

# Implementing Digital Citizenship Elements in Middle School Arabic Language Curriculum in Saudi Arabia

Abdullah A. R. Aljenobi\*

Curricula and Instruction Department, College of Education, Imam Abdulrahman bin Faisal University, P.O Box. 1982 Dammam 31441, Saudi Arabia

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**Abstract:** This study aimed to analyze and evaluate the Arabic language curriculum of middle school in the Kingdom of Saudi Arabia in light of the inclusion of digital citizenship elements. The descriptive analytical approach was used through an analysis form. The Arabic language curricula of the three grades of middle school were analyzed using a content analysis form devised by the researcher. Results showed poor and insufficient inclusion of digital citizenship elements in the curricula of the three grades of middle school. They also showed variation among the three curricula in the inclusion of digital citizenship elements, but, in general, they all remained unsatisfactory. The study recommended more attention to include digital citizenship elements to meet students' interests and needs of the digital age. It also suggested conducting more studies in this concern for other curricula of the Arabic language in other stages. The major statistical and analytical approach observed in this study also unveils certain significant factors of digital citizenship that affect the results, factors like experience possessed by the teacher, age, and level of grades. The perspectives of instructors helped to identify the influence upon the teaching standards of Saudi Arabia so that steps could be taken towards the improvement of educational systems.

**Keywords:** digital citizenship, KSA, K-12 education, middle school, Arabic language curriculum.

## 1 Introduction

Kingdom of Saudi Arabia has developed the 2030 vision that incorporates digital transformation by implementing state-of-the-art telecommunication and information and communication technology (ICT) in most facets of life with the aim of preparing a digital citizen capable of using technology and employing it properly (Government of Saudi Arabia, 2016). Digital citizenship, exhibiting appropriate and responsible behavior with digital technology use (Chen, Mirpuri, Rao, & Law, 2021), has become an essential aspect of education in the digital age (Kim & Choi, 2018). Therefore, educators have a responsibility to teach it to their students in order to enable them to effectively make sense of, navigate, and exist in the digital world (Seale & Dutton, 2012; White, 2013).

### 1.1 Literature review

Due to the rapid development of information and communication technologies in the 21<sup>st</sup> century, there has been a dramatic increase in using technology in the K-12 classroom (Martin, Gezer, & Wang, 2019) in addition to the changing nature of classroom activities as more small-group work and effective and frequent communication between students occur (Shapley, Sheehan, Maloney, & Caranikas-Walker, 2011). Consequently, educators should inspire students to positively and responsibly participate in the digital world (Bennett, Aguayo, & Field, 2016); that is, become a “digital citizen” (Isman & Canan Gungoren, 2014, p. 73). Digital citizens are considered as those who increasingly interact with their social and political environment through digital multimedia (Hintz, Dencik, & Wahl-Jorgensen, 2017) regularly and effectively (Mossberger, Tolbert, & McNeal, 2008).

Digital citizenship, sometimes referred to as digital literacy (Emejulu & McGregor, 2019), refers to the ability to use ICT tools in a safe, responsible, critical, and productive manner (Farmer, 2011). It also refers to the self-enactment of people's role in society through the use of digital technologies (Hintz et al., 2017). The inclusion of digital citizenship in educational curricula relies on a number of theoretical perspectives that include: the sociocultural theory, the connectivism theory, the contextual learning approach, and the learner-driven approach. The sociocultural theory maximizes the role of

\*Corresponding author e-mail: araljenobei@iau.edu.sa

social interaction in learning (Vygotsky, 1978) and focuses on the great effect learners have on each other's learning as they work together (Lantolf, Poehner, & Swain, 2018; Marginson & Dang, 2017). The connectivism theory suggests that learning depends on variety of viewpoints and the purpose of connectivist learning activities is to integrate different accurate, specialized, up-to-date information sources to help in problem solving and decision making (Corbett & Spinello, 2020). The contextual learning approach emphasizes the role of contexts in learning as it is essential to situate students in authentic and interactive contexts to enable them to link what they have learned to what they are experiencing (Johnson, 2002). In the learner-driven approach, learners are considered change agents of learning that, if given control over their learning, can get involved with the community, identify problems, and develop solutions, which enables them to do future thinking, negotiation, and self-initiated action (Herranen, Vesterinen, & Aksela, 2018).

