A Suggested Proposal for Activating the Role of Parents in Developing Digital Citizenship Awareness for Kindergarten Children in Light of the Digital Education Approach

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Abstract : **The study aimed to identify the role of parents in digital education for kindergarten children in the digital age to develop their awareness of digital citizenship. It also aimed to identify the obstacles that prevent parents from fulfilling their role in the digital education of their children in kindergarten, from the perspectives of early childhood education experts and kindergarten teachers. The results revealed a set of parental tasks classified into five dimensions that reflect the role of parents in the digital education of kindergarten children. Each dimension includes a set of parental practices that contribute to the development of the child's awareness of digital citizenship. The results also indicated a range of obstacles that hinder the activation of parents' role in the digital education of their children in kindergarten. In light of the results, the study proposed a vision for activating the parental role in the digital education of kindergarten children, based on the digital education approach, and a set of mechanisms that work to overcome the obstacles that prevent the activation of this role.**
Keywords: **Digital literacy, virtual community, digital age, early childhood.**

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تصور مقترح لتفعيل دور الوالدين في تنمية الوعي بالمواطنة الرقمية لطفل الروضة في ضوء مدخل التربية الرقمية

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ملخص: هدفت الدراسةُ التعرف على دور الوالدين في التربية الرقمية لطفل الروضة في العصر الرقمي؛ بما يحقق تنمية وعيه بالمواطنة الرقمية، وتحديد المعوقات التي تحول دون قيام الوالدين بدورهم في التربية الرقمية لطفلهما بالروضة وجهة نظر خبراء تربية مرحلة الطفولة المبكرة، ومعلمات الروضة. وكشفت النتائج عن مجموعة من المهام الوالدية صُنفت في خمسة محاور عبرت عن الدور الوالدي في التربية الرقمية لطفل الروضة كل محور يتضمن مجموعة من الممارسات الوالدية التي تسهم في تنمية وعي طفل الروضة بالمواطنة الرقمية. كذلك أظهرت النتائج مجموعة من المعوقات التي تحول دون تفعيل دور الوالدين في التربية الرقمية لطفلهما بالروضة. وفي ضوء النتائج قدمت الدراسة تصورًا مقترحًا لتفعيل الدور الوالدي في التربية الرقمية لطفل الروضة يستند على مدخل التربية الرقمية، ومجموعة من الآليات التي تعمل على الحد من المعوقات التي تحول دون ممارسة هذا الدور.
الكلمات المفتاحية: محو الأمية الرقمية، المجتمع الافتراضي، العصر الرقمي، الطفولة المبكرة.

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Introduction

Recently, there has been growing interest in the rapid advancements of information and communication technologies, which have caused a significant technological revolution. Digital proficiency has become a crucial necessity in the current era, known as the "digital age." This revolution has brought numerous societal and individual benefits, improved well-being, and creating more new job opportunities for individuals with advanced digital skills (Eid, 2023).

However, this revolution also carries negative impacts due to excessive device and smartphone usage. It has given rise to a new community, the "virtual community," where individuals heavily rely on digital communication and build relationships without physical presence. This has led to interactions with anonymous users and unsafe websites, posing health, security, and social risks. Additionally, political factors have contributed to the spread of foreign cultures in Islamic societies as a cultural invasion during an era of openness and removal of communication barriers (Al-Sayed, 2016). Moreover, this openness has fostered freedom of expression, sometimes lacking responsibility. Thus, it emphasizes the importance of raising awareness and educating citizens on responsible digital technology use. This entails informing individuals about their rights and responsibilities as digital citizens, as well as educating them on cognitive and security aspects within the digital community, known as "digital citizenship." (Al-Malah, 2017). This concept defines the behaviour required in the technology era to ensure citizens and communities benefit from the advantages of the technological revolution, achieving societal goals effectively.

Digital citizenship has received significant attention in many countries, particularly among educators, with a special emphasis on early childhood, especially kindergarten. This stage plays a crucial role in instilling the foundational principles of digital citizenship in children, which serve as a basis for further development as they grow, and their digital practices evolve. As children in this stage are susceptible to external influences and their attitudes and behaviours are being shaped, it has garnered significant attention in educational settings. Various organizations, both private and governmental, have been established to support this stage and its caregivers. The focus is on all channels, including modern technology, that influence children and shape their personalities. Therefore, children need to engage with these tools, develop skills, and form positive attitudes towards them.

Problem Statement

Studies highlight the significance of early childhood digital citizenship awareness. Al-Musallamani (2014) suggests starting to install digital citizenship values before children attend school. Various countries, including Britain, France, and Canada, have integrated digital citizenship principles into their education curricula at this stage. These nations have also implemented a national plan to train parents and teachers accordingly (Al-Dahshan, 2016).

