- Stages of digital citizenship development:

In order to provide the student with the necessary indicators of digital citizenship concepts to develop them among students; This requires the student to go through the stages of developing digital citizenship, which are represented by the following stages: (Hashish, 2018, pp. 419-421)

- Awareness stage: Awareness means that students are engaged in becoming technologically literate. At this stage, education becomes broader than simply giving basic information and

knowledge about the hardware and software components, and focusing on presenting examples of bad and inappropriate use of those hardware components. Software, but students need to learn what is appropriate and what is not appropriate when using these modern digital technologies. There are a number of questions used to indicate awareness, which are:

-Do you have a good understanding of how modern digital technologies work, their uses, and their impact on you and others?

-Are you aware of the problems and issues related to the possibility of using modern technologies?

-Are you aware of using modern digital technologies in a way that is acceptable to your teachers, parents and friends?

-Guided practice stage: Learners must be able to use technology in an environment that encourages risk-taking and discovery at advanced stages. Without guided practice, they may not realize this appropriate method. It is possible to use the following questions to help learners. In thinking about how they use technology:

When you use technology, do you realize when inappropriate things happen? Why and why not?

-Do you appreciate the acceptability of your work on modern digital technologies? Why this ? why not?

-Do you distinguish between acceptable and unacceptable uses of different types of modern digital technologies? Why this ? why not?

-What do you need to do to become aware of your practices of modern digital technologies?

-**The modeling and demonstration stage:** This means presenting a clear model of the appropriate use of technology in the classroom. For example, if you, as a teacher, carry your mobile phone while you are in the classroom, then you should turn it off or make it silent while you are in the classroom. In addition, you can guide parents by providing a list of the most important directions about the questions that may arise in their minds regarding appropriate dealings with their children during the various uses of modern digital technologies and working to discuss them with them. Adults need to be good models of digital citizenship, so that they can Children imitate and follow these models.

-Feedback and behavior analysis stage: The classroom should be a place where learners can discuss their uses of modern digital technologies to see how they can use them in an appropriate way, and this is done by providing learners with constructive critical training to distinguish between The ways and means by which these modern digital technologies should be used in the classroom as well as outside it.

4-An introduction to establishing the rules of digital citizenship in Algeria:

The technological revolution has led to fundamental transformations in the concepts of work of contemporary organizations and governments through the emergence of advanced mechanisms and methods for work and management, including e-administration, e-commerce and e-government. As a result of the widespread digital and electronic use, thinking about the necessity of developing digital citizenship and employing it within the framework of the educational environment has become one of the most important approaches to reducing The digital divide and ensuring Algeria's

access to the information society, given the lack of the content of current education curricula in the content of the values of digital citizenship.

4-1-The reality of the digital society in Algeria (knowledge society):

There is no doubt that the process of transition to a digital society is considered a fundamental issue for development, economic and social progress, and catching up with advanced Western societies that have adopted the mechanisms of the knowledge society and the knowledge economy, and despite everything that the World Bank says in the World Development Report 1998/1999 about knowledge and development, which is supposed to Narrowing the digital and knowledge gap between different countries on the one hand, and between different segments and groups within one country on the other hand, is a major goal facing societies aspiring to integrate into the knowledge society. Filling this gap or digital gap is an essential step on the path to development, and it also constitutes an important factor. Also in pushing society to continue growth and progress, and therefore ignoring its mechanisms is tantamount to an invitation to poverty and backwardness, flying outside the flock, and falling out of history. (Al-Zayat, 2001, p. 58)

Considering the reality of the knowledge society in Algeria, referring to the Arab Human Development Report 2003 - Towards establishing a knowledge society - clearly shows that Arab countries, including Algeria, lag far behind the emerging countries in the Third World, not to mention those that are leaders in producing knowledge and possessing the necessary components. The knowledge society, whether it is the possession of technology, high-quality human capital, or the quantity of knowledge production, as Algeria was ranked 83rd globally after Morocco and Tunisia, settling among the cognitively stagnant countries.

However, the Arab Knowledge Report 2009 showed some progress in aspects of the knowledge society, but it also highlighted many of the gaps and shortcomings that Algeria suffers from at several levels, especially information and communications technologies, as Algeria ranked 99th globally out of 135 countries, with a rate of 3.2%. And ranked 91st globally with regard to innovation systems with a rate of 3.5%, and ranked 94th globally with regard to education and human resources with a rate of 3.7%, and ranked 96th globally with regard to the knowledge economy with a rate of 3.3%... (Arab Knowledge Report, 2009, pp. 233-280) These are dangerous numbers that must be dealt with seriously and firmly if we want to establish a knowledge society and destroy the digital divide.