Digital citizenship involves a wide range of activities, from consuming, producing, sharing, and connecting, to searching, learning, and working (Richardson & Milovidov, 2019). Ribble (2015) explains digital citizenship goals for the 21<sup>st</sup> century as respect, education, and protection. According to Jones and Mitchell (2016), digital citizenship includes five categories of behaviors, namely online respectful behavior, online civic engagement behavior, helpful bystander behavior, online harassment victimization behavior, and online harassment perpetration behavior. Moreover, the International Society for Technology in Education (2016) offers the standards that most explicitly address digital citizenship. Standard 2, entitled Digital Citizen, includes four subcomponents: (a) cultivation and management of digital identity and reputation and awareness of the permanence of one's actions in the digital world, (b) engagement in positive, safe, legal, and ethical behavior when using technology, (c) demonstration of an understanding of and respect for the rights and obligations of using and sharing intellectual property, and (d) management of personal data to maintain digital privacy and security.

Digital citizenship has been considered as vital to students and their future as the world that they are growing up in has become increasingly dependent on digital tools, and schools need to be a part of this process (Ribble, 2012). According to Martin et al. (2019), digital citizenship requires for students to follow a curriculum that introduces opportunities for learning citizenship via software, games, and other digital multimedia applications. van de Oudeweetering and Voogt (2018) add that any curriculum should include digital citizenship as the latter has become an essential conception for fostering students' correct behavior and safe life habits while on the Internet (Tapingkae, Panjaburee, Hwang, & Srisawasdi, 2020). For Armfield and Blocher (2019), it is crucial for educators to consider the areas of concern associated with digital citizenship such as students' cyber safety, teaching legal ramifications, safe communication to outside sources, proper care of technology, teacher technology training, and equality for all students. Therefore, the inclusion of digital citizenship in our educational lives has become inevitable (Jones & Mitchell, 2016; Ohler, 2011).

## *1.2 Statement of the problem*

Education in the KSA has undergone many successful digital transformational changes such as the launching of several digital platforms and the provision of training opportunities to instill technological skills in both teachers and students, which helped in the continuation of the educational processes and activities during Covid-19 pandemic (Mitchell & Alfuraih, 2018). However, some research studies found that digital citizenship elements are not adequately included in some K-12 public schools courses, such as Computer Science (Algholth, 2016; Alharthi & Almutairi, 2019; Alkhalifa & Alobaikan, 2019; Aloufi & Alzahrani, 2021), Social Studies (Alhanaki, 2020), and National Education (Sallam, 2016). As far as the researcher knows, no study has examined the inclusion of digital citizenship elements in Arabic language curricula in the KSA. Therefore, the present study aims to address this uninvestigated area.

## *1.3 Significance of the Study*

This study is an attempt to cover a gap in analyzing Arabic language curricula in the light of including digital citizenship elements, as no such researches appeared in search engines. The significance of the study lies in: (1) confirming the KSA 2030 vision to strengthen the national character in various fields, including the digital, (2) addressing digital citizenship, a global contemporary trend, (3) preparing a tool for content analysis in light of the elements of digital citizenship, and (4) helping curriculum developers and decision makers in the KSA Ministry of Education to adapt curricula to the life needs of students in the digital age. Therefore, the present study addresses the following research questions:

RQ1. What are the elements of digital citizenship necessary for middle school students in the KSA?

RQ2. What is the percentage of digital citizenship elements indicators available in the Arabic language curricula used in the middle school in the KSA?

RQ3. What are the differences among the Arabic language curricula used at the three grades of the middle school in terms of including the indicators of the elements of digital citizenship?

## 2 Methodologies

The study uses the descriptive qualitative content analysis, concerned with monitoring a specific phenomenon in a specific content without interfering, except with interpretation and analysis. Content analysis is defined as "a research technique for making replicable and valid inferences from text (or other meaningful matter) to the contexts of their use" (Krippendorff, 2018, p. 24). A list of the elements of digital citizenship is prepared based upon the available literature. A form is also prepared for a thorough analysis of the curricula to evaluate the inclusion of digital citizenship elements.