Excessive engagement with technology, particularly educational games, can have multifaceted negative impacts on children's health, lifestyle, behaviours, thinking patterns, and interests. Extended screen time on mobile devices, iPads, and computers can adversely affect their physical well-being. Additionally, the social aspects of transforming into virtual digital beings within an isolated electronic environment deprive them of essential communication skills and expose them to potential risks from unknown individuals and applications, especially in virtual reality games. Consequently, this poses

a threat to their culture, ethics, and sometimes their religious education, potentially compromising their security and well-being. Al-Zayoudi (2015) confirms that educational games contribute to school violence and have adverse health effects due to addiction, weakened family communication, and fostering selfishness among children. Hence, the significance of the educational role in guiding young children in kindergarten through “digital education” becomes apparent. Numerous studies highlight the necessity of digital education support for kindergarten children and their caregivers. For instance, Abdel Latif (2017) found that kindergarten children possess limited knowledge of digital citizenship concepts, while parents and teachers demonstrate limited awareness of these concepts, impacting their ability to effectively teach them to children. Ghandoura (2021) confirmed that Saudi Arabia's kindergarten curricula lack digital citizenship concepts, except for those related to digital knowledge, health, and safety.

There is a need for an educational role to address the lack of awareness regarding digital citizenship among kindergarten children, teachers, and parents. Many studies neglect the role of parents in citizenship and digital education. In Saudi Arabia, research mainly focuses on youth, particularly university students, and those involved in the education process, such as teachers and faculty members. Few studies have emphasized the role of parents in digital education, with Abdel-Hakim's (2020) study highlighting the family's role in ensuring digital security for kindergarten children in the face of digital revolution challenges. Projects have been initiated to educate kindergarten children like Australia's "Connect with Confidence: Developing Australia's Digital Future" project. This project aimed to generalise teaching digital citizenship to students and train parents and teachers through a comprehensive national plan (Al-Qayid, 2014). The research problem can be summarized by the following questions.

Key Question:

1- How can parents' partnership be activated in developing awareness of digital citizenship for kindergarten children in light of the digital education approach?

Sub-questions:

2- What is the role of parents in the digital education of kindergarten children to develop their awareness of digital citizenship from the point of view of education experts and kindergarten teachers, and the obstacles to activating this role?

3- Are there statistically significant differences at a significance level of (0.05) between the means of respondents ' opinions regarding the role assigned to parents in the digital education of kindergarten children due to the job variable (education experts and kindergarten teachers)?

4- What is the proposed vision to activate the role of parents in the digital education of kindergarten children?

Research Objectives

1- To shed light on the concept of digital citizenship and its most prominent challenges.

2- To Identify the approach of digital education, its relationship with the parental role, and its positive effects on the education of kindergarten children.

3- To identify the role of parents in the digital education of kindergarten children from the perspective of education experts and kindergarten teachers, as well as the obstacles to activating this role.

4- To develop a proposed vision to activate the parental role in the digital education of the kindergarten child to

develop an awareness of digital citizenship.

Significance of the Research

The research holds significance for the following categories:

1- Those responsible for updating kindergarten education to align with contemporary variables. The study presents a theoretical framework that addresses a modern approach to education known as “digital education”, focusing on essential life skills required in the digital age.

2- Private and governmental associations and bodies interested in parental education and activating the parental role to confront the challenges of child-rearing. The research offers a vision to activate the parental role.

3- Entities involved in achieving Saudi Vision 2030, which prioritizes the modernization of youth education, localization of digital technology, and development of citizens' technological skills.

Research Delimitation

1- Objective Delimitation: The research was limited to the parental role in digital education.

2- Population Delimitation: The application of the research was limited to education experts and kindergarten teachers within the Kingdom of Saudi Arabia.

Key Term Definitions

1- Digital Citizenship:

Al-Hafizhi (2019, p.131) defines digital citizenship as "a set of beliefs and behaviors associated with a range of digital values through which an individual's behavior towards conscious and responsible use in the digital community can be determined."

Operationally, it is defined as "a set of knowledge, skills, values, standards, and controls associated with the practices of citizens in the digital environment in a proper manner to achieve maximum benefit from it and protection from its dangers, which parents impart to their children, in partnership with their kindergartens, through a special type of education known as digital education."

2- Digital Education:

Al-Dahshan (2016, p. 22) defines digital education as "educational activities that contribute to supporting a culture of rational and beneficial use of digital technologies among young people and individuals and training them in various aspects of digital citizenship."

Operationally, it is defined as "the education received by kindergarten children to guide them properly towards making the most of technology by developing their knowledge, skills, and directing their positive attitudes towards it in a positive way, ensuring continuous learning at all stages of their lives, and equipping them with mechanisms that provide prevention and protection against the risks of these technologies, which could affect the formation of a child's personality."

First Section: The Theoretical Framework

The theoretical framework consists of three main axes as follows:

First Axis: The nature of digital citizenship and its most prominent challenges

The concept of digital citizenship is extensively discussed in education, attracting analysts and researchers who explore its various aspects and mechanisms for instilling it in citizens across different stages—pre-education, education, and post-education. Given its significance in the digital age, which heavily relies on technology, this axis aims to identify the concept's nature and highlight its key challenges.