Despite the progress of the years, and the continued efforts to revive the knowledge society in Algeria, the results were disappointing and Algeria did not achieve any significant progress, but remained stagnant. Algeria came after both Tunisia and Morocco in the first edition of the Knowledge Index, which was published on Wednesday, December 9. 2015 in partnership with the United Nations Development Program (UNDP) and the Mohammed bin Rashid Al Maktoum Foundation. The index is based on two pillars through which the level of knowledge is measured in each country in the region, and it is related to work and entrepreneurship. These two standards are divided into six sub-indices that are taken into account. They are: pre-university education, vocational and technical education, higher education, information and communications technology, economics, research, development and innovation. Where did Algeria obtain a knowledge rate

ranging from 22.17% to 56.04% compared to Morocco, which obtained a knowledge rate ranging from 39.02% to 63.69%, and came behind Tunisia, which obtained the highest rate in the Maghreb, ranging between 44.7% and 68.7%. (www. .djazairess.com)

The annual Information Society Measurement Report issued by the International Telecommunication Union in November 2017 also ranked Algeria 102nd globally and third in Africa. On the other hand, Algeria ranked last in the Maghreb and 96th globally out of 131 countries, ahead of Syria and Yemen, which are Under the burden of war in terms of their access to knowledge, according to the Global Knowledge Index for the year 2017 prepared by the Mohammed bin Rashid Al Maktoum Knowledge Foundation in partnership with the United Nations Development Programme. The Global Knowledge Index for 2017 is based on seven criteria, including: basic education, technical education and vocational training, higher education, information and communication technologies, research and development, innovation, and an appropriate general environment. (www.djazairess.com). This result is considered the best for Algeria since the adoption of this classification in 2017 by the Mohammed bin Rashid Al Maktoum Knowledge Foundation and the United Nations Development Programme, as it witnessed a decline in the classification by eight places in the following year to rank 104 out of 134. country, and its knowledge index declined to 39%, while the global average was estimated at 48% during the year 2018. As for the year 2019, Algeria maintained its rank of 104 globally out of 136 countries, while its knowledge rate declined to 37%, and the global average was determined This year, it was 46.5%. As for the 2020 classification, it placed Algeria in 103rd place out of 138 countries. Algeria advanced only one place, at a rate of 0.5%, as it recorded a rate of 37.5%, while the global average was estimated at 46.7% (Assi and Smail, 2022, p. 342), Algeria also fell by seven places in the 2021 ranking compared to the 2020 ranking, as Algeria ranked 111 out of 154, with its knowledge index reaching 40.3%, while the global average was estimated at 48.4% (Global Knowledge Index, 2021). Algeria came out of the same institution's classification for the year 2022, which included 132 countries, and the classification for the year 2023, which included 133 countries, which means that Algeria is still among the lagging countries in this field at the global level.

Given the digital and knowledge gap occurring today, it is clear that Algerian society has not been able to appropriate the gains of technical development, nor has it been able to localize new technology, media, and mechanisms capable of making the greatest use of new knowledge in the field of development, despite the achievements and efforts made to advance Algerian society to the ranks of knowledge societies. Especially within the first, second and third five-year plans, where the state allocated the equivalent of 250 billion dollars to revive the knowledge society and economy in Algeria, but those who follow these achievements find them very modest and timid compared to the achievements of other societies and countries in the world, in addition to being shackled by many societal, cultural and political restrictions. These restrictions can be mostly attributed to limited freedom in its broadest sense, and limited productive communication with both inside and outside.

4-2-Requirements for establishing digital citizenship in Algeria:

The emergence of the term digital citizenship has placed all countries of the world facing a major challenge, which requires intensifying efforts and formulating new mechanisms and strategies to enhance the positive aspects and avoid the negative aspects included in the use of digital technology. Many efforts have emerged in this field, including what was presented by the International Society for Educational Technology International. Society for Technology in Education (ISTE) standards were a starting point that were directed towards ethical, social, and humanitarian issues alike, and focused in their entirety on: (Al-Qahtani, 2018, p. 61)

-Students' understanding of the ethical, cultural and social issues associated with technology.

-Instilling the values of responsible use of information and communications technology.

-Developing positive attitudes among students towards technology applications that support lifelong learning, cooperation, personal motivation, and productivity.