### 2.1 Sample

The study included "My Immortal Language," the Arabic language packages taught to middle school students in the KSA in the academic year 2020-2021. This selection was due to the reason that these packages have been recently improved and that they include active learning activities that require students to use ICT tools. Therefore, these packages need to be examined for the inclusion of digital citizenship elements. The sample included the curriculum document and book. Analysis units included the five elements of the curriculum: objectives, activities, multimedia, questions, and content. Each book consisted of six modules. The four-language skills are integrated in each part of the modules. Table 1 gives a short description of the sample.

**Table 1:** Description of the Sample.

Name	Volume	Edition	Modules	Pages
My Immortal Language	1	2021	6	462
	2		6	553
	3		6	585

### 2.2 Instruments

After reviewing relevant literature (e.g., Ribble, 2012; Ribble, 2013), the researcher prepared a list of the indicators of digital citizenship elements, which initially consisted of 72 indicators distributed over three dimensions and 13 elements: respect (digital access, digital behavior, digital law), education (digital communication, digital literacy, digital language skills), and protection (digital life skills, digital commerce, digital rights and responsibility, digital health and safety, digital information security, digital cultural security, and digital intellectual security). The list was reviewed by 7 specialists whose comments led to the final list which consisted of 61 indicators.

The list was then turned into an analytic form for analyzing the Arabic language curricula used in the three grades of KSA middle schools. The form included five units of analysis: objectives, activities, multimedia, questions, and content. As for the counting units, the objective was used as the counting unit in the objectives category; i.e., an objective was counted if it included one of the indicators of the elements of digital citizenship. The same method was used in the activities, multimedia, and questions categories. As for content, the counting unit was the paragraph. Consequently, the form was designed in two axes: the vertical dealing with digital citizenship elements while the horizontal dealing with the units of analysis. Clear instructions were formulated for the user of the form explaining how to use it and its counting system. The form was sent to five jurors and the researcher modified the form based on their feedback. In order to find out the instrument's reliability, the researcher repeated the analysis three weeks later. He used Scott's equation (Krippendorff, 2004). Calculating the reliability, it was 93% which is an acceptable percentage.

### 2.3 Statistical Analysis Procedures

Frequencies and percentages were used to measure the availability of the indicators of digital citizenship elements in each of the three Arabic language curricula used in middle schools in the KSA. Then, differences among the three curricula were examined through comparing the averages of the percentages of including indicators of digital citizenship elements in the three curricula. After that, a one-way analysis of variance was used among the frequencies of the availability of indicators in the three curricula in the different units of analysis in order to find out whether there were significant differences among them. Finally, Scheffe test was used in order to find out the direction of the significance.

### 3 Results

#### 3.1 Result related to the inclusion of digital citizenship elements in the curriculum of first-grade middle school:

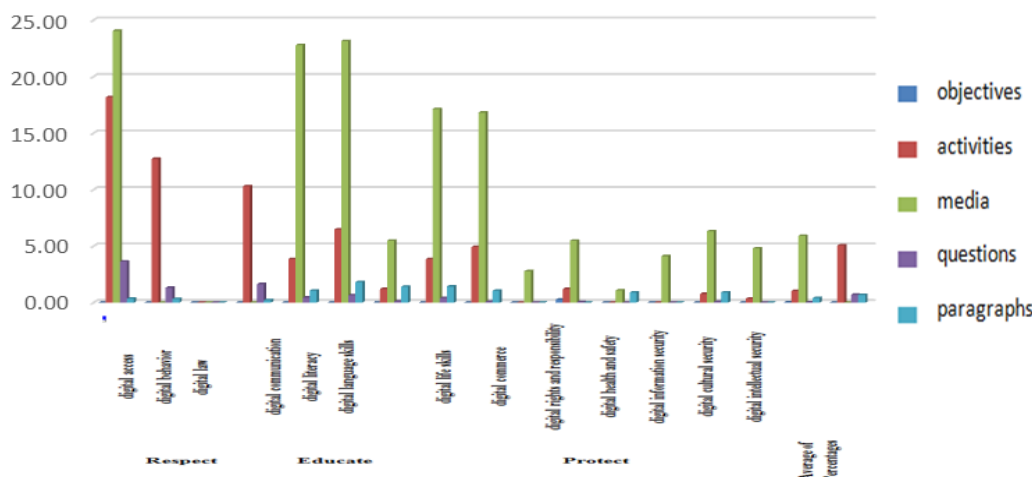
The Arabic language curriculum of first-grade middle school was analyzed using the content analysis form to evaluate the inclusion of digital citizenship elements. Table 2 shows the frequencies and percentages of inclusion according to the counting units used in the analysis (objectives, activities, questions, multimedia, and content). It also shows the average percentages in the curriculum as a whole.