First Theme: The nature of digital citizenship:

Digital citizenship is a significant and debated topic in education. It is discussed among vital societal issues, and various educators and thinkers have provided their definitions based on their perspectives, focusing on specific aspects or characteristics. Ghandoura (2021, p.26) defined digital citizenship as "a set of concepts that help

children understand the rules of conscious behavior in using technology, aiming to teach them the concepts of digital citizenship, including respecting others and their opinions, learning to use technology in various fields, and protecting personal information and data."

While other definitions approached it through the mental processes associated with it, Zayan (2020, p.34) defined it as "awareness and recognition of the digital world and its components, and adherence to the rules and regulatory guidelines for digital device users, so that the individual becomes socially acceptable in their electronic interactions." Other studies have treated it as an educational strategy for social issues or as an educational framework through which educators develop educational curricula that prepare students as digital citizens. Al-Malah (2017, p. 40) mentioned that it is "a field that focuses on preparing generations capable of using technology in its various types and forms effectively and appropriately, according to the standards defined by the culture and national identity of those societies, to ensure optimal and positive use of technology, and to prepare those generations in terms of cognitive, skills, and behavioral aspects." On the other hand, definitions have also approached it as a framework for the interactive processes that occur during virtual communication. Jwaifell (2018, p.65) pointed out that it is "the individual's interaction with others using digital tools and resources, such as computers and mobile phones, and all the services provided by them, such as email, websites, social networking platforms, etc., along with the necessary rules, regulations, standards, goals, ideas, and principles that satisfy optimal and appropriate use of digital technology."

Considering the earlier perspectives on the definition of "digital citizenship," the researcher adopts comprehensive definitions that encompass its true components: rights, duties, and responsibilities. Rights pertain to the citizen's use of technology within a safe virtual environment, securing their information within legal frameworks. Duties encompass responsible behavior, knowledge, and skill development, and adopting appropriate attitudes in digital communication and interaction. Responsibilities also include utilizing technology for personal and societal benefit. Moreover, the researcher concludes that digital citizens should possess certain characteristics to adapt to the digital age effectively. These include cognitive and skillful familiarity with technology, awareness of ethical, legal, and health standards, appropriate attitudes, legitimate use in various aspects of life, continuous learning about new developments, and strategies for proper interaction with diverse cultures.

Digital citizenship is crucial as it serves as a bridge for individuals to stay updated on the world, transforming them into proficient digital citizens who effectively utilize digital devices and the internet. It enables them to utilize technology to their advantage. Additionally, digital citizenship acts as a protective shield, safeguarding individuals, and society from the personal, social, and health hazards of the digital age. Therefore, it accomplishes three primary objectives: education, empowerment, and protection. Ribble (2015) stressed digital citizenship's role in guiding individuals on appropriate technology interactions, encompassing behaviors and practices instilled from an early age through educational programs and school activities. Al-Shehri (2016) emphasized its role in preparing citizens who comprehend the cultural, social, and humanitarian aspects of technology.

Numerous literature sources have defined the dimensions of digital citizenship within a comprehensive framework that guides individuals toward ethical and proper technology use. This framework is based on standards that enable individuals to benefit

from the digital world. Ribble (2013) identified two aspects of digital citizenship: prevention of technology-related dangers and encouragement of responsible utilization to serve and protect the community and country. Al-Jazzar (2014) classified digital citizenship into learning-related domains, including digital empowerment, access, literacy, and electronic communication. Other domains pertain to learners' behavior and the school environment, such as digital behavior, electronic rights and responsibilities, and digital security. Most International technology institutions, including the International Society for Technology in Education, and many studies by researchers like Al-Musallamani (2014), Al-Malah (2017), and Sadiq (2019), agreed on nine dimensions that form the general pillars of digital citizenship, which are as follows:

1. Digital Access:

Digital access ensures equal rights for all citizens to access technology without racial discrimination (race, age, or gender). This is achieved through equal infrastructure, technology utilization, and training in educational institutions, governmental organizations, and businesses.

2. Digital Literacy:

Digital literacy has replaced traditional literacy in the modern era. It's an essential life skill for children's education at school and home. They must learn digital literacy skills, understand its risks, and maximize its benefits to serve themselves and their community. This leads to the development of "digital culture" (Hintz et al., 2017).

3. Digital Communication:

It involves exchanging information electronically between individuals, institutions, news channels, scientific communities, and others locally or globally. It occurs through various communication websites and apps, enabling cultural exchange and the dissemination of scientific and societal advancements.

4. Digital Etiquette:

It refers to adhering to rules and standards during online interactions. It promotes responsible and safe practices that align with modern advancements (Al-Ghalith, 2016). This relates to granting appropriate space to digital citizens on communication networks. Communication issues often arise when individuals exceed these boundaries.

5. Digital Laws:

These laws regulate digital technology use to prevent unethical practices known as cybercrimes. Such crimes are punishable under "digital law." Cybercrimes covered include piracy, copyright infringement, privacy violations, and ethical issues (Abdulaati, 2021).

6. Digital Rights and Responsibilities:

These are the rights guaranteed by digital law to all users of technology, ensuring non-discriminatory access. Users have rights like privacy, freedom of expression, and opinion. They also have a responsibility to respect these rights for others and maintain ethical behavior during digital use (Ribble, 2012).

