The Practice of Digital Citizenship Values among Higher Primary School Students in Jenin Governorate of Palestine

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Abstract: The aim of this study is to investigate higher primary school students' practice of digital citizenship values in the governorate of Jenin, Palestine. The methodology involves a questionnaire of 31 items testing the degree to which digital citizenship is practiced at the technological, social, commercial and ethical dimensions is designed and distributed to a random sample of 381 students from Jenin's governmental schools and analyzed using the (SPSS) program in the second semester of the 2019 school year. Findings indicate a moderate level of overall digital citizenship, with technological proficiency surpassing social, commercial, and ethical dimensions. Moreover, the study shows no statistically significant differences between the average scores of students' practice of digital citizenship values according to gender, academic performance, and ownership of a digital device. Therefore, the study recommends strengthening digital citizenship education by fostering inclusive online environments, activating the role of educational institutions in boosting students' practice of digital citizenship values, and designing educational programs that enhance students' practice of digital citizenship values particularly for the commercial and ethical dimensions.

Keywords: Digital Citizenship, Digital Laws, Students' Ethical Use, Social Values.

ممارسات قيم المواطنة الرقمية لدى طلاب المرحلة الأساسية العليا في محافظة جنين – فلسطين

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الملخص: الهدف من هذا البحث هو دراسة ممارسة قيم المواطنة الرقمية لدى طلبة المرحلة الأساسية العليا في محافظة جنين – فلسطين، و يشمل منهج البحث تصميم استبانةٍ من 31 فقرة لقياس درجة ممارسة المواطنة الرقمية في البعد التكنولوجي والاجتماعي والتجاري والأخلاقي، وتم توزيعها على عينةٍ عشوائيةٍ مكونةٍ من 381 طالبًا وطالبة من مدارس محافظة جنين الحكومية، ثم تم تحليل البيانات باستخدام برنامج الإحصاء (SPSS) في الفصل الدراسي الثاني للعام الدراسي 2019، و أظهرت النتائج مستوى متوسطاً لممارسة المواطنة الرقمية بشكلٍ عام، مع تفوق البعد التكنولوجي على الأبعاد الاجتماعية والتجارية والأخلاقية. كما أظهرت الدراسة عدم وجود فروق ذات دلالة إحصائية بين متوسطات درجات الطلبة في ممارسة قيم المواطنة الرقمية وفقًا للنوع والجنس والأداء الأكاديمي وامتلاك الجهاز الرقمي، لذلك، توصي الدراسة بتعزيز تعليم المواطنة الرقمية من خلال تهيئة بيئاتٍ رقميةٍ شاملة، وتفعيل دور المؤسسات التعليمية في تشجيع ممارسة الطلبة لقيم المواطنة الرقمية، وتصميم برامج تعليمية تعزز ممارسة الطلبة لقيم المواطنة الرقمية خاصة في الأبعاد التجارية والأخلاقية.

الكلمات المفتاحيّة: المواطنة الرقمية، القوانين الرقمية، الاستخدام الأخلاقي للطلاب، القيم الاجتماعية.

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Introduction

The rapid advancement of digital technology has to a large extent transformed the way we live, learn and interact. Given the rise of globalization, which has led to the employment of digital applications in various fields, digital citizenship has become a major area of interest particularly within the field of education. Despite the positive nature of these digital applications in our day and time, they do not come without risks. It is therefore crucial to educate students on how to optimally employ the digital applications without losing sight of its potential risks. That has to occur within an ethical legal environment known as the concept of digital citizenship (Al-Slehat, AlFlouh & Al-Serhan, 2018).

The concept of digital citizenship has been associated with our current era of digitalization. In other words, an individual in today's society is a citizen who is linked to more than one context in his citizenship, locally, regionally or internationally. That leads them to adopt a digital behavior, which gives them the status of citizenship in a digital world (Al-Qahtani, 2018). One of the major and continuing concerns of digital citizenship is to prepare young people and teach them how to use digital means in safe ways so they can obtain the skills of using digital technological means, and critical thinking skills to cope with a digital content. (Alsamadi, 2017). The concept of digital citizenship is therefore related to the system of education, as it is an approach to prepare students for full involvement in society and active participation in it especially in when it comes to digital fields. That is to say, digital citizenship constitutes a system of protection for the individual when using digital devices (Aqqad, 2017).