**Table 2:** Frequencies and Percentages of Availability of Indicators of Digital Citizenship Elements in the Curriculum of First-Grade Middle School.

Dimension	Domain	Objectives n=58		Activities n=55		Multimedia n=79		Questions n=303		Paragraphs n=94	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Respect	Digital Access	0	0.00	30	18.18	57	24.05	11	3.63	1	0.35
	Digital Behavior	0	0.00	28	12.73	31	39.74	16	1.32	5	0.33
	Digital Law	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	Average percentages of availability of dimension indicators	0.00		10.30		21.26		1.65		0.23	
Education	Digital Communication	0	0.00	17	3.86	144	22.78	11	0.45	8	1.06
	Digital Literacy	0	0.00	25	6.49	128	23.15	14	0.66	12	1.82
	Digital Language Skills	0	0.00	2	1.21	13	5.49	1	0.11	4	1.42
	Average percentages of availability of dimension indicators	0.00		3.86		17.14		0.41		1.44	
Protection	Digital Life Skills	0	0.00	19	4.94	93	16.82	2	0.09	7	1.06
	Digital Commerce	0	0.00	0	0.00	11	2.78	0	0.00	0	0.00
	Digital Rights and Responsibility	1	0.29	4	1.21	26	5.49	1	0.06	0	0.00
	Digital Health and Safety	0	0.00	0	0.00	6	1.08	0	0.00	6	0.91
	Digital Information Security	0	0.00	0	0.00	26	4.11	0	0.00	0	0.00
	Digital Cultural Security	0	0.00	3	0.78	35	6.33	2	0.09	6	0.91
	Digital Intellectual Security	0	0.00	1	0.36	19	4.81	0	0.00	0	0.00
	Average percentages of availability of dimension indicators	0.04		1.04		5.92		0.03		0.41	
<b>Average of Percentages</b>		0.014		5.067		14.774		0.698		0.692	

Table 2 indicates that the level of inclusion of digital citizenship elements in the curriculum of the first grade is very weak; represented by 0.14% in the objectives, 5.06% in the activities, 14.77% in the multimedia, 0.698% in the questions, and 0.692% in the content. As for the first dimension (Respect), it was not represented in the objectives, but was represented by 10.3% in the activities, 21.26% in the multimedia (fairly acceptable), 1.65% in the questions, and 0.23% in the content. As for the second dimension (Education), it was not also represented in the objectives, but was represented by 3.68% in the activities, 17.14% in the multimedia, 0.14% in the questions, and 1.44% in the content. As for the third dimension (Protection), it was represented by 0.04% in the objectives, 5.92% in the activities, 0.03% in the multimedia, 0.41% in the questions, and 5.92% in the content. Therefore, the largest percentage of representation of the dimensions of

digital citizenship in the curriculum of the first grade was in activities and multimedia, whereas it was less represented in objectives, content, and questions, respectively. Figure 1 shows the percentages of including the different dimensions and elements of digital citizenship in the Arabic language curriculum of the first grade.



**Fig.1:** Level of Inclusion of the Dimensions and Elements of Digital Citizenship in the Curriculum of the First Grade of Middle School.

