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Including the Dimensions of Digital Citizenship in the Physics Textbooks of Secondary School

Rasha Abdel Hussein Sahib Abdel Hassan¹

Abstract

The aim of the current research is to identify the inclusion of the dimensions of digital citizenship in the content of physics books for the preparatory stage, and the knowledge of "physics teachers in these dimensions. Simple randomness and from all physics books to be taught in the preparatory stage (for the academic year 2019/2020), the researcher followed the descriptive analytical approach through the method of interviews and content analysis in collecting research data, the results of which indicated that all physics books are free from the dimensions of citizenship Digital and to the weakness of physics teachers' knowledge of the dimensions of digital citizenship.

Research Methodology

First: Research Problem

Digital citizenship is one of the concepts that must be taught and trained students about, as it is described as one of the important educational skills in the current era, and accordingly a number of countries have focused, including (Finland, Belgium and Korea) On digital citizenship as an important skill that must be taught and trained students and included in the curricula, but there are a number of risks that can come as a result of using technological means via the Internet such as social media, which motivated researchers to pay attention to this topic and Studying it at the level of members of society as a whole and students in particular, so there was talk about the need to develop the old concept of citizenship in accordance with the rapid technological developments, which can be achieved by integrating the dimensions of citizenship using Technology, i.e. the correct and proper use of the means of technology. 1 Digital citizenship aims to deepen the full responsibility for written, spoken and pictured words and actions, not to seek to prevent the use of technology, because this will prevent the progress and advancement of our societies and this will only be achieved through the intended education That is, providing students with awareness and digital culture through physics teachers and including its dimensions in the content of physics books. The current research attempts to answer the following questions: What are the dimensions of digital citizenship that should be included in the content of physics textbooks for the preparatory stage? The availability of the dimensions of digital citizenship in the content of physics textbooks for the preparatory stage? Are physics teachers familiar with the dimensions of digital citizenship? (Tayie et al., 2023)

Second: The Importance of Research

Analyzing the content of the study materials at the present time to reveal the extent to which the study materials keep pace with the changes | Because it has become a reality that must be dealt with, prepared and prepared for. The necessity of implementing and activating the recommendations of conferences,

¹ College of Basic Education University of Misan Email: rasha.a.sahib@uomisan.edu.iq

seminars and workshops that call for action in order to activate the relationship between including the dimensions of digital citizenship and its related matters that raise students' skills in public education and help them with easy integration. Analysis of the content of the study materials may help provide a lot for the dimensions of digital citizenship, for the purpose of including it in the academic subjects, it helps curricula developers and specialists to develop curricula when planning them. Education and technology. The problems of society and its environment. The scarcity of studies that dealt with the variables of the current research. 6. A firm desire to study the subject and be familiar with its developments. (Dehqan & Genç, 2022)

Third: Research Objectives

1. Determining the dimensions of digital citizenship that should be included in the content of physics textbooks for the preparatory stage.
2. Determining the degree of availability of the dimensions of digital citizenship in the content of physics textbooks for the preparatory stage. Determining the degree of familiarity of physics teachers with the dimensions of digital citizenship.

Fourth: The Limits of the Research

The objective limits were represented in the nine dimensions of digital citizenship (digital access, digital commerce, digital communications, digital literacy, digital fitness, digital laws, digital rights and responsibilities, digital health and safety, digital security), and what It contains (1) subparagraphs.

Analyzing the content of physics textbooks for preparatory grades (fourth scientific, fifth scientific, sixth scientific).

2. The spatial boundaries were represented in the middle schools affiliated to the General Directorate of Education in Maysan Governorate. The temporal limits were represented in the first and second semesters of the academic year (2019-2020). Human boundaries were represented by physics teachers in the middle school.

Fifth: Procedural Definitions of Search Terms

1. Digital citizenship:
a set of values adopted by the digital student while dealing with digital resources and obligating him to self-censorship while dealing with its various media. It is measured by analyzing the content of physics books for middle school classes and interviewing the teachers of this subject.
2. Physics textbooks for preparatory grades:

It is a set of study subjects approved by the Ministry of Education in its schools for preparatory grades (fourth scientific, fifth scientific, sixth scientific) for the academic year (2019-2020).

Theoretical Framework and Previous Studies

The First Axis: Theoretical Framework

First: The concept of digital citizenship: Digital technology adds something new every day to the balance of its achievements, so it cannot remain immune to an ethical value system that imposes restrictions on its use to achieve the maximum benefit from its capabilities, and in At the same time, it helps to avoid its risks and reduce the negative effects and its psychological and social damages, as the accelerated nature of digital technology imposes the necessity of having governing values and ethical principles for the citizen in his digital dealings, as digital citizenship focuses on the optimal use of technology (2014,88), Ribble), and aims to find the right way to guide and protect all citizens, by encouraging