With the rapid evolution of technology and its integration into everyday life, digital citizenship has become a vital aspect of education. Higher primary school students especially need a solid foundation in digital literacy to responsibly navigate the complexities of the digital world. In Jenin Governorate, where technology access is on the rise, it is crucial to understand how these students practice digital citizenship values. Although prior research has examined digital citizenship, there is a lack of studies focusing on the practices of higher primary school students in this region. This study seeks to address this gap by exploring how these students perceive and implement digital citizenship values in their daily activities.

Although the significance of preparing students for the digital age is recognized, further research is needed to determine the most effective teaching methods, assessment strategies, and teacher training programs for digital citizenship education. Additionally, studies investigating how to incorporate digital citizenship into existing curricula, addressing disparities in digital access, and evaluating the long-term outcomes of such education are essential for future advancements in this field.

The Research Problem

Statistics show that in early 2024, a high percentage of Palestinians had access to the internet and mobile services, with 88.6% internet penetration and 82.2% mobile connectivity, but social media usage was slightly lower at 40.5% (DataReportal, 2024). Because students interact with the internet and digital devices almost constantly, especially since this interaction may not be associated with sufficient awareness, this necessitates studying the negative or positive repercussions of this interaction on the young generation in its system of values, especially the values of digital citizenship. That includes the value of assuming responsibility that has been declining due to the fact students spend long hours on digital devices. Consequently, some students have become neglecting of many of their responsibilities, including academic responsibilities such as doing homework and assignments, personal responsibilities such as spending time with family and friends, and social responsibilities such as participating in community activities and building and maintaining relationships. Moreover, the spread of violence and the absence of the language of dialogue between people may have been caused, in part, by the values students acquired through communicating on the Internet with different cultures, and the lack of interaction between parents and their children to guide them and instill in them the appropriate social values (Elsayed, 2024). This exactly what Elasouly (2021, p. 955) meant when he described citizenship as "…a fundamental quality that individuals should develop from a young age. Families play a crucial role in cultivating this virtue by fostering a strong sense of national pride and purpose within their households." Thus, the practices of digital citizenship values are at the center of this study.

The Rationale of the Study

The importance of the current study lies in the fact that it provides a theoretical framework around the concept of digital citizenship, its values and the extent to which they are practiced. Additionally, the current study guides researchers and gives them the tools necessary to investigate the values and practices of digital citizenship in the light of various variables.

Here, it is important to point out that citizenship can be procedurally be defined as: "The quality possessed by an individual who is aware of their rights and societal responsibilities, has a full understanding of the values and principles associated with national identity and belonging, and is capable of active political participation, enabling them to interact positively with their community and country" (Harb, 2022, p. 1272). It is also important to emphasize that the concept of digital citizenship has a strong relationship with the education and learning system, because it is able to help teachers and educators in general and parents in particular to determine what students should know in order to use technology appropriately. Digital citizenship, therefore, is more than just an educational tool, but rather a means to prepare students for full involvement in society and active participation in serving the interests of the nation in general and in the digital field in particular (Al-Qarni, 2021). The next section provides a review of the relevant literature on the practicing the values of digital citizenship and its various dimensions.

Literature Review

Given the digital revolution, the world of today has acquired the name of 'the digital world', and the uses of technology have diversified in a way that affected the practices of good citizenship education. This has in turn led to the emergence of the concept of digital citizenship and the digital citizen in the field of education (Tawalbeh, 2017).

The digital age is a concept that refers to the period when all types of data were formulated digitally. As a result, data networks can now store and distribute a huge amount of information and digital experiences (Kuklin et al., 2023).

Digital citizenship is manifested in the ideas, principles, programs and methods that parents, teachers, educators and supervisors responsible for employing the technology and digital devices are ought to know in order to provide the necessary guidance for children, students and technology users (Al-Mallah, 2017). This knowledge includes various rules, constraints, standards, norms, ideas and principles that offer explicit guidelines, regulations such as ethical guidelines for sharing information to guide citizens on the benefits of modern technology, especially that it has become impossible to control what children and adolescents view on various digital devices (Al-Qahtani, 2018).

Moreover, others define digital citizenship as a set of standards, skills and rules of behavior that an individual needs when dealing with technological means in order to respect him or herself and others, learn and communicate with them and protect him or herself and others (Al-Masri & Sha'at, 2017).