7. Digital Health:

It pertains to maintaining physical and psychological well-being during digital use. It includes raising awareness about the risks of improper technology use, such as eye and ear strain, bone and joint issues, and psychological harm from internet addiction, like depression.

8. Digital Security

Digital security necessitates complying with preventive measures against digital security risks. It involves equipping

individuals with skills to combat attacks and cybercrimes that threaten privacy and property. This is achieved through knowledge of optimal methods to protect data, personal identity, and network security via strong passwords, antivirus software, and other measures (Damerdash, 2017; Bolkan, 2014).

9. Digital Commerce

Digital commerce has grown with the digital age, allowing online buying, and selling via various platforms. Products are viewed, and payments are made digitally. However, some websites engage in fraud and illegal sales, violating intellectual property rights and other matters.

Second Theme: Challenges of Digital Citizenship in the Digital Age

Digital citizenship refers to the behaviors of individuals as citizens on the Internet, as they engage with different websites where they encounter different cultures that may differ from their original national cultures. In this context, they become immersed in those cultures and become an integral part of them. It can happen intentionally because of cultural invasion, particularly targeting Islamic countries, or unintentionally due to admiration and fascination with those cultures, with the belief that they are distinct from their own identity and culture. This can lead to significant social changes in interactions and actual communication, replacing face-to-face communication with virtual communication, which isolates the individual from their community and makes them live in an unrealistic world that affects their personality, identity, and sense of belonging to their country, altering their moral values. The danger lies in the potential disappearance of the original identity of the citizen, gradually erasing its features. Therefore, the Internet has become a significant challenge, and digital citizens need to equip themselves against its negative effects.

Ribble (2013) emphasized that while digital technology has benefited humans by connecting them to the world and providing access to new information, improving their lives in various areas, it has also negatively impacted their identity and culture. Thus, digital education must play a role in addressing these challenges more effectively. Al-Dahshan (2016) highlighted the negative impact of digital media on the younger generation's national spirit. Educational institutions should address these negative effects through digital education, promoting awareness of digital citizenship based on agreed-upon standards.

Second Axis: Digital education as a tool to confront the digital age and the role of parents in achieving It:

Education is crucial for developing an individual's citizenship values, including knowledge, application, and conscience. It instills stable ethics that become instinctive responses to situations, guided by moral teachings and societal laws. Furthermore, education helps citizens adapt to the advancements of this era, where technology permeates various aspects of life. This has given rise to "digital education," which encompasses new concepts and approaches tailored to address these technological challenges. Al-Dahshan and Al-Fuwaihi (2015) emphasized the need for digital education in the digital age to prepare children for life. It promotes a culture of rational technology use and trains them in all aspects of digital citizenship through age-appropriate educational activities. Digital education enables children to assess and differentiate the positive and negative aspects of technology use. They can make informed decisions based on acquired feedback they have acquired in previous stages. (Tawalbeh, 2017).

The goal of digital education is to develop ethical, religious, and legal frameworks in individuals, enabling them to utilize

technology effectively, understand its risks, and benefit from it properly and safely. Digital education also transfers and influences cultural heritage, contributing to its development and purification by filtering out what is inappropriate. It strives for a balance between the past and present, authenticity and modernity, and promoting holistic development. Sharif (2017) mentioned that education works on transitioning the citizens from being a legal citizen to an active and responsible participant in their homeland.

Parents' roles are diverse and complementary in preparing children from an early age with knowledge, skills, and proper attitudes for life. They play a vital role in instilling love, belonging, and loyalty to the country through proper socialization. They connect children to the community and instill values that protect their patriotism and adaptability to the era's requirements, including the value of citizenship. Al-Zamel and Al-Rashidi (2023) pointed out that the Saudi family's role in fostering digital citizenship in children involves teaching them the concepts of sacrifice for the country's dignity and defense. They converse with their children about good citizenship, encourage adherence to national values, and motivate participation in campaigns for social responsibility and volunteerism.

This highlights the significance of parents' role in guiding education at home and activating it to meet the challenges of the digital era. Parents must contribute to their child's "digital education" to address digital citizenship challenges. All involved in the child's education share the responsibility, with the family bearing the greatest burden.

To fulfill this role, parents should participate in kindergarten activities. Studies like Al-Majadi and Faramawi (2003), showed that parental participation with kindergarten helps children adapt to rapid modern changes. Imran and Ibrahim (2005) found that parental participation enhances kindergarten children's crisis- coping skills, and ability to handle emergencies and avoid acquired deficiencies. The Saudi Ministry of Education (2017) stressed parent-kindergarten collaboration to build mutual trust, share responsibility, exchange experiences, and enhance the effectiveness of the kindergarten program. Young (2014) highlighted the parental role in the digital age, supporting teachers in educating the young generation to maximize digital technology benefits and practice appropriate behavior.

Second Section: Field Framework

Through this section, the first and second research questions were addressed. The following is a presentation of their procedures.