behavior | Desirable and combating unwanted behaviors in digital transactions in order to create a digital citizen who loves to trample him and strives for his progress (development (Al-Gazzar, 402, 2014; Khalaileh, 2023) Digital citizenship is a set of rules, controls, standards, norms, ideas and principles followed in the proper and optimal use of digital technology, which citizens, young and old, need while dealing with its technologies in order to use them in a way - not safe and smart, and in a way that leads to contributing to the progress of the country And through the processes of equitable access and support for electronic access, nor directing protection and guidance towards the benefits and benefits of modern technologies and protection from their dangers (Al-Dahshan, 11, 2015), and defined by | (201421, Bolkan) also defined it as a code of appropriate behavior and responsibility for everything related to the use of technology, and it was also defined as a set of standards, skills and rules of behavior that citizens need when dealing with technological technologies | (Al-Mallah, 26, 2017). Therefore, the researcher believes that digital citizenship is not only limited to a set of rights, duties and obligations related to the optimal use of digital technology, but digital citizenship can also be considered as a modern way to prepare a citizen who is able to use and (f) employ digital technology in correct and sound ways and according to the rules and Behavioral, ethical, religious and legal controls are, therefore, a necessary issue for a proper digital society. (Hou, 2023)

Second: The Concept of the Digital Citizen

The modern digital communications revolution has played a greater role in facilitating and accelerating the processes of accessing information sources, news, and communicating with officials and public policy makers. Positive effects on the citizen and society, so the citizen in this space transformed in his practice of citizenship from the form of the ordinary citizen to the form of the digital citizen (Bashir, 725, 2016). Therefore, the digital citizen is the person who has grown up in the era of digital technology and has the ability to absorb and deal with it - (2016, 59, Dotterer). Thus, the digital citizen is defined as a person who has awareness and knowledge of technology with the ability to apply that knowledge to behaviors, habits and actions through which it is possible to deal appropriately with the technology itself or with other people through technology (Al-Mallah, 32, 2017). The digital citizen can be considered the one who was born during or after the technology boom and interacted with digital technology from an early age and has a great deal of familiarity with these concepts. It has continued to develop to this day, as he is the person who understands the value of digital technology and uses it to search and seek to find opportunities to implement it and have an impact (Bashir, 726, 2016), and the most prominent characteristics of the digital citizen can be summarized in the following points according to what Disliked (Al-Jazzar, 402, 2014):

1. Commitment to intellectual honesty.
2. Managing time spent using digital media.
3. Stand against cyberbullying.
4. Preserving personal information and respecting cultures and societies in the virtual environment.
5. Protecting oneself from corrupt beliefs that spread in digital media. Digital Through what was mentioned above, it becomes clear the importance of preparing the digital citizen who is able to positively and securely deal with primary, secondary and university technology within an integrated national plan. Therefore, it has become necessary to include the concepts of digital citizenship within the curricula and at the education level.

Third: The Objectives of Digital Citizenship

The objectives of digital citizenship can be summarized as mentioned by (Sharaf, 23, 2014) and (Al Mallah, 12, 2017) and as follows:

1. Realizing the reality of the digital world and its components.

2. Possess effective and appropriate practice skills in the use of the digital world with its various mechanisms.
3. Follow the ethical rules that make the technological behavior of the citizen characterized by social acceptance in interaction with others.
4. It includes a set of rights, duties and obligations in relation to digital technologies.
5. It is important to establish a good society and protect societies from the increasing negative effects of technology and stimulate optimal use of it to contribute to the development of the knowledge society and building the national digital economy.
6. It is important to protect generations from digital sabotage, wars, digital crime, and health, social and economic damages that can result from the irrational use of digital technology.
7. Representing the community in the best possible way through sound digital behavior.
8. Awareness of different age groups about the concept of digital citizenship in an attractive way to raise the level of electronic security.
9. Reducing the negative repercussions of using the Internet on real life.
10. Spreading a culture of freedom of expression that is committed to public morals and creating an environment for social communication free of violence.
11. Describe the best ways for the citizen to deal with a specific electronic situation or issue by preparing an integrated reference for electronic issues.
12. Transforming the concept of strict censorship and lack of privacy into the concept of self-censorship in accordance with the rules of Islamic Sharia and the widespread of social and national values.

Fourth: The Reasons for the Interest in Achieving Digital Citizenship Among Students

1. There is no doubt that spreading the culture of digital citizenship among generations in light of contemporary challenges, especially schools and among students, has become an urgent necessity, in order to be able to protect them from the increasing negative effects of technology and promote optimal use of it to contribute to Community development, perhaps this interest is due to the following reasons:
2. The number of Internet users is growing rapidly.
3. The topic of digital citizenship is gaining great momentum all over the world, as it has become the core of government and national transformation in the modern era.
4. Spreading the culture of digital citizenship in the school and among students has become an urgent necessity, which requires that this culture be transformed into values, principles, programs and projects in our schools to integrate with civil society initiatives and media institutions, so that we can strengthen and protect our societies from negative effects The increasing use of technology while promoting optimal use of it to contribute to the development of the knowledge society and building the national digital economy (Abdul Hamid, 55, 2013).
5. The concept of digital citizenship has a strong relationship with the education system, because it helps teachers, teachers and educators in general, parents to understand what students must know in order to use technology appropriately, and because it is a means of preparing students for full involvement in society and active participation in the service The interests of the nation in general and in the digital field in particular (Al-Qayed, 43, 2014).
6. Technology and modern means of communication are no longer a means of entertainment and entertainment. Rather, they have become a social necessity without which there is no way to live a decent life and an inevitable means of communication and obtaining many educational, cognitive and life services, which necessitates us to familiarize students with the rules and controls and The necessary directives to rationally deal with that technology so that it becomes a positive culture and development and building factors instead of being factors of demolition and destruction (2014, 23, Hoover).