The primary goal of digital citizenship is therefore achieved by building a high patriotic spirit among young people. That is because digital citizenship seeks to infuse the spirit in an individual to become an effective digital citizen who does their work, respects the laws, responsibilities and freedoms to serve their society (Al-Qarni, 2021)

The Digital Citizen

An individual is considered a digital citizen when he or she is proficient in computer skills, has knowledge of the internet and can access it via computers and smart phones (Al-Qahtani, 2018). A digital citizen is also characterized by their commitment to intellectual honesty, their respect of culture and societies in the virtual environment and preserving personal information (Heath, 2018). A digital citizen also manages the time spent using technology, protects themselves from corrupt beliefs that spread through the media, and stands against cyberbullying (Al-Qarni, 2021).

In order to consolidate the concept of digital citizenship among students, it is important to provide them with stages of digital citizenship development (Tawalbeh, 2017). These stages are represented below:

- Awareness: refers to equipping students with what they need to become educated in technological media.

- Directed practice: refers to the ability to use technology in an atmosphere that encourages taking risks and discovery.

- Modeling and setting an example: refers to providing ideal and positive models of how technology should be used in every house and school.

- Feedback and behavioural analysis: refers to giving students opportunities to discuss their own usage of digital technology in their classrooms.

Dimensions of Digital Citizenship

The dimensions of digital citizenship as mentioned by Al-Slehat et al. (2018) are represented in digital standards, digital communication, technology education, digital access, e-commerce, responsibility for digital practices, digital rights and safety. Al- Al-Slehat et al. (2018) also highlighted the importance of digital behavior, treating others with respect, and making contributions such as sharing skills with members of the digital community as manifestations of digital citizenship values.

In measuring digital citizenship, one must take into account the social aspect, as this concept involves the use of social media, in addition to focusing on the ethical aspect that relates to the possibility of exposing participants in social media to some risks (Lyon, 2017). That is because digital citizenship is a technological matter in one of its aspects, so the technological dimension must be utilized in measuring this concept of digital citizenship (Al-Qarni, 2021).

The components of digital citizenship, as indicated by Al-Tuwaijri (2017), include ensuring the appropriate use of digital worlds, ensuring respect for and adherence to digital laws, knowledge of digital responsibilities and rights and adherence to them, knowing the use of technology, and ensuring the maintenance of digital security.

The importance of digital citizenship lies in the fact that it helps in understanding what is right and wrong, and helps teachers to engage students in discussions related to real-life situations. Therefore, there is an utmost necessity for it to become a priority in the curricula and teacher development programs (Shaqqoura, 2017). Digital citizenship is also very important because it represents an organizing framework for the individual in his or her dealings with the digital virtual world, which are standards guiding human behavior while dealing with digital technologies. These standards constitute a barrier against extremist ideas and cultural pollutants, which the individual can receive through the digital virtual world, and enhance the individual's personal and societal responsibility while dealing with digital technologies (Al-Tuwaijri, 2017). Thus, digital citizenship and education on it do not depend on the school and its courses, but rather go beyond that to become a practice, behavior, responsibility and duties that accompany the individual everywhere, making him or her a positive participant in society. The digital citizenship curriculum also teaches students pivotal skills such as research skills, communication, and problem-solving skills, in addition to enriching his or her knowledge of their country's culture and history, and strengthening their belief in the values of freedom, justice, and democracy. (Tawalbeh, 2017).

There are different elements for digital citizenship as indicated by Öztürk (2021). For example, digital rights are meant to provide equal opportunities to the mechanisms and techniques of digital access, digital commerce by practicing the sale and purchase of goods electronically and providing laws that control and oblige everyone to them. In addition, digital rights include providing digital communications and electronic exchange of information between citizens of different places and times with different technologies. Moreover, digital rights include digital literacy by teaching and learning technology and its use, empowering learners to become active citizens of a digital society, and equipping them with digital decency and digital standards of behavior and actions (Pangrazio & Sefton-Green, 2021).

These rights can be attained by educating and training each user to take responsibility for the digital society in which they live, and to abide by the laws and avoid problems. Moreover, students should be made aware of the importance of concepts such as privacy, freedom of expression, digital laws and digital responsibility, which need to be enjoyed by all individuals in the digital world. That is why it is important to educate and train members of the digital community on the safe use of technology, digital security, self-protection and the consequent preventive measures and electronic protection by controlling personal information, privacy, and not allowing others to penetrate and view it (Mata-Domingo & Guerrero, 2018).