First: Research Methodology:

A descriptive analytical approach was used, and a questionnaire was used to survey the opinions of education experts and kindergarten teachers regarding the parental role associated with digital education for kindergarten children, and the obstacles to its activation.

Second: Research population and sample:

The sample represented all educators in the field of early childhood education, parental education, educational technologies, and kindergarten teachers in the Kingdom of Saudi Arabia. The application was carried out on a random sample of (75) educators from (5) colleges of education, and (150) teachers from (20) kindergartens in various regions of the Kingdom of Saudi Arabia, as shown in Table (1). The application was carried out directly through manual distribution and electronically via email.

Table (1) Distribution of Sample Participants

Education experts		**Kindergarten teachers**	
College	Number	Region	Number
Najran University	11	Najran	23
King Abdulaziz University	22	Jeddah	40
Jouf University	11	Sakaka	25
Bisha University	13	Bisha	12
Princess Nourah University	19	Riyadh	50
Total	75	Total	150

Third: Research Instrument

The preparation of the research instrument went through the following stages:

1. Designing the research instrument:

A questionnaire was designed specifically for a group of educators in the fields of early childhood, parental education, educational technologies, and kindergarten teachers in the Kingdom of Saudi Arabia. The questionnaire aimed to survey their opinions regarding the parental role associated with digital education for kindergarten children and the obstacles to its activation, utilizing the following sources:

A- Review previous studies and standards related to the field.

B- Dialogue sessions with the following groups:

- Experts in early childhood education.

- Parents share their successful experiences in digital education for their children.

- Kindergarten teachers to gather their opinions on the missing parental support in enhancing digital education efforts in kindergarten.

c. Conducting a survey to gather parents' opinions on their needs and the obstacles they face in providing digital education to their children.

The questionnaire was initially designed in two sections: the first section focused on the parental role in digital education for kindergarten children to enhance their digital citizenship awareness and consisted of (35) items distributed across (5) dimensions. The second section focused on the obstacles to activating this role and included (12) items.

2. Verification of the psychometric properties of the questionnaire:

Validity was ensured by the reliability of the arbitrators and the validity of internal consistency. The questionnaire was presented to the arbitrators and requested to be judged according to the following criteria: (Linguistic formulation - suitability of the axes to the topic, and adequacy - suitability of the phrase to the axis to which it belongs). Then the opinions were transcribed, and the percentage of agreement was calculated according to the Cooper equation. It was found that the percentage of agreement on the questionnaire's axes reached (98%), and the items that obtained an agreement percentage of 80% or higher were retained. In its final form, the first section consisted of (32) items distributed across (5) dimensions as follows:

First Dimension: The role associated with the cognitive aspect (6 items).

Second Dimension: The role associated with the skill aspect (7 items).

Third Dimension: The role associated with the legal aspects (religious, ethical, legal, and national) (9 items).

Fourth Dimension: The role associated with the social aspect (5 terms).

Fifth Dimension: The role associated with prevention and protection (5 items). And the second section related to the obstacles to activating this role (10 items).

The validity of the internal consistency was measured through the Pearson correlation coefficient by applying the questionnaire to an exploratory sample of (30) educators and teachers to determine the extent to which the score of each item relates to the total score of the dimension to which it belongs, and the score of each dimension to the total score of the section of the questionnaire to which it belongs, as in the following tables:

Table (2) Pearson correlation coefficients for the questionnaire dimensions

Questionnaire Dimensions		Correlation Coefficient	Significance Level
First Section	First Dimension	**0,855	0,000
	Second Dimension	**0,863	0.000
	Third Dimension	**0,888	0.000
	Fourth Dimension	**0,846	0.000
	Fifth Dimension	**0,883	0.000
Second Section Obstacles to activating the role of parents.		**0,886	0.000

(*) Significant at the level of (0.05) – (**) Significant at the level of (0.01)

It is clear from Table (2) that the correlation coefficients between the total score of each dimension and the overall score of the questionnaire were large and acceptable, with statistically significant coefficients at a significance level of (0.01). This indicates consistency among all the dimensions and sections of the questionnaire.

Table (3) Pearson correlation coefficients for questionnaire items

tem No.	Correlation Coefficients	ignificance Level	tem No.	Correlation Coefficients	Significance Level	tem No.	Correlation Coefficients	Significance Level	tem No.	Correlation Coefficients	Significance Level
First Section											
First Dimension: The role associated with the cognitive aspect											
1	0.868	0.000	2	0.848	0.000	3	0.892	0.000		0.801	0.000
5	0.881	0.000	6	0.828	0.000						
Second Dimension: The role associated with the skill aspect											
1	0.878	0.000	2	0.986	0.000	3	0.864	0.000	4	0.888	0.000
5	0.885	0.000	6	0.881	0.000	7	0.858	0.000			
Third Dimension: The role associated with the legal aspects											
1	0.888	0.000	2	0.886	0.000	3	0.988	0.000	4	0.880	0.000
5	0.822	0.000	6	0.781	0.000	7	0.857	0.000	8	0.856	0.000
9	0.888	0.000									
Fourth Dimension: The role associated with the social aspect											
1	0.843	0.000	2	0.884	0.000	3	0.855	0.000	4	0.848	0.000
5	0.855	0.000									
Fifth Dimension: The role associated with prevention and protection											