7. The spirit of rebellion created by digital media in general has created negative effects on the patriotic spirit of the students, which necessitates the use of technology to raise the level of the patriotic spirit to address that challenge (Al-Dahshan, 56, 2015).
8. Our daily life has increasingly turned into a digital life, and we are using a lot of information and communication technology, modern technologies to participate in social, educational, cultural, economic and other activities, which necessitates citizens to learn and practice many advanced technical methods to keep pace with contemporary technical progress. Including raising awareness of electronic safety and security and learning the culture and etiquette of rational dealing with that digital technology.
9. Although digital technology is a mainstay for stimulating innovation, creativity, learning and advancing economic development, it makes people more vulnerable to forms of cybercrime, which emphasizes the importance of professional training and the necessary digital education that prevents electronic exploitation that has negative effects on the personal levels. And the professional (Al-Shafi'i, 18, 2005).

Fifth: The Role of Curricula in Achieving Digital Citizenship

The curricula are an important tool for achieving intellectual communication and social cohesion in societies. To know what they should do with information and technology by giving them the opportunity to practice some activities that support digital citizenship and which should be an essential part of the curriculum, and therefore specialists believe that the curricula should include in its decisions, topics and concepts four stages It can be explained as follows:

1. The awareness stage, which requires the development of students' cognitive awareness of technology, how to use it appropriately, and the effects of their actions when using it.
2. The stage of understanding by developing the ability to determine the appropriate and inappropriate use of technology in terms of rules and ethical laws for this use.
3. The action stage, i.e., the actual use of technology in an appropriate manner, based on the information that was known in the previous two stages, to make the appropriate decisions.
4. The evaluation stage, by evaluating the student for his correct and wrong practices and changing the negative ones. This stage requires directed practice, modeling, feedback and analysis (Ribble 2, 2006).
1. It can be said that the curricula should work to enhance digital citizenship for students by working to generalize the values and skills of digital citizenship in all curricula in order to reach a digital citizen who adheres to intellectual honesty, manages his time spent using digital media, preserves his personal information and respects cultures. And communities in the virtual environment and protects himself - and his homeland from the corrupt beliefs and morals that spread in the digital media (Haddad, 33, 2014).

In order for the curricula to be able to form that effective digital citizen, this requires them to work according to the following premises:

1. Enhancing the spirit of citizenship among students and preserving societal values in light of openness to and contact with other cultures. technology in various fields.
2. Clarify the concept of digital citizenship and the extent of the need for this concept in this era, which is characterized by the high demand for the use of
3. Connecting students to national activities and role-playing activities in various aspects of life, community and environmental responsibilities (Al-Habib, 2005, 56). Knowledge and building the national digital economy.
4. Preparing the student to enter the modern information society and coexist with it and make maximum use of it in the development of society in terms of
5. Enable the student to assume responsibility for electronic and intellectual security and beware of information crimes by developing himself intellectually, behaviorally, participation, opinion,

- criticism and creativity.
6. Enhancing the ability for dialogue and meaningful discussion and accepting the opinions of others.
 7. Develop the student's ability to produce knowledge and shift from the culture of transportation to the culture of the mind.
 8. Develop students' awareness of the importance of preserving their personal identities and the dangers of Internet addiction, because of the dangerous effects of isolation from society and contentment with building a virtual community (Al-Jazzar, 402, 2014). As these and other matters would highlight the role of curricula in strengthening the personalities of generations to win the digital citizen who loves his country and thinks in the public interest and uses technology in a way that protects him and protects his privacy and respects laws and norms and the rights and human freedoms of others and uses the new media and its media To serve the issues of society and the country, for this, digital citizenship was a responsibility that rests with everyone (Abdul Hamid, 54, 2013).

Sixth: Dimensions of Digital Citizenship

The literature confirms that the dimensions of digital citizenship are the cultural, social, health, legal and security determinants related to technology, which enable the citizen to define standards for using technology in an acceptable manner and to practice ethical behaviors while dealing with it in a way that enables him to Keeping pace with the digital world and serving the country in which he lives (Al-Hosari, 94, 2016). The International Society for Educational Technology (ISTE) has identified nine dimensions of digital citizenship:

1. Digital Access

The starting point for digital citizenship is to work to provide equal digital rights and support electronic access. To achieve digital equality, infrastructure must be provided equally among all Users, and providing infrastructure is one of the first priorities of the national state. Providing equal digital rights and supporting electronic access are the mainstay of digital equality (Al-Jazzar, 409, 2014), and this means that digital citizenship stems from the necessity of achieving the principle of full and equal digital participation or the right of digital access (digital availability) for all citizens without discrimination, in order to ensure that all citizens enjoy fully digital equality

2. Digital Commerce

Buying and selling via the Internet has become a reality and is constantly increasing, and then awareness of the controls and rules that must be achieved must be achieved. The citizen in the digital society must abide by it in order to become a good citizen (Al-Hosari, 101, 2016), and digital citizenship - educates the citizen about issues related to digital commerce in terms of laws and regulations Related to the use of technology, especially security and safety, or those related to the laws of the state (Adais, 2015).