As for the justifications for digital citizenship, as explained by Al-Tuwaijri (2017), they include the great demand for modern means of communication in the conduct of life affairs, the huge development in the number of Internet users, and the strong connection between digital citizenship and education. Through education, guidance is done in a scientific and organized manner.

As for the effects of the national spirit of digital citizenship among the new generation, as indicated by Zerniz (2024), it was represented in the low level of attachment to patriotism or public service, the lack of a strong digital citizenship ethos among young people, and lack of achievement. Therefore, technology must be used to raise the level of citizenship and belonging, which can be considered one of the most important problems of Arab citizens. Digital citizenship, therefore, is a means that contributes to preparing students for full involvement in society and active participation in serving the country and the digital field.

The idea of digital citizenship faces many difficulties and challenges in terms of practice and application, as indicated by

Kenner and Lange (2019). These difficulties are represented in the moral and cultural challenges, resulting from the different cultural and civilizational habits among individuals, and the financial challenges, which centered on providing the necessary infrastructure for modern information means and the extent of their spread, and the so-called electronic readiness.

Moreover, the digital revolution has changed the features of life activities, and has begun to change the features of the educational process. That is evident in the fact that the school environment began to gradually transform from the traditional environment to the environment of the smart school, the virtual school, and the school of the digital era (Ben Shams, 2017).

To sum up, the degree to which digital citizenship values are practiced can be measured according to the following four dimensions:

1. The technological dimension: is concerned with the ability of students to use technological tools in order to demonstrate their commitment to digital citizenship values.

2. The social dimension: is concerned with the ability of students to interact with each other and other students online, and how they use technology to achieve this purpose.

3. The commercial dimension: is concerned with how students interact with commercial content and services online.

4. The ethical dimension: is concerned with students' ability to use technology in a way that protects their own privacy and the privacy of their interlocutors and their intellectual property.

Methodology

The analytical descriptive approach was used for its suitability to the nature and purposes of this study. The population of the study consists of all higher primary school students in Jenin's governmental schools during the second semester of the 2019 school year and their number reached seven thousand male and female students. A stratified random sample was selected from the students of the study population. The sample size reached (381) male and female students, distributed according to the study variables. As for the study tool, the researchers built a questionnaire consisting of (31) items distributed over four domains of practices: (13 items) for the practice of the social dimension, (5 items for the practice of the commercial dimension, (6 item) for the practice of the technological dimension, and (7 items) for the practice of the ethical dimension (Please see appendix (1) for the full questionnaire with all 31 items). Table (1) blow provides a description of the sample participants in terms of their gender and grade and position of a digital device.

Table (1): Description of the study sample in terms of Gender and Grade.

Gender		Grade		Position of a digital device	
Male	Female	9th Grade	10th Grade	Yes	No
61 (16%)	320 (84%)	177 (46.45%)	204 (53.55%)	301 (73.5%)	80 (26.5%)

As can be seen from Table (1), the number of participants who were in their 10th grade at the time the study was conducted was slightly lower than those who were in their 9th grade. Also, Table (1) shows that the majority of the students taking part in the study were female. This is because males in Jenin are more likely to drop out of school at this age to assist their parents who work in agriculture. As for the increase in the number of tenth-grade students compared to ninth-grade students, this could be

due to the transfer of students from remote village schools, where the student numbers are too low to open new sections, to schools with a reasonable number of students and the ability to accommodate students from nearby villages.

Moreover, Table (1) shows that the majority of the participants possessed a digital device at the time of conducting the study. Table (2) below describes the students' academic performance which was based on their school grades as provided by their teachers:

Table (2): Description of the study sample in terms of their academic performance.

Academic performance		
Good	**Very Good**	**Excellent**
77 (20.2%)	149 (39.1)	155 (40.7)

As can be seen from Table (2), the academic performance of only a minority of the participants was described as "good", whereas the number of students with excellent and very good academic performance was comparable.

The validly of the tool was verified through presenting it to a group of academics with a wealth of experience and competence, and the stability coefficient was calculated using the (Cronbach Alpha) equation, and the overall stability coefficent was 0.81, and the individual stability coefficients for each dimension are shown in table (3) below:

Table (3): Stabilitiy coefficinets of practicing digital citizenship values in relation to the four domains of the study.