**3.2. Result related to the inclusion of digital citizenship elements in the curriculum of second-grade middle school:**

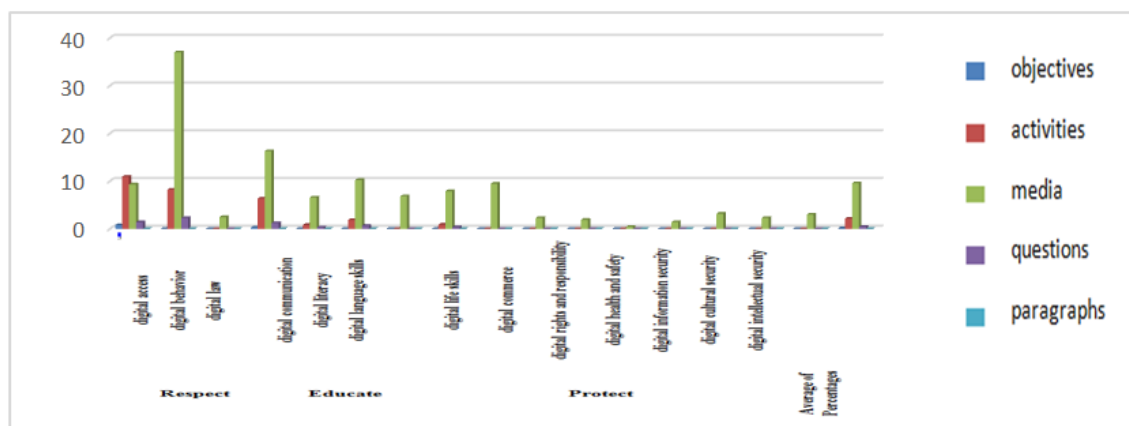
The Arabic language curriculum of second-grade middle school was analyzed using the content analysis form to evaluate the inclusion of digital citizenship elements. Table 3 shows the frequencies and percentages of inclusion according to the counting units used in the analysis (objectives, activities, questions, multimedia, and content). It also shows the average percentages in the curriculum as a whole.

**Table 3:** Frequencies and Percentages of Availability of Indicators of Digital Citizenship Elements in the Curriculum of Second-Grade Middle School.

Dimension	Domain	Objectives n=85		Activities n=110		Teaching Aids n=204		Questions n=267		Paragraphs n=195	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Respect	Digital Access	2	0.7843	36	10.909	57	9.3137	11	1.3733	0	0.00
	Digital Behavior	0	0.00	36	8.18	302	37.01	24	2.25	0	0.00
	Digital Law	0	0.00	0	0.00	30	2.45	0	0.00	0	0.00
	Average percentages of availability of dimension indicators	0.26		6.36		16.26		1.21		0.00	
Education	Digital Communication	0	0.00	7	0.80	107	6.56	6	0.28	0	0.00
	Digital Literacy	0	0.00	14	1.82	146	10.22	12	0.64	0	0.00
	Digital Language Skills	0	0.00	0	0.00	42	6.86	0	0.00	0	0.00
	Average percentages of availability of dimension indicators	0.00		0.87		7.88		0.31		0.00	
Protection	Digital Life Skills	0	0.00	0	0.00	154	9.4363	0	0.00	0	0.00
	Digital Commerce	0	0.00	0	0.00	23	2.25	0	0.00	0	0.00
	Digital Rights and Responsibility	0	0.00	0	0.00	23	1.88	0	0.00	0	0.00
	Digital Health and	0	0.00	0	0.00	6	0.42	0	0.00	0	0.00

Safety											
Digital Information Security	0	0.00	0	0.00	23	1.4093	0	0.00	0	0.00	
Digital Cultural Security	0	0.00	0	0.00	45	3.15	0	0.00	0	0.00	
Digital Intellectual Security	0	0.00	0	0.00	23	2.25	0	0.00	0	0.00	
Average percentages of availability of dimension indicators	0.00		0.00		2.97		0.00		0.00		
<b>Average of Percentages</b>	0.087		2.121		9.556		0.402		0.000		