3. Digital Communication

Digital communication means the electronic exchange of information, which depends on the sender and receiver, and digital communication falls under two types of communication, which are (synchronous and asynchronous communication) (Al-Maslamani, 39, 2014), and digital citizenship is concerned with the citizen's owning The ability to make the right decision in front of the many available digital communication options and to be aware of how to use them (Adais, 2015).

4. Digital Literacy

Digital citizenship is based on educating citizens digitally about what they need from technology and using it appropriately, taking advantage of its positives and avoiding its negatives, as well as acquiring information literacy skills (Al-Mallah, 75, 2017), and therefore it can be said that Digital citizenship is a

culture, values and behavior, and digital literacy means that citizens reach an educational and cultural level that enables them to use digital technology and benefit from it and employ it in the service of themselves and their community.

5. Digital Fitness

Digital citizenship is concerned with spreading the culture of (digital etiquette) among citizens and training them to be responsible in a new digital society. To behave civilly, observing the values, principles, and standards of good behavior (Adais, 1, 2015). Therefore, educational institutions must inculcate appropriate and inappropriate uses and behaviors in them as digital citizens. Digital applications often impose some regulations and laws on users or technology is prohibited. Simply to stop inappropriate use, but enacting regulations and formulating usage policies alone is not enough. Every user must be educated and trained to be a responsible digital citizen (Al-Butcher, 408, 2014), in order to ensure adherence to standards of acceptable behavior in digital contexts.

6. Digital Laws

Digital law addresses four basic issues (copyright, privacy, ethical issues and piracy). The digital citizen respects and publishes digital laws and encourages others to abide by them (Adais, 1, 2015), and respect for digital laws is the element concerned with ethics within the technology community, as there are several laws enacted by the digital community that must be paid attention to, and it falls under the threat of Those who hack into other people's information, illegally download their files, create all kinds of destructive viruses, spy viruses and other unwanted messages, or steal someone else's identity or property, is immoral (Al-Jazzar, 409). 2014), and therefore digital citizenship requires adherence to the laws of the digital society.

7. Digital Rights and Responsibilities

Just as states have defined their citizens' rights in their constitutions, there is also a package of rights for the digital citizen, where the digital citizen enjoys the rights of privacy and freedom of expression, etc. It is necessary to study and discuss basic digital rights so that they can be properly understood in The shadow of the digital world (Al-Dahshan, 84, 2016) and from these rights come duties and responsibilities. They are two sides of the same coin. They are inseparable. Therefore, the digital citizen must know how to properly use technology in order to become a productive or effective one, and it is necessary to study and discuss Basic digital rights so that they can be properly understood in the digital world. (Al-Mallah, 87, 2017).

8. Digital Health and Safety

Irrational dealing with technology may expose citizens to many health risks that affect them, such as physical and psychological stress and social problems resulting from excessive use. Therefore, in order for the citizen to perform his digital duty properly, he needs to know the appropriate use and The best of it (Al-Hosari, 102, 2016), and digital citizenship is concerned with spreading awareness and culture about the healthy and proper use of technology and the application of (Ergonomics) standards or human factors engineering, which means physical and psychological appropriateness between machines in their various forms and the people who deal with them. (Adais, 2015)

9. Digital Security:

Modern technology has enabled the owners of illegal activities to use technology in crimes of assault on money and people, fraud, fraud, forgery, embezzlement, extortion, wiretapping, espionage, and distortion of reality. Audio and graphic, with the difficulty or impossibility of tracing the perpetrator's knowledge in most cases (Abdul Mutaal, 82, 2006), which requires citizens to take the necessary security measures during dealing with No matter digital, digital security means taking the necessary precautions

to ensure personal safety and network security (Al-Maslamani, 24, 2014).

The Second Axis: Previous Studies

1. Study (Al-Sayed, 2016)

This study aimed to identify the role of social media in spreading the culture of digital citizenship among university students and to extrapolate the nature of the concept of digital citizenship among university students and to identify the differences between university students regarding It is related to digital citizenship, where the study population consists of male and female students of Benha University who study in theoretical faculties (Arts, Law and Education) and scientific faculties (Science, Engineering, Veterinary Medicine, Commerce), and the sample was chosen intentionally and amounted to (151) Male and female students, and the results that were reached through this study were that female students of scientific faculties use social networking sites more by (91.4%) than university students, and they agreed that they do not know the meaning of digital citizenship for both sexes and there is no difference Between students of scientific faculties and students of theoretical faculties.