#	Domain	Stability coefficient
1	The degree to which digital citizenship values are practiced in the social dimension	78.4
2	The degree to which digital citizenship values are practiced in the commercial dimension	72.8
3	The degree to which digital citizenship values are practiced in the technological dimension	67.1
4	The degree to which digital citizenship values are practiced in the ethical dimension	73.2
The overall degree of practicing digital citizenship values		81.1

Study Variables

The study included the following variables:

– Independent variables: Gender: It has two levels: (Male, Female), Grade: It has two levels: (Ninth, Tenth), Possession of a digital device: It has two levels: (Yes, No), Academic performance: It has three levels (Good, Very good, excellent).

– Dependent variables: the degree of the students' practice of digital citizenship among the higher primary school students in Jenin Governorate.

Statistical procedures

Frequencies, percentages, mean, standard deviations, independent sample T-test, One Way ANOVA, and Cronbach alpha test were used.

Study results and discussion

The results of the first study question:

What is the degree of practicing the values of digital citizenship by higher primary school students in Jenin Governorate? In order to answer this question, the arithmetic means and standard deviations were extracted on the total score of the tool, and for each field of the study tool to the degree of practicing the values of digital citizenship among stage students.

Table (4): The arithmetic means, standard deviations, and percentages of the fields of students' practice of digital citizenship values on the study tool, arranged in descending order according to the arithmetic mean.

#	Order	Domain	Arithmetic means	SD	Percentage	Answer score
1.	1	The degree to which digital citizenship values are practiced in the technological dimension	3.86	0.80	77.2%	High
2.	2	The degree to which digital citizenship values are practiced in the social dimension	3.64	0.58	72.8%	High
3.	3	The degree to which digital citizenship values are practiced in the commercial dimension	3.15	0.86	62.9%	Medium
4.	4	The degree to which digital citizenship values are practiced in the ethical dimension	2.90	0.87	58.1%	Medium
		The overall degree of practicing digital citizenship values	3.39	0.50	67.8%	Medium

It is clear from Table (4) that the total score for the dimensions of practicing digital citizenship values by higher primary school students was (3.39), with a standard deviation of (0.50), which is a medium score. Moreover, we can note that the dimensions are arranged in descending order, from highest to lowest, according to the following: the field of practicing the technological dimension, the field of practicing the social dimension, the field of practicing the commercial dimension, and the field of practicing the ethical dimension.

Discussion of the first research question's results

By analyzing the data, it was found that the degree of students' practice of the values of digital citizenship in the higher primary school students was medium based on the arithmetic averages indicated in Table (4). As for the dimensions' order, they are outlined in descending order, as follows: the domain of the technological dimension averaged 3.86, the social dimension domain was 3.64 with a high score, the commercial dimension domain was 3.15 with a medium score, and finally, the domain of ethical dimension was 2.90 with a medium score.

This arrangement of the arithmetic averages of the domains can be attributed to the fact that students in the higher primary school stage have a high degree of practice with regard to the technological dimension, including their proficiency in using electronic devices, their skill in using digital applications and their awareness of data privacy and online safety. In other words, students are aware of the need to constantly change the password to protect their information, and they are skilled in dealing with various digital applications in digital technology as a result of their continuous practice of these devices.

This result is consistent with the study of Al-Slehat et al. (2018), and the study of Al-Masri and Sha'at (2017). The data analysis showed that the degree of students practicing the values of digital citizenship in the technological dimension was high, with an arithmetic mean of (3.86), which indicates that students practice the values of digital citizenship to a great extent before starting to use such applications. With regard to the paragraphs of the technological dimension, the paragraph that states (I use antivirus and Internet security protection on my computer and my smartphone) was ranked first with an arithmetic mean of (4.27). This is due to students' keenness on software and the contents represented in files, pictures and personal documents, and their interest in preserving them to a large extent. This interest is due to the negative effects that may result from its loss or publication. However, the last rank with an arithmetic mean of (3.46) was assigned to the paragraph that states (I deal with various digital applications in digital technology) and this could be attributed to students' interest in practicing the digital applications, such as 'Whatsapp', 'Google drive' and 'Snapchat', that are consistent with the customs and values of the society through protection software for images and documents.