Table 3 indicates that the level of inclusion of digital citizenship elements in the curriculum of the second grade is very weak; represented by 0.08% in the objectives, 2.12% in the activities, 9.55% in the multimedia, and 0.4% in the questions, while never represented in the content. As for the first dimension (Respect), it was represented by 0.26% in the objectives, 6.36% in the activities, 16.26% in the multimedia (fairly acceptable), 1.21% in the questions, while never represented in the content. As for the second dimension (Education), it was not represented in the objectives, but was represented by 0.87% in the activities, 7.88% in the multimedia, 0.31% in the questions, while never represented in the content. As for the third dimension (Protection), it was represented by 2.97% in the multimedia, while never represented in the objectives, activities, questions, or content. Therefore, the largest percentage of representation of digital citizenship in the curriculum of second grade was in activities and multimedia, whereas it was less represented in questions, and was almost not represented in objectives and content. Figure 2 shows the percentages of including the different dimensions and elements of digital citizenship in the Arabic language curriculum of the second grade.



**Fig.2:** Level of Inclusion of the Dimensions and Elements of Digital Citizenship in the Curriculum of the Second Grade of Middle School.

### 3.3. Result related to the inclusion of digital citizenship elements in the curriculum of third-grade middle school:

The Arabic language curriculum of third-grade middle school was analyzed using the content analysis form to evaluate the inclusion of digital citizenship elements. Table 4 shows the frequencies and percentages of inclusion according to the counting units used in the analysis (objectives, activities, questions, multimedia, and content). It also shows the average percentages in the curriculum as a whole.

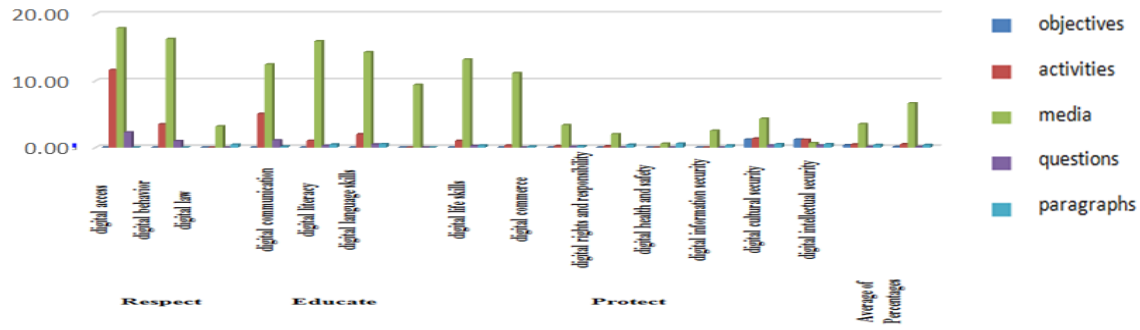
Table 4 indicates that the level of inclusion of digital citizenship elements in the curriculum of the third grade is very weak; represented by 0.11% in the objectives, 0.489% in the activities, 6.62% in the multimedia, 0.12% in the questions, and by 0.38 in the content. As for the first dimension (Respect), it was not represented in the objectives, but was represented by 5.04% in the activities, 12.45% in the multimedia (fairly acceptable), 1.09% in the questions, and 0.15 in the content. As for the second dimension (Education), it was not represented in the objectives, but was represented by 0.01 in the activities, 13.21% in the multimedia, 0.25% in the questions, and 0.32 in the content. As for the third dimension (Protection), it was represented by 0.34% in the objectives, 0.46 in the activities, 3.21 in the multimedia, 0.11 in the questions, and 0.39 in the content. Therefore, the largest percentage of representation of digital citizenship in the



curriculum of the third grade was in activities and multimedia, whereas it was less represented in questions, objectives and content. Figure 3 shows the percentages of including the different dimensions and elements of digital citizenship in the Arabic language curriculum of the third grade.

**Table 4:** Frequencies and Percentages of Availability of Indicators of Digital Citizenship Elements in the Curriculum of Third-Grade Middle School.