2. Study (2016, Preddy)

This study aimed to reveal the role of the school library in teaching digital citizenship to students. The study used the descriptive approach to review the efforts made by the researcher to promote digital citizenship education in schools in cooperation with the Indiana State Department of Education and the American Library Association The study concluded that school libraries can play a major role in teaching digital citizenship to students, and that digital citizenship can contribute to developing the roles of school librarians and providing them with skills to cooperate with students in order to reach digital students, and that digital citizenship It provides an ideal opportunity to search for partners for cooperation in the field of curriculum development.

3. Study (Al-Smadi, 2017)

This study aimed to identify the perceptions of Qassim University students towards digital citizenship and ways to activate it in educational institutions. Male and female students, and the descriptive and analytical approach was used based on collecting appropriate data for the purposes of the study, and the questionnaire was used to achieve the goal of the study. Statistical function of the effect of the gender variable and the presence of Statistically significant differences for the college variable, and there are statistically significant differences for the number of hours of daily use variable.

4. Study (Choi, 2017,)

This study aimed to build and develop a scale that has validity and reliability to measure digital citizenship, where the researcher developed a questionnaire and applied it to a sample of (508) undergraduate and graduate students at the University of Midwestern in the United States of America, and one of the most prominent results is the existence of a good reliability of the digital citizenship scale, and there is a close relationship with the efficiency of the Internet with the fear of it.

5. Study (Al-Qahtani, 2018)

This study aimed to identify the values of digital citizenship included in the educational technologies course from the point of view of faculty members at Princess Nourah University and King Khalid University, and to reveal whether there are differences between the values of digital citizenship in the educational technologies course and The effect of some demographic variables (gender, years of experience, university) was also revealed, and the descriptive analytical approach was used and data was collected by means of a questionnaire, where a random sample consisting of (23) faculty members was selected, and the study concluded that the fitness values Digital, digital access, digital communications, digital illiteracy, digital

health and safety, and digital security included in the educational technologies course.

Commenting on Previous Studies

It is clear from the review of previous studies that the importance of digital citizenship is emphasized as one of the topics that have a great impact on the citizen in any society, and that the concept of digital citizenship requires effort from all educational institutions to provide students with the necessary values, standards, skills and behaviors. Follow it to control their interaction with the digital society, and it is noted that there is a difference between the objectives of the previous studies and the current study, which seeks to include the dimensions of the concepts of digital citizenship in the content of physics books for the preparatory stage.

Research Procedures

First: Research Methodology

In order to achieve the objectives of the research, the researcher used the descriptive analytical approach, which aims to describe the reality of the phenomenon to be studied by iterative monitoring of the emergence of the studied material, whether it is a word, subject, personality, singular, or unit of time measurement (Al-Assaf, 2010, 27).

Second: The Research Sample and Community

The research sample consisted of all physics books for the preparatory stage (fourth scientific, fifth scientific, sixth scientific), approved by the Iraqi Ministry of Education for the academic year (2019/2020), and (51) teachers from my school Physics subjects were chosen by simple random method.

Third: The Two Research Tools

The researcher prepared the following two tools: * The first tool: The researcher prepared a form to analyze the content of physics books for the preparatory stage, to identify the extent to which they include the exclusion of digital citizenship, where the researcher followed the following steps:

1. Preparing A List to Remove Citizenship Digital

The researcher prepared a list of the dimensions of digital citizenship that must be included in the content of physics books for the preparatory stage in its initial form, which is represented in nine dimensions, which are (digital access, digital commerce, digital communications, digital literacy, digital fitness, digital laws, rights and Digital Responsibilities, Digital Health and Safety, Digital Security), through reviewing books and resources on the subject of digital citizenship and its dimensions, as well as reviewing previous studies, periodicals and conference reports that dealt with the topic of digital citizenship and its dimensions, where the special list contained By removing digital citizenship in its primary, main form and (59) sub-dimensions.

2. Validity of the List of Dimensions of Digital Citizenship

To verify the validity of the list, the researcher presented the list to a group of experts and arbitrators who are specialized in the field of curricula and methods of teaching physics and educational technology, measurement and evaluation, to take their opinion on the validity of the list after introducing them to the subject of the research and the goal. Prepared by it, in terms of (the link between the main and sub-dimensions of digital citizenship, the suitability of including these dimensions in the content of physics books for the middle stage, the suitability of these dimensions for middle school students, or the safety

of formulating the proposed main and sub-dimensions, and finally adding or Deleting or reformulating what is seen of the main and sub-dimensions), and after making the modifications, the list has become in its final form (55) sub-dimensions that fall under (9) main dimensions.

3. Preparing the Content Analysis Form

The researcher prepared the analysis form in its initial form to achieve the objectives of the research, as the form consisted of the dimensions of digital citizenship that must be included in the content of physics books for the preparatory stage, which is represented in (9) main dimensions that fall under each dimension group of the sub-dimensions.