As for the social dimension in the practice of digital citizenship values, it was highly rated with an arithmetic average of (3.64), especially with regard to the use of digital devices to communicate with their colleagues). This result can be attributed to the ease of obtaining digital communication devices given the fact that they are cheap compared to other devices. For example, basic Smartphones are generally affordable digital communication devices for students, while laptops, tablets, and gaming consoles tend to be more expensive. Moreover, these digital communication devices are easy to carry around anytime and anywhere and they have some degree of privacy, including strong encryption, user control, regular updates, physical security, and privacy-focused systems that reinforce a digital device' privacy.

As for the commercial dimension in the practice of the values of digital citizenship by higher primary school students, it was medium rated with an arithmetic mean of (3.15), which indicates that students have the ability to know the basics of trade in these sites when practicing the values of digital citizenship. With regard to the commercial dimension paragraphs, it was ranked first with a mean of (3.53), which is the paragraph that states, "I deal with well-known electronic commercial sites." This could be due to what the students transmit among themselves regarding well-known commercial sites, such as 'eBay', 'Applestore', and 'AliExpresss', that are safe to deal with. Finally, the paragraph states that commercial fraud is practiced through websites was ranked last with an arithmetic mean of (2.59). This could be due to the students' intellectual perceptions about cheating and fraud and its relationship to abnormal and unacceptable behavior across cultures.

As for the ethical dimension in the degree of practicing the values of digital citizenship by higher basic stage students in Jenin Governorate, it was of a medium degree, with an arithmetic mean of (2.90), which indicates that students need an increase in their skills related to the ethical dimension when doing work on these applications.

The paragraph that states (I use the appropriate time to talk to others) ranked first, with an average of (3.81). This result could be attributed to the family arrangements related to developing plans for the students to spend their time, starting from going to school and spending a long time in it during which he or she does not use smart devices, and the daily preoccupations of students in helping parents in agriculture, industry or trade. The student may also be busy in social activities and events, and therefore there is no time left for students to work with smart devices, except for a little time that they will spend on their smart devices anyway.

Finally, the paragraph that ranked last with an arithmetic mean of (1.99) is the one that states (I use viruses to hack accounts). This result is attributable to the fact that students are not able to use hacking programs because that requires skills with a high degree of application.

Results related to the study hypotheses and their discussion

Results related to the first null hypothesis and their discussion: There are no statistically significant differences at the significance level (α = 0.05) between the mean scores of students practicing digital citizenship values according to the

gender variable. To test this hypothesis, the researchers used standard deviations, the calculated (t) value, degrees of freedom, and the value of statistical significance, as in Table (5).

Table (5): The results of the t-test for independent samples to compare between two arithmetic means of two independent samples for the degree of practicing the values of digital citizenship among students according to the gender variable.

Domain	Males (N=61)		Females (N=320)		Degree of freedom	T-value	α
	Mean	SD	Mean	SD			
Students' estimates of the social dimension items	3.644	0.574	3.637	0.578	397	0.088	0.930
Students' estimates of the commercial dimension items	3.203	0.836	3.135	0.864	397	0.563	0.574
Students' estimates of the technological dimension items	3.789	0.805	3.875	0.802	397	-0.761	0.447
Students' estimates of the ethical dimension items	2.882	0.866	2.908	0.869	397	-0.211	0.833
Overall score	3.380	0.542	3.389	0.494	379	-0.129	0.897

*Statistical significance at level (0.05)

It is clear from Table (5) that there are no statistically significant differences at the level of significance (α = 0.05) between the mean scores of students' practice of digital citizenship values regarding the gender variable on all dimensions of the study and on the total score, where the level of significance was (0.89), which is a higher value level of significance. Therefore, the hypothesis is accepted.

The absence of statistically significant differences is because the study sample of males and females were consistent in their answers about the degree of practice of the values of digital citizenship. The digital devices have become available in every Palestinian house, but the matter goes even beyond that because almost every individual owns their own digital device. Moreover, through communication by students on social networking sites, and access to the Internet for long hours a day and from both sexes, they have an important store of information about how to use the Internet and how to deal with these devices.

This result is consistent with the study of Al-Harbi (2018), and the study of Al-Masri and Sha'at (2017). However, this result is contrary to that of Mahdi's (2018) and Aqqad's (2017) because all of these studies indicated that there were differences according to the gender variable. This result is attributable to the difference in the sample size and type, and the difference in the societal structure and the intellectual backgrounds that the research community may be subject to.