As a rapid and decisive response, voices rose to expand the scope of digital citizenship, so that one of the main goals of educational institutions became to prepare individuals to integrate into the knowledge society by training them in the responsible, ethical, and safe use of information and communications technology as members of the national community and as citizens of the global community. Many researchers see this revolution as In its essence, information technology is primarily an educational revolution, because with the emergence of knowledge, human resource development becomes the decisive factor in determining the weight of contemporary and future countries and societies. (Bin Shams, 2017, p. 25)

In his article Divide Digital the Birding: Bridging the Digital Divide, Alec van Gelder believes that the money and infrastructure required to build a bridge over the digital divide is not an easy or guaranteed thing, and the existence of an ICT infrastructure alone does not mean bridging the digital divide and may transform To an illusion. Alec Van Gelder also puts the matter in an economic equation, and believes that if countries want to achieve a breakthrough and reduce the digital gap, there is a first side of the equation that must be addressed, which is: the state of education in the country + legislative procedures for investment + telecommunications laws + transportation. + Sources of local income + Intellectual property status + How to manage the Internet (distribution of the service, number of users, and extent to which systems allow the exchange of information). (Saadoun, 2012)

Accordingly, Algeria must take a set of procedures and measures that allow the development of digital citizenship within the educational environment at all stages, the most important of which are:

-Developing educational environments for digital citizenship education:

The term “Digital Citizenship Education” means preparing an effective digital citizen through education that contributes to giving the student skills to use technologies in a positive way, in addition to providing him with critical thinking skills for digital content, and moral social skills to interact with others by fortifying him with a solid moral fabric that protects him from... The dangers of technology (Semaan and Smadi, 2018, p. 176), as spreading the culture of digital citizenship in Algeria through education and educational curricula at school and university has become one of the basics of life and an urgent necessity that must be transformed into educational projects and

programs in cooperation with civil society initiatives and media institutions so that We can protect our societies from the negative effects of technology and stimulate optimal use of it to contribute to building the national digital economy, by enabling students to deal with the digital world and the educational tools and media it has produced, and providing them with a knowledge framework that qualifies them to understand the impact of the digital revolution on their lives and how to achieve the desired benefit. In a positive and safe way, providing training opportunities in the skills of using their technologies, browsing digital networks, and developing critical thinking skills regarding the digital content they deal with. (Al-Sulaihat et al., 2018, p. 19)

-Promoting digital citizenship behavior among students:

Many studies have indicated the need to encourage digital citizenship behavior among students in general, as digital citizenship is more than just an educational tool, as it is a means of preparing students to engage in society and actively participate in serving the nation and the digital field in general. In order for this behavior to lead to the positive results expected from it, the process of promoting digital citizenship behavior must be managed wisely and effectively. Some studies have suggested creating a social media network for schools and following four steps:

-Establishing a school social network.

-Preparing students to participate in these networks.

-Integrating social networks into school curricula so that they constitute, in the final step, a digital extension of the classes.

In this context, Netsafe (an independent New Zealand non-profit organization working on Internet safety) in 2016 presented a model for digital citizenship (From literacy to fluency to citizenship: Digital Citizenship in Education) that integrates the general framework of the Organization for Economic Cooperation (OECD) of 2016. And the outcomes of the study (Westheimer & Kahn) in 2014, and the position of the Ministry of Education - New Zealand - towards digital literacy and digital fluency in 2016 (Ministry of Education). The model included the following: (Rabhi, 2018, p. 14)

First: confidence and fluent use, and a combination of: skills, strategies for accessing technology, communication, cooperation, sharing, and creation, attitudes and values that enhance personal safety, positive relationships with others, understanding and awareness of digital environments, their operating contexts, and how to integrate online and offline spaces. Line.

Second: Enhancing life (social, cultural, economic, civil) and achieving its goals with important differences.

It is clear from the previous model that digital fluency is a condition for achieving digital citizenship, as digital fluency is considered a set of competencies and behaviors across digital devices and their software, while digital citizenship is considered a high-level outcome of digital fluency outcomes, which are applied in many different contexts to achieve safety on the Internet. This is at the intersection between digital skills, knowledge and values, which can be clarified from the previous model as follows:

-Develop strategies and skills that will reduce Internet risks.

-Understanding the capabilities and limitations of digital environments.

-Attitudes are a community-oriented model that promotes well-being, flexibility, and a positive model of the many benefits of technology.

The community works together to identify risks and potential problems from the Internet.

-Realizing the importance of integrating digital literacy skills into effective teaching and learning programs.