4. Validity of the Analysis Form

In order to verify the validity of the analysis form, the researcher presented it to a group of experts and arbitrators with expertise in the field of curricula and methods of teaching physics and educational technology, measurement and evaluation, to verify the validity of the form using the validity of the arbitrators through the use of The (COOPER) equation for agreement, and the arbitrators agreed on the integrity of the form and its conformity with what it was prepared for, as the percentage of agreement reached (95,32)

5. The Stability of The Analysis Form

To verify the stability of the analysis form, the researcher used the method of calculating the stability of the analysis according to time, and it is re-analysis after (15) days, and using the (COOPER) equation, the stability percentage was (93.67).

The Second Tool

the researcher prepared the interview questions and formulated them clearly and accurately by reviewing the educational literature and previous studies related to the topic of the current research in order to know the degree to which physics teachers are familiar with the dimensions of digital citizenship, and the validity of the interview tool has been confirmed. By presenting it to a committee of arbitrators specialized in curricula and teaching methods of physics, educational technology, measurement and evaluation to ensure its suitability for application, and because the stability of the interview tool is linked to obtaining the same results in the event of repeated use of its questions again, the researcher made sure of its stability through her experience On three physics teachers and from outside the research sample twice between them, an interval of (15) days, and after analyzing the interview data, the researcher noticed that there was no difference. Between the teachers in the first interview and their answers in the second interview, the procedures followed by the researcher were as follows:

1. The researcher determined the goal of the interview, which included an explanation of the concept of digital citizenship, which is (the optimal use of technology), and the researcher told the respondents that this data is only for scientific research purposes.
2. The researcher prepared a list of the main and sub-questions to be directed to the respondents, taking into account clarity, accuracy and linguistic integrity.
3. Confirmed The researcher determined the time and place of the interviews in line with the respondents' conditions and desires by providing a safe environment for them.
4. The researcher recorded the responses during the interviews, which were characterized by a scarcity of terminology and a lack of information received from them due to their lack of knowledge and experience of digital citizenship before.
5. The researcher unpacked and tabbed the interviews information on separate papers, so that each interview had a separate page and independent from the rest of the interviews, and then read each word of the spoken words by the physics teachers, and then the researcher repeated the data analysis process again To ensure the correctness of the results obtained.

Fourth: Statistical methods

The researcher used simple descriptive statistics methods (frequencies and percentages) to determine the degree of availability of the dimensions of digital citizenship in the content of physics books for the preparatory stage.

Research Results And Their Interpretation, Recommendations And Suggestions

First: Research Results and Their Interpretation

1. The first question: (What are the dimensions of digital citizenship that should be included in the content of physics books for the preparatory stage?): To answer this question, the researcher reviewed previous research to obtain Sufficient information about the dimensions of digital citizenship, after that a list was prepared for the exclusion of digital citizenship, which numbered (9) main dimensions and included (55) sub-dimensions, after which the researcher presented the list in its initial and final form to a group of experts and arbitrators from Specialists, for the purpose of benefiting from their opinions, observations and directions, and after taking into account the opinions of experts and arbitrators, the researcher confirmed the importance and necessity of including the dimensions of digital citizenship in the content of physics books for the preparatory stage, as shown in Table (1).

Table 1: the dimensions of digital citizenship

No	Basic dimensions	Number of sub dimensions	Percentage
1	digital access	5	9%
2	Commerce digital	5	9%
3	Digital communication	5	9%
4	Digital Literacy	7	12%
5	Digital fitness	6	11%
6	Digital Laws	8	15%
7	Digital rights and “digital responsibilities”	6	11%
8	Health and safety digital	5	9%
9	Digital Security	8	15%
	Total	55	100%

It is clear from Table (1) that the dimensions of (Digital Laws and Digital Security) ranked first with a percentage of (15%), while after (Digital Literacy) ranked the second with a percentage of (12%), while the two dimensions (Fitness) Digital rights and “digital responsibilities” ranked third with a rate of (11%), while the rest of the dimensions (digital access, digital commerce, digital communications, and digital health and safety) ranked fourth and last with a rate of (9%).

2 The second question: (What is the degree of availability of the dimensions of digital citizenship in the content of physics books for the preparatory stage?): To find out the dimensions of digital citizenship and the degree of their availability in the content of physics books for the preparatory stage, the frequencies and percentages of the main and sub-dimensions in each of the grades were calculated. The three (the fourth scientific, the fifth scientific, the sixth) scientific, and as shown in Table (2).

Table 2: shows the frequencies and percentages of the main and minor dimensions in each grade of the middle school.