1	0.861	0.000	2	0.876	0.000	3	0.888	0.000	4	0.878	0.000
5	0.832	0.000									
Second Section Obstacles to the parental role in digital education											
1	0.888	0.000	2	0.888	0.000	3	0.878	0.000	4	0.887	0.000
5	0.877	0.000	6	0.888	0.000	7	0.886	0.000	8	0.884	0.000
9	0.898	0.000	10	0.888	0.000						

It is clear from Table (3) that the values of the correlation coefficients were large and acceptable coefficients, and that they are statistically significant at a significance level of (0.01) for all dimensions of the first section of the questionnaire, as well as for the items of the second section. This indicates the consistency of all the questionnaire items, and the coherence and internal consistency between its sections.

Cronbach's Alpha stability coefficient was calculated for each section of the questionnaire as a whole, as well as for each dimension to measure its stability, as shown in Table (4):

Table (4) Cronbach's Alpha stability coefficients

Questionnaire Dimensions		**Item No.**	**Stability coefficient**
First Section	First Dimension	6	0.982
	Second Dimension	7	0.986
	Third Dimension	9	0.976
	Fourth Dimension	5	0.852
	Fifth Dimension	5	0.944
Total			0.910
Second Section Obstacles to activating the role of parents.		10	0.981

It is clear from Table (4) that there are high values of stability coefficients, as the total stability coefficient of the questionnaire reached (0.910) for the first section, and 0.981 for the second section, which are acceptable values.

Fourth: Statistical methods

Arithmetic means and standard deviations - the range method were used to judge the responses of the respondents according to a five-point Likert scale - a T-test to determine the differences between two independent respondents of the job variable (educational faculty member female teacher).

Fifth: Research results and discussion

The results were presented according to the order of the questions as follows:

First: Answer to the first question: 1- What is the role of parents in the digital education of kindergarten children to develop their awareness of digital citizenship from the point of view of education experts and kindergarten teachers, and the obstacles to activating this role? To answer this question, arithmetic means and standard deviations were calculated, and the results were as follows:

Table (5) Means and Standard Deviations of the Responses of Respondents on the First Dimension

No.	Items	Mean	Std. Deviation	Agreement Degree	Rank
1	Introducing the child to the different types of digital technology devices that they can use according to their age.	4.28	0.23	Very high	3
2	Equipping the child with knowledge related to the use of digital technology tools.	4.23	1.34	Very high	4
3	Equipping the child with the concepts of digital citizenship appropriate to their age.	3.55	0.97	High	5
4	Providing new knowledge about effective communication and its means.	3.50	1.45	High	6
5	Introducing the child to information related to the benefits of digital technology, and how to benefit from it according to their age	4.65	1.22	Very high	1
6	Equipping the child with knowledge related to utilizing digital technology in education.	4.56	0.35	Very high	2
Total		4.24	1.09	Very high	-

It is clear from Table (5) that the degree of agreement among the respondents on the parental role associated with the cognitive aspect of digital citizenship is very high, as well as on most of the items expressing it. The researcher interprets this by stating that this dimension is the foundation upon which the other dimensions are built. Without knowledge, it is impossible to acquire skills, build values, or have awareness of any other dimension. Most studies, including Sharaf and Al-Damardash (2014), agree on this dimension.

Table (6) Means and Standard Deviations of Respondents' Responses on the Second Dimension

No.	Items	Mean	Std. Deviation	Agreement Degree	Rank
1	Equipping the child with skills to use digital technology devices.	4.22	1.45	Very high	6
2	Providing life situations that help the child become accustomed to critical thinking.	4.68	0.50	Very high	1

3	Involving the child in family discussions and providing them with the opportunity to engage in dialogue and express opinions in a proper manner.	4.56	0.66	Very high	2
4	Training the child to discover information by themselves helps them acquire continuous learning skills.	4.47	1.78	Very high	3
5	Involving the child in solving household problems appropriate to their age.	4.27	0.65	Very high	5
6	Training the child to use voice search engines to obtain information.	4.31	0.33	Very high	4
7	Training the child on the skills they receive in kindergarten.	4.26	1.04	Very high	7
Total		4.71	0.99	Very high	-

It is clear from Table (6) that the parental role associated with the skill aspect of digital citizenship received a very high degree of agreement from the respondents, as well as all of its items. Item number (2), which is associated with familiarizing the child with critical thinking, received the highest rating. These results are consistent with a study by Bashir (2010) that showed that activating the parental role develops mutual respect, problem-solving thinking, and thinking skills in kindergarten children. They are also consistent with a study by Abdulrahman et al. (2016) that found parental involvement in children's activities achieves the child's self-efficacy.