The results related to the second null hypothesis and their discussion: There are no statistically significant differences at the significance level (α=0.05) between the mean scores of practicing digital citizenship values according to the grade variable. To test this hypothesis, the t-test was used for independent samples to compare two arithmetic means of two independent samples in order to extract the arithmetic means, standard deviations, the calculated (t) value, degrees of freedom and the value of statistical significance, as in Table (6).

Table (6): The results of the t-test for independent samples to compare between two arithmetic means of two independent samples for the degree of practicing the values of digital citizenship among students according to the grade variable.

Domain	9th grade (N=177)		10th grade (N=204)		Degree of freedom	T-value	α
	Mean	SD	Mean	SD			
Students' estimates of the social dimension items	3.71	0.51	3.57	0.62	397	2.34	0.02
Students' estimates of the commercial dimension items	3.05	0.83	3.22	0.87	397	1.88	0.06
Students' estimates of the technological dimension items	4.01	0.73	3.72	0.83	397	3.64	0.000
Students' estimates of the ethical dimension items	2.94	0.86	2.86	0.86	397	0.93	0.34
Overall score	3.43	0.48	3.34	0.51	379	1.71	0.08

*Statistical significance at level (0.05)

It is clear from Table (6) that there are no statistically significant differences at the level of significance (α=0.05) between the mean scores for practicing digital citizenship values according to the grade variable on most dimensions in addition to the total score with a significance level of (0.08). That is a value higher than the level of significance, and therefore the hypothesis is accepted.

Moreover, if we look closely at table (6), we can see that there are statistically significant differences in students' estimates for the social dimension items, and the differences were in favor of the ninth grade over the tenth grade. The table also shows that there were differences in students' estimates for the technological dimension items, and the differences were in favor of the ninth over tenth grade students. The result could be attributed to the cognitive abilities of the students including their

critical thinking and problem-solving skills. It could also be attributed to students' cultural and social environment, and their economic status including the income level of their families and the occupation of their parents. Another possible reason may be the keenness of the parents and the school to educate students about the ethics of using these sites.

The results related to the third null hypothesis and their discussion: There are no statistically significant differences at the significance level (α = 0.05) between the mean scores of students in practicing digital citizenship values according to the variable of owning a digital device.

To test this hypothesis, the t-test was used for independent samples to compare two arithmetic means of two independent samples in order to extract the arithmetic means, standard deviations, the calculated (t) value, degrees of freedom and the value of statistical significance, as in Table (7).

Table (7): The results of the t-test for independent samples to compare between two arithmetic means of two independent samples for the degree of practicing the values of digital citizenship among students according to owning a digital device.

Domain	Yes (N=80)		No (N=301)		Degree of freedom	T-value	α
	Mean	SD	Mean	SD			
Students' estimates of the social dimension items	3.64	0.59	3.60	0.52	397	0.50	0.61
Students' estimates of the commercial dimension items	3.14	0.83	3.17	0.96	397	0.275	0.78
Students' estimates of the technological dimension items	3.88	0.80	3.76	0.78	397	1.21	0.22
Students' estimates of the ethical dimension items	2.88	0.83	2.97	0.99	397	0.77	0.43
Overall score	3.39	0.49	3.37	0.53	379	0.17	0.86

*Statistical significance at level (0.05).

We can see from Table (7) that there are no statistically significant differences at the level of significance (α = 0.05) between the mean scores of students in practicing the values of

digital citizenship according to the variable of owning a digital device on all dimensions of study in addition to the total score with a significance level of (0.86). That is a higher value than the

level of significance, and therefore, the null hypothesis is accepted. This result can be attributed to the lack of privacy between parents and their children, or between brothers and sisters in the same family. In other words, privacy within a household can be undermined when all family members share the same digital device(s). They have almost the same degree of practicing the values of citizenship. Therefore, students who do not own a digital device can use a device of a family member, or use a computer inside or outside the home, i.e. with friends at Internet centers or at school.

The results related to the fourth null hypothesis and its discussion: There are no statistically significant differences at the significance level (0.05=α) between the mean scores of students in practicing digital citizenship values according to the academic performance variable.