Dimension of basic and sub-branch digital citizenship		Fourth scientific		Fifth scientific		Sixth scientific		Total	
		%	t	%	t	%	t	%	t
Digital citizenship can be achieved in the first dimension (digital access) through									
1	Physics books assign students to help them use the Internet as search motivators during education.		3		2		3		8
2	Physics textbooks help students to use computer labs during education.		1		2		1		4
3	Physics books suggest the use of social networking sites and smart mobile devices in education.		-		1		4		5

Dimension of basic and sub-branch digital citizenship		Fourth scientific		Fifth scientific		Sixth scientific		Total	
		%	t	%	t	%	t	%	t
4	Physics books contain guiding and awareness instructions on the optimal use of the Internet, smart mobile devices, and social networking sites.	-	-	-	-	-	-	-	-
5	Physics books include special paragraphs and references concerned with the inclusion of people with needs for technology services.	-	-	-	-	-	-	-	-
Digital citizenship can be achieved in the first dimension (digital trading) through									
1	Physics books contribute to educating students about ways to search for sites that offer goods at a better price.	-	-	-	-	1	1	-	-
2	Physics books contribute to educating students about e-shopping operations on Internet sites.	-	-	-	-	-	-	-	-
3	Physics books acquaint students with the problems of e-shopping via Internet sites, account theft, and what the citizen may be exposed to from fraud over the Internet.	-	-	-	-	-	-	-	-
4	Physics books provide students with skills that enable them to ensure the credibility and reliability of the commercial site.	-	-	-	-	-	-	-	-
5	Physics textbooks contribute to owning the knowledge, selling and buying in digital world	-	-	-	-	-	-	-	-
Dimension of basic and sub-branch digital citizenship		Fourth scientific		Fifth scientific		Sixth scientific		Total	
		t	%	t	%	t	%	t	%
Digital citizenship can be achieved in the third dimension (digital access) through									
1	Physics textbooks encourage the use of multiple means of digital communication between students within the school.	3	-	6	-	5	-	14	-
2	Physics books help students with multiple means of communication.	2	-	1	-	4	-	7	-
3	Physics books help educate students about the possibility of recovering deleted information because it remains in the virtual space on the Internet.	1	-	-	-	1	-	2	-
4	Physics books help students to know when the multiple communication digital methods are suitable or not	1	-	1	-	3	-	5	-
5	Physics books help the students to know the etiquette when using digital communication	-	-	-	-	-	-	-	-
Digital citizenship can be achieved in the fourth dimension (The literacy) through									
1	Physics textbooks encourage the use of multiple means of digital communication training courses of optimum use of technology	1	-	-	-	-	-	1	-
2	Physics textbooks provide students with information that help them to use digital communication on social level	-	-	-	-	-	-	-	-
3	Physics textbooks suggest that students and teachers share information about digital technologies.	-	-	-	-	-	-	-	-
4	Physics textbooks include material resources that students can obtain from digital sources.	3	-	3	-	3	-	11	-
5	Physics textbooks encourage digital cooperation between students in solving homework and school activities and obtaining information.	2	-	1	-	4	-	7	-
6	Physics textbooks provide students with information that qualifies them to use digital communication on a cultural level	-	-	-	-	1	-	1	-
7	Physics textbooks provide students with information that qualifies them to use digital communications at the national level.	-	-	-	-	-	-	-	-
Digital citizenship can be achieved in the fifth dimension (digital fitness) through									
1	Physics texts deal with enable the students to fix their behavior on digital communications like social media	-	-	-	-	-	-	1	-
2	The texts include clear invitations for respecting cultures and other opinions in digital field	-	-	-	-	-	-	-	-
3	The physics text encourages students to learn ne technical skill to deal with daily life	-	-	-	-	-	-	-	-
4	The text explains the positive effects to learn digital technology	3	-	3	-	5	-	11	-
5	The text explains the negative effects t abuse the digital technology	2	-	1	-	4	-	7	-
6	Physics textbooks show the danger of commuting crimes under the democracy fack cover.	-	-	-	-	1	-	1	-
Achieving digital citizenship in the sixth dimension (digital lows) through									
1	Physics books for students clarify the responsibility of actions and deeds. Physics textbooks explain to students the rejection of the idea of claiming the user's ignorance of technology.	-	-	-	-	-	-	-	-

	Dimension of basic and sub-branch digital citizenship	Fourth scientific		Fifth scientific		Sixth scientific		Total	
		t	%	t	%	t	%	t	%
2	Physics books train students on the mechanisms of reactions to dialogues and discussions implemented through digital technologies.	-		-		-		-	
3	Physics textbooks show the limits of freedom of expression through digital technologies.	-		-		-		-	
4	Physics books warn students to stay away from groups, websites and digital pages that promote suspicious ideas and not to join them.	1		-		1		2	
5	Achieving digital citizenship in the seventh dimension Physics textbooks help in drawing up a clear and acceptable policy inside and outside the school in the use of digital technology.	-		-		-		-	
6	Physics textbooks help defend students' digital rights. Physics books alert students to the use of technology for cheating.	-		-		-		-	
7	Physics books show students the positive effects of using technology.	-		-		-		-	
8	Physics textbooks explain to students the negative effects of inappropriate use of technology.	-		-		-		-	
Achieving digital citizenship in the seventh dimension (digital rights and responsibilities) through									
1	Physics textbooks help students to draw clear strategy inside school or outside	-		1		-		1	
2	Physics textbook help students in digital rights of student	-		-		-		-	
3	Physics textbooks help student to avoid use digital methods I cheating in the exams	-		-		-		-	
4	Physics textbooks help to introduce examples to use digital technology.	1		3		5		9	
5	Physics textbooks explain the boundaries of freedom that students have in using the digital tehnology	-		-		-		-	
6	Physics textbooks explain the rights and responsibility which are available for each student	-		-		-		-	
Achieving digital citizenship in the eight dimension(health and safety) through									
1	Physics textbooks help enable students to manage time spent using technology.	-		-		-		-	
2	Physics textbooks explain to students the dangers of watching digital video games for a long time.	-		-		-		-	
3	Physics books help spread a culture of digital health and safety.	-		-		-		-	
4	Physics textbooks alert students to the dangers of technological addiction.	-		-		-		-	
5	Physics books show the psychological effects on the student when he interacts with digital technologies.	-		-		-		-	
Achieving digital citizenship in the nine dimension(digital security) through									
1	Physics textbooks explain the responsibilities of students in protecting society from terrorism and threats.	-		-		-		-	
2	Physics books help students to adhere to websites that suit their ages, achieve their goals, and meet their needs.	-		-		-		-	
3	Physics books show how to maintain students' personal security against piracy operations.	-		-		-		-	
4	Physics books contribute to educating students about prevention measures and their electronic data from others.	-		-		-		-	
5	Physics books are concerned with applying what students have learned in order to protect their information over the electronic network.	-		-		-		-	
6	Physics textbooks alert students to avoid entering suspicious websites.	-		-		-		-	
7	Physics textbooks alert students to the dangers of meeting people who do not know themselves on the Internet.	-		-		-		-	