Table (7) Means and Standard Deviations of Respondents' Responses on the Third Dimension

No.	Items	Mean	td. Deviation	Agreement Degree	Rank
1	Instilling in the child good manners and positive behaviors when using digital communication tools.	4.40	1.45	Very high	8
2	Equipping the child with age-appropriate information about digital usage laws.	4.62	0.56	Very high	3
3	Blocking websites with unethical content from the devices used by the child.	4.50	0.43	Very high	6
4	Developing the child's awareness of the rights of others when using digital devices and the Internet.	4.53	1.43	Very high	5
5	Introducing the child to the times when it is prohibited to use digital devices, such as during airplane takeoff and other instances.	4.47	1.05	Very high	7

6	Getting the child accustomed to respecting the opinions of others during family discussion situations.	4.58	0.88	Very high	4
7	Promoting national culture in the child by instilling national concepts, and raising awareness about their country's history and achievements, through stories and traditional games, to cultivate love for the country, a sense of belonging, and pride in their religion.	4.88	0.46	Very high	1
8	Educating the child about the characteristics of a digital citizen.	4.16	0.33	High	9
9	Instilling Islamic teachings in the child and getting them accustomed to reflecting them in their behavior, values, and ethics.	4.67	1.20	Very high	2
Total		4.66	0.99	Very high	

It is clear from Table (7) that the respondents' responses agreed on the importance of the dimension related to the legal aspects, and all of its items were very high except for item No. (8), which expressed the child's awareness of the characteristics of the digital citizen. These results are consistent with a study conducted by Atrous (2014) which showed that the parental role contributes to addressing the child's behavioral problems.

Table (8) Means and Standard Deviations of Respondents' Responses on the Fourth Dimension

No.	Items	Mean	Std. Deviation	Agreement Degree	Rank
1	Developing additional skills and hobbies for children as an alternative to digital devices.	4.66	1.46	Very high	1
2	Parents befriend their child and share his electronic games and online views to reduce his isolation.	4.54	0.86	Very high	3
3	Setting a specific and limited time for using digital devices does not conflict with study time, performing religious practices, and spending time with family.	4.63	0.46	Very high	2
4	Introducing the child to social media as a means to share information, skills, and friendships with others.	3.99	1.22	High	
5	Monitoring the child's social media accounts to know who their friends are.	4.36	1.06	Very high	
Total		4.48	1.06	Very high	

It is clear from Table (8) that the respondents' responses agree on the importance of the dimension related to the social aspect of digital citizenship, and all of its items came with a very high degree, except for item No. (4) related to introducing children to how to make friends through social media, which came with a high degree. These results are consistent with the study by Abu Al-Nasr and Al-Baroudi (2015), which emphasized the importance of parental friendship for the child.

Table (9) Means and Standard Deviations of Respondents' Responses on the Fifth Dimension

No.	Items	Mean	Std. Deviation	Agreement Degree	Rank
1	The rational use of digital technology devices by parents as a good role model for the child.	4.44	0.97	Very high	3
2	Getting the child accustomed to the proper healthy sitting to maintain their health.	4.22	0.36	Very high	5
3	Monitoring and guiding the child while using digital devices and supervising the content they browse.	4.37	1.23	Very high	4
4	Raising awareness in the child about dangerous games and videos.	4.55	0.57	Very high	1
5	Controlling the number of hours the child spends on the internet.	4.53	0.99	Very high	2
Total		4.39	1.54	Very high	-

It is clear from Table (9) that the respondents' responses agreed on the importance of the dimension related to the prevention and protection aspect of digital citizenship and all of its items which received a very high degree of agreement. These results are consistent with Fathallah's study (2014), which concluded that parental involvement in kindergarten helped correct unhealthy habits in children and develop their safety skills.

Table (10) Means and Standard Deviations of Respondents' Responses on the Obstacles to Activating the Role of Parents.

No.	Items	Mean	Std. Deviation	Agreement Degree	Rank
1	The scarcity of events and activities that involve parental engagement with the child and the kindergarten.	4.91	1.06	Very high	1
2	The lack of activities related to digital education in kindergarten.	4.55	0.67	Very high	5
3	The parents' lack of awareness about the concepts, skills, and principles of digital citizenship.	4.51	1.21	Very high	7
4	Lack of time and preoccupation in educating their children in terms of the digital aspect.	4.32	0.45	Very high	8

5	The parents' lack of awareness of the digital education, and the mechanisms and skills for achieving it.	4.68	0.69	Very high	4
6	Parents' belief that the child's engagement with games and digital devices is a good way to get rid of their annoyance.	4.54	1.32	Very high	6
7	The scarcity of guidance materials that direct parents on how to develop awareness of digital citizenship in children.	4.76	0.99	Very high	2
8	The weak role of the media in developing parental awareness of their role in digital education for kindergarten children.	4.27	1.12	Very high	9
9	The lack of societal support to assist parents in engaging in digital education for their child in kindergarten.	4.71	1.23	Very high	
10	The financial constraints that sometimes limit parents' ability to provide digital devices for their child.	3.33	0.33	Medium	0
Total		4.66	1.06	Very high	

Table (10) shows the agreement of the respondents on the importance of the obstacles that hinder parents from fulfilling their role in developing their child's awareness of digital citizenship. All the items in this table received a very high degree of agreement. These results align with the study conducted by Al-obid (2018), which found a significant relationship between the active partnership between the child's family and their kindergarten. Additionally, Taylor's (2011) study indicated the need for parents to receive guidance and training on effective methods to improve parenting skills.