Given the requirements for digital citizenship in education as a set of cultural, social, health, legal, and security determinants related to digital technology that enable the educational system in general, and the teacher in particular, to contribute to preparing a modern citizen capable of using and employing digital technology in safe and sound ways, a set of The necessary requirements for employing digital citizenship in education, based on the axes of digital citizenship in proportion to the nature of the educational system, include the following: (Al-Akkad, 2017, pp. 46-53)

-Enabling digital access: Digital citizenship imposes the need for educational institutions to move all their devices and curricula to electronic space, and therefore it has become necessary to familiarize all members of educational institutions with digital tools and how to use and employ them appropriately, which requires the provision of an Internet network, modern digital devices and technologies, and educational software. Digitalization of all academic subjects and their use in the teaching and learning processes by training teachers and students in the field of digital technologies, with the need to re-engineer work procedures within the educational system, so that records and data need to be transferred to the digital system.

-Promoting a culture of digital fitness: Given that the shift towards digital citizenship is an integrated philosophy of integrated values, goals, and means, translating it into practical reality requires many efforts and requirements, the most important of which is increasing children's awareness of the nature of this shift, psychological and behavioral readiness, and other requirements for adapting to it, which is What is known as promoting a digital fitness culture.

-Enabling dealing with issues related to digital commerce: by teaching students to be careful when buying and selling over the Internet, and educating them and training them to deal intelligently with reliable commercial sites that ensure the protection of users over the Internet.

-Spreading awareness of digital laws and the rights and responsibilities of the digital citizen: working to provide equal digital rights and supporting electronic access within the educational institution, based on the fact that digital information is not only a tool to help in student development, but has gone beyond that and has become a vital necessity, which requires attention to enhancing Using information technology in the various stages of education, and making it available to all, as it is a digital human right, and one of the basic requirements for disseminating **- - digital laws within educational institutions is:** holding educational meetings for members of the educational institution, distributing informational and directional brochures, organizing training courses and workshops on electronic copyright.

-Providing digital health and safety requirements: teaching technology users ways to protect themselves through education and training through national initiatives in the field of safe use of the Internet. Among the requirements for this in educational institutions are: providing comfortable seats for learners while using digital devices, providing high-resolution digital screens, and providing dashboards. Guidance on the proper use of digital devices and technologies.

Enabling dealing with issues related to digital security: Educational institutions have a great responsibility in achieving digital security by emphasizing the protection of information and the protection of the devices themselves, employees, and their personal identities, which requires a set of measures to enable dealing with these issues, including: using passwords. Secrecy of digital devices while providing them with special programs to protect against spyware, continuous updating of anti-virus programs...

It is generally observed that knowing the aspects of digital citizenship is not sufficient to form a digital citizen. Rather, practical procedures must be developed to implement these aspects and achieve their goals, as many methods and mechanisms have been found that can facilitate the process of raising awareness of the aspects of digital citizenship.

4-3-A proposed scenario for employing digital citizenship requirements in education in Algeria:

A study conducted by researcher Jamal Ali Al-Dahshan on the topic of "Digital Citizenship as an Introduction to Digital Education in the Digital Age" indicated that the spirit of rebellion created by digital media has had negative effects on the patriotic spirit of young people, as demonstrated by the results of the studies in terms of low levels of patriotism. Or public service, as the national spirit is usually sufficient to treat many problems and infuse the spirit in the human citizen so that he can do his work and strive to serve the people who are citizens of his country. Accordingly, dealing with digital citizenship in its various aspects has become a vital requirement and an essential aspect of national education. Some Arab countries, including the Gulf Cooperation Council countries and Egypt in particular, have achieved success stories in keeping pace with global developments related to digital citizenship, by adopting a vision that recognizes that every educational system, whether in public or higher education institutions, is concerned with establishing an educational strategy that achieves the dimensions and standards of digital citizenship from During national, family and computer education courses. (Tawalbeh, 2017: pp. 293-294) While many developed countries in previous stages, such as: Britain, the United States, and Canada, adopted teaching topics related to digital citizenship within the framework of the digital education curriculum, we also find in the same framework the project that Australia developed under the slogan "Communication "With Confidence: Developing Australia's Digital Future," which stipulates generalizing the teaching of digital citizenship to students and training parents and teachers in it according to an integrated national plan. France also plans to make the issue of digital citizenship a major national issue. (Al-Qayed, 2019)

In an effort to achieve the main goal of this study, which is to support educational institutions specifically in instilling the values of digital citizenship among the Algerian citizen in order to access the digital society, and in an effort to be more effective in confronting and codifying the phenomenon of digital citizenship, a vision can be proposed that includes work on three basic axes:

-The first axis: establishing controls and standards for digital dealing.