It is evident from Table (2) that there is a clear absence of interest in including the dimensions of digital citizenship in physics textbooks, as indicated by | There are (38) dimensions of which are not found in all physics textbooks, as for the rest of the dimensions, they came with a few repetitions and as shown in Table (2), and this can be attributed to the lack of a policy of integrating technology in textbooks and not keeping pace with developments in education. For citizenship that is supposed to respond to the integration of developments in the digital age, which calls for the need to pay attention to teaching the dimensions of digital citizenship in schools, because the purpose of schools is not just to teach reading, mathematics and science. And the implications of its concept, while it required and was concerned with

the proficiency of its citizens to master the skills of reading, writing and mathematics in preparation for ensuring their participation and integration with the details of life patterns and its social, cognitive and economic facilities sufficiently, and it almost reassured nations and nations by preparing their citizens according to those skills. Until she found herself in front of a new concept facing citizenship, which is computer literacy, she prepared awareness and educational plans and programs to enable her citizens to deal with computers, because illiteracy changed from reading and writing. Writing and mathematics to computer illiteracy, and at the present time, new challenges appear in the name of digital citizenship that require decision makers to respond to their dimensions and their contents, especially in light of the high percentage of users of electronic networks that were accompanied by bad uses and negative practices in digital citizenship, which led to the existence of Victims of the Internet, blogs and social networking sites in the educational, social, intellectual and economic fields and in various school, university and family environments, so the researcher believes that educational institutions should play their educational roles towards digital citizenship to keep abreast of developments and make an awareness shift for its citizens towards all developments Including digital citizenship.

1. The third question: (What is the degree to which physics teachers are familiar with the dimensions of digital citizenship?):

To answer this question, the researcher conducted interviews with physics teachers about digital citizenship. Even its naming, which necessitates the necessity for educational institutions to train and enable their members to possess the necessary skills in preparation to ensure sound decisions are taken when confronting them with the notification of digital citizenship and directing and protecting them towards the benefits and benefits of modern technologies and smart dealing with them and a commitment to responsible behavior while interacting with technology media Miscellaneous. The researcher believes that making a qualitative leap in digitally educating members of society has become an urgent necessity, especially with the exacerbation of the dangers of using technological media, especially with the expansion of the users' area and the accompanying misunderstanding of the term digital democracy, and based on the foregoing, the responsibility of empowering students The proper and correct use of digital citizenship rests on the shoulders of teachers, teachers and the school community, as it is necessary to enlighten them with the rules and ethics of use to ensure that students are prepared to interact in a digital virtual world with no physical boundaries. It can be said that the solution to and overcoming the crisis and challenges of bad use of technology may lie in enacting laws and formulating usage policies and the consequent controls and penalties imposed against violators and offenders. Moreover, the researcher believes that these and procedures alone are not sufficient from the point of view of An educational view, as it is necessary to take preventive measures with the aim of educating and training each user to be a responsible digital citizen in light of a global society in which new global citizenship landmarks have prevailed, attracting everyone to it based on digital citizenship.

Second: Recommendations:

1. Develop policies related to digital citizenship in schools, the mechanisms for their implementation, and the roles and responsibilities of the elements of the educational process, implementation processes.
2. Including the dimensions of digital citizenship in physics textbooks according to clear visions based on a clear strategy.
3. Holding training courses for physics teachers in order to enable them to educate students about the applications of digital citizenship.
4. Conduct more studies and research in different subjects and other age groups.

5. Conducting studies on methods of enabling the values of digital citizenship among school students in order to preserve the value system in the digital age.
6. Introducing specialized programs directed at educating the next generation on digital citizenship.
7. Organizing awareness and educational meetings for students about digital citizenship.

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