Second: Answer to the second question:

2- Are there statistically significant differences at a significance level of (0.05) between the means of respondents ' opinions regarding the role assigned to parents in the digital education of kindergarten children due to the job variable (education experts and kindergarten teachers)?

To answer this question, T-Test calculations were conducted for two independent samples, and the results were as shown in Table No. (11):

Table (11) T-test values for differences between the responses of sample respondents according to the gender variable (educational expert - kindergarten teacher)

Job Type	Number	Mean	Std. Deviation	T-value	Degree of freedom	Significance Level
Educational Expert	75	3.84	1.99	1.24	223	0.25
Kindergarten Teacher	150	3.79	1.02			
Statistical significance level: 0.05 α ≤						

It is clear from Table (11) that there are no statistically significant differences at the significance level (0.05) between the views of educational experts and kindergarten teachers about the role assigned to parents in developing awareness of digital citizenship for kindergarten children.

The researcher interprets this as potentially being since kindergarten teachers are educators who are aware of the educational role of parents in general, including the role related to digital education. Additionally, most aspects of this role are also entrusted to them based on their roles as mothers and educators for children in kindergarten. This is in addition to the fact that kindergarten teachers often face problems due to the lack of parents' participation in kindergarten activities and events. They also experience noticeable changes in child rearing when parents participate in kindergarten in terms of their education and development.

Third Section: The proposed vision for activating the parental role in developing awareness of digital citizenship for kindergarten children considering the digital education approach.

Based on the results of the study with its theoretical and field sections, which highlighted the importance of the parental role in digital education for kindergarten children through the analysis of literature in the field of digital citizenship, as well as the findings of the current field study where all dimensions of digital education received a very high rating. Many parental practices mentioned in them, as (27) out of (32) items received a very high rating compared to (4) items rated high and (1) item rated medium. Additionally, there are various obstacles hindering the activation of this important role. In line with the goals of Vision 2030 in paying attention to early childhood and digital education, the researcher proposed a vision for activating this role and removing these obstacles, addressing the fifth research question.

1. The starting points of the proposed vision

A. The importance of the kindergarten stage in shaping the child's personality.

B. The importance of digital education in equipping the child with essential digital skills, achieving the benefits of digital technology, and safeguarding them from its potential risks.

C. The vital importance of the parental role in achieving digital education for kindergarten children and supporting the kindergarten in fulfilling its objectives regarding digital education.

2. Foundations of the proposed vision

2.1. Digital education is a concept that needs to be disseminated and embraced within educational and human societies.

2.2. The activation of the parental role in digital education for kindergarten children requires governmental, media, and societal support.

2.3. Kindergartens and parents are integrated partners, and the success of their practices relies on the support of each other.

2.4. Parental participation in digital education for kindergarten children cannot be achieved without parental guidance and educational programs.

2.5. Parental guidance in education is a science and art that should be learned, and it requires an institutional entity and organized frameworks to achieve it.

2.6. Parental participation in the education of kindergarten children requires the dissemination of a societal culture regarding this concept and mechanisms to achieve it.

3. Objectives of the proposed vision:

3.1. Directing and guiding parents and kindergarten teachers on the principles of parental partnership in the kindergarten.

3.2. Directing and guiding parents and kindergarten teachers on the principles, foundations, and techniques of digital education.

3.3. Developing a plan for activities and events in the kindergarten that aligns with the requirements of the digital age, facilitating the involvement and partnership of parents in the education and upbringing of their child in the kindergarten.

4.3. Activating the media and community role to achieve parental education and raising awareness about the importance of the parental role in the education and upbringing of kindergarten children in the digital age.

4. Mechanisms for achieving the proposed vision:

4.1. Establishing specialized parental education centers within universities to guide and counsel parents in general and kindergarten children in particular.

4.2. Providing parental education to teachers through the creation of new specialties in education colleges.

4.3. Developing a national plan implemented throughout the Kingdom of Saudi Arabia as part of the Saudi Vision 2030 plan to provide training programs that include a package of training courses for kindergarten teachers and parents on topics related to parental partnership, digital citizenship, and digital education. These programs are offered through social partnerships with governmental institutions (schools, universities, technical institutions, and technological cities) and non-governmental organizations (parental associations, family and child-focused institutions, telecommunication companies, and technology companies).

4.4. Developing a comprehensive media plan to promote the culture of parental partnership, digital education, and digital citizenship.

4.5. Develop a comprehensive plan for the development of early childhood institutions; to implement events and provide material and intellectual possibilities and a philosophy that embraces the new cultural concept of parental partnership and digital education.

4.6. Establishing labor laws that allow employees (male and female) to take time off work to participate in their child's kindergarten activities based on a letter from the kindergarten specifying the event schedules.

4.7. The government provides digital devices to kindergarten children for a nominal cost.

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