To test the validity of the hypothesis, the arithmetic means and standard deviations of the mean scores of students' practice of digital citizenship values due to the academic performance variable were extracted and shown in Table (8) below.

Table (8): The arithmetic means and standard deviations of the overall scores of the respondents' responses towards the degree of awareness of digital citizenship values according to the academic performance variable.

Domain	Academic performance	Number	Arithmetic means	SD
The degree to which digital citizenship values are practiced	Good	77	3.36	0.49
	Very Good	149	3.39	0.56
	Excellent	155	3.39	0.44
	Overall score	3.39	0.50	67.8%

It is clear from Table (8) that the arithmetic means and standard deviations of the total score of the degree of practicing digital citizenship values are attributed to the variable of academic performance, as the arithmetic mean of the total score for the good level was (3.36) and the standard deviation was (0.49), and for the very good level the arithmetic mean was (3.39) and the standard deviation was (0.56), while the excellent level was (3.39) and the standard deviation was (0.44).

In order to confirm the validity of the previous null hypothesis, a One Way ANOVA test was conducted to extract the values of the arithmetic means, standard deviations, degrees of freedom, calculated F values, and statistical significance level values for the responses of the study sample members to the study domains and the overall instrument of the study. See Table (9) below:

Table (9): Results of the One Way ANOVA analysis of variance for the degree of students' practice of digital citizenship values according to the academic performance variable.

Domains	Sources of variation	Total sum of squares	Degrees of freedom	Mean Squares	F Value	Significance level
Students' academic performance and the social dimension paragraphs	Between groups	0. 62	2	0. 31	0. 93	0. 39
	Within groups	125. 98	378	0. 33		
	Sum	126. 60	380			
Students' academic performance and the commercial dimension paragraphs	Between groups	0. 308	2	0. 15	0. 20	0. 81
	Within groups	280. 43	387	0. 74		
	Between groups	280. 74	380			
Students' academic performance and the technological dimension paragraphs	Between groups	0. 412	2	0. 20	0. 31	0. 72
	Within groups	244. 28	387	0. 64		
	Sum	244. 70	380			
Students' academic performance and the ethical dimension paragraphs	Between groups	0. 31	2	0. 15	0. 20	0. 81
	Within groups	285. 81	387	0. 75		
	Sum	286. 12	380			
The degree to which digital citizenship values are practiced	Between groups	0. 05	2	0. 02	0. 11	0. 89
	Within groups	95. 50	387	0. 253		
	Sum	95. 56	380			

*Statistical significance at level (0.05).

Table (9) above shows that there is no statistically significant difference at the significance level of α=0.05 between the average scores of students' digital citizenship practices based on the academic performance variable for all study fields and the overall field. Since the significance level for the overall field was 0.89, which is higher than the predetermined value, the null hypothesis related to the academic performance variable is accepted.

The lack of statistically significant differences according to the academic performance variable is due to students in the upper basic stage (ninth and tenth grades) receiving similar information from their families, schools, and the surrounding community. They also have access to the same locally available resources, which are often used in scientific contexts. This similarity in exposure and use of resources may be attributed to the long hours students spend at school and the uniform level of interaction with these resources, regardless of their academic performance and achievement levels. This finding neither agrees nor disagrees with any of the previous studies reviewed.

Conclusion

The results of the study indicate that the total score for the areas of higher primary school students' practice of digital citizenship values reached (3.39) with a standard deviation of (0.50), which is an average degree. The order of the domains from highest to lowest was as follows: the domain of practicing the technological dimension, the domain of practicing the social dimension, the domain of practicing the commercial dimension, and then the domain of practicing the ethical dimension.

Moreover, there are no statistically significant differences at the level of significance (α = 0.05) between the average scores of students' practice of digital citizenship according to the variables of gender, academic performance, and ownership of a digital device in the overall domain and on all sub-fields of study.

Based on the results of the study, the researchers recommend that the role of educational institutions should be consolidated to educate students about digital citizenship and encourage them to practice it. Moreover, it is important to design and prepare programs to enhance the degree to which students practice the commercial and ethical dimensions of digital citizenship. In addition, more work needs to be done on designing and preparing educational programs that promote the idea of accepting and respecting the ideas and opinions of others on social media sites. Finally, it is important to develop educational environments in a way that nurtures the practice of

digital citizenship values by enabling students to deal with the digital world.

Disclosure Statement

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