The second axis: developing educational environments that support digital technology and forming virtual communities.

-The third axis: Building a national electronic technology system, to create outlets for continuous communication within the framework of the educational system.

The proposed vision includes a set of axes whose implementation requires consideration of a set of requirements through three stages:

Table No. (02): Stages of establishing digital citizenship in Algeria (prepared by researchers)

Stage	The Hub	Implementation Mechanisms
Establishing the infrastructure for digital citizenship and digital society (digital transformation(	Establishing controls and standards for digital dealing through: - Developing legislation and policies related to digital citizenship. - Developing and modernizing the information infrastructure of government institutions and bodies. - Developing communications infrastructure and services. -Defining implementation mechanisms, and the roles and responsibilities of participants in the implementation process.	- Completing the necessary infrastructure to support trust in electronic transactions and protect digital identity. - Preparing draft laws and introducing legislative amendments to laws related to violations of privacy and information security via the Internet. - Adopting specific strategic initiatives: the high-speed Internet initiative, the initiative to develop education using information technology and computing techniques, the digital literacy program, and the access program to rural and marginalized areas using information technology. -Providing the necessary human resources requirements to support the development of the use of information technology and cloud computing in education.
Adopting a culture of digital citizenship In educational institutions (Educational content development)	Developing educational environments that support digital technology and forming virtual communities. Building an appropriate culture for digital citizenship education.	- Developing a program to teach digital citizenship at the educational institution. - Developing a course at one of the academic levels to study the content of digital citizenship. – The possibility of integrating a study unit at each academic stage with the computer course. - Developing educational plans to develop digital citizenship, prepared by teachers (training courses, workshops, educational seminars...). – Activating the role of religious and media civil society institutions in providing good models for proper use. - Organizing meetings that include all those interested in the subject, including those

		working in the field of education, media professionals, parents, and students, to introduce them to the subject and work to define the roles and responsibilities of each party. - Building digital libraries for educational content. - Converting digital courses available in educational institutions into a more interactive form and publishing them on the educational cloud. -Taking advantage of electronic means of communication in communication between professors and students.
Activating digital citizenship/ Promoting the principles of digital citizenship.	- Building a national electronic technology system, to create outlets for continuous communication within the framework of the educational system, which includes several applications and levels based on the digital citizenship value system.	- An electronic portal for every educational institution. - Electronic platforms, -Forums, support, follow-up, communication...

Because the topics of digital citizenship can be taught in Algeria through lessons integrated with the concepts and topics of national and civic education specifically because of the closeness of their contents and objectives to the topics of digital citizenship, and social studies in general, these topics must be prepared in a way that enables them to carry out their responsibilities towards preparing conscious human minds capable of dealing with Digital developments efficiently and competently, given the role that national and civic education curricula can play in developing digital awareness among students as citizens aware of their civil and national rights in the digital age, by including digital citizenship themes and concepts in those curricula, and the learning resources that the curricula employ, the most important of which are The academic book is considered the approved document and the main reference for the student. National education believes that the distinct solutions lie in cognitive, emotional and behavioral empowerment and strengthening regarding the rules of use and proper integration with the digital society that must be learned and practiced. (Tawalba, 2017, p. 293)

5-Conclusion:

Spreading the culture of digital citizenship among all segments of society to prepare a healthy digital upbringing requires developing appropriate strategies according to well-thought-out programs and projects that begin with the family and extend to all educational and pedagogical institutions, so that we can actually make optimal use of them to contribute to the development of the knowledge society and build the national digital economy, and here we cannot All individuals and institutions must bear their responsibility towards this vital and important issue, and this is done through:

-The need to pay attention to raising awareness of the field of digital citizenship among different segments of society.

-The necessity of studying the needs of social groups for digital citizenship and then approving a subject taught within the study plans related to digital fluency and digital citizenship.

-Preparing training programs for faculty members to train them on digital citizenship to reflect thought and behavior in their dealings with their students in the information space.

-Conducting surveys to find out what programs can be implemented in schools to promote digital citizenship.

-Conducting critical studies to develop school activity programs at all educational levels in light of contemporary educational trends.

- Conducting studies on educational planning for future educational activity programs that are compatible with the rapid changes of the times.

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