Dimension	Domain	Objectives n=83		Activities n=86		Teaching Aids n=149		Questions n=307		Paragraphs n=195	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Respect	Digital Access	0	0.00	30	11.63	80	17.90	21	2.28	0	0.00
	Digital Behavior	0	0.00	12	3.49	97	16.28	12	0.98	0	0.00
	Digital Law	0	0.00	0	0.00	33	3.16	0	0.00	6	0.44
	Average percentages of availability of dimension indicators	0.00		5.04		12.45		1.09		0.15	
Education	Digital Communication	0	0.00	7	1.02	190	15.94	7	0.29	7	0.45
	Digital Literacy	0	0.00	12	1.99	149	14.29	10	0.47	7	0.51
	Digital Language Skills	0	0.00	0	0.00	42	9.40	0	0.00	0	0.00
	Average percentages of availability of dimension indicators	0.00		1.00		13.21		0.25		0.32	
Protection	Digital Life Skills	0	0.00	2	0.33	133	11.16	0	0.00	2	0.15
	Digital Commerce	0	0.00	1	0.23	25	3.36	2	0.13	2	0.21
	Digital Rights and Responsibility	0	0.00	1	0.19	18	2.01	0	0.00	5	0.43
	Digital Health and Safety	0	0.00	0	0.00	6	0.58	0	0.00	8	0.59
	Digital Information Security	0	0.00	0	0.00	30	2.52	0	0.00	5	0.32
	Digital Cultural Security	7	1.20	8	1.33	45	4.31	7	0.33	7	0.51
	Digital Intellectual Security	1	1.20	1	1.16	1	0.67	1	0.33	1	0.51
	Average percentages of availability of dimension indicators	0.34		0.46		3.51		0.11		0.39	
<b>Average of Percentages</b>		0.115		0.489		6.629		0.121		0.382	



**Fig.3:** Level of Inclusion of the Dimensions and Elements of Digital Citizenship in the Curriculum of the Third Grade of Middle School.

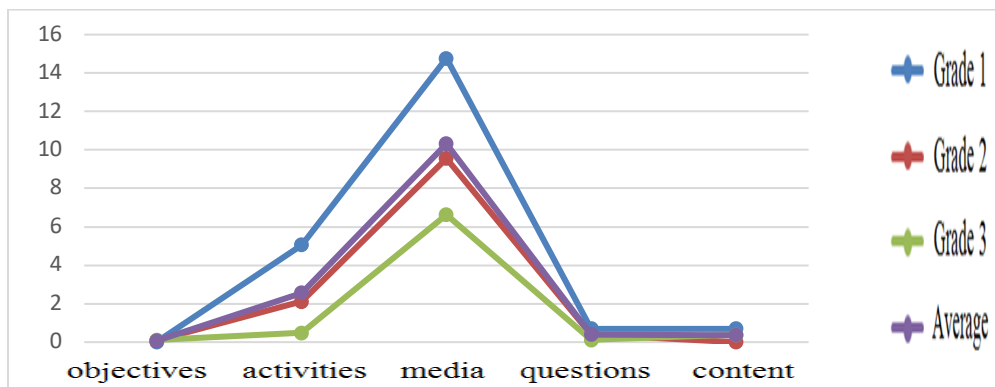
*3.4. Result related to the differences among the Arabic language curricula of the three grades as to the inclusion of digital citizenship elements indicators.*

The average percentages of including the indicators of digital citizenship elements in the Arabic language curricula of the three grades were calculated, showed in Table 5 below:

**Table 5:** Averages of the percentages of including indicators of digital citizenship in the Arabic language curricula of the three grades of the middle school.

Grade	Objectives	Activities	Multimedia	Questions	Content
1	0.013684	5.066962	14.77384	0.697641	0.692283
2	0.087146	2.121212	9.555572	0.402275	0
3	0.114745	0.489308	6.628658	0.120599	0.382464
<b>Average of 3 grades</b>	0.071858	2.559161	10.31936	0.406838	0.358249

Table 5 shows that the percentages of including indicators of the elements of digital citizenship in the Arabic language curricula taught at the middle school were generally weak, though the level of its greatest inclusion was in the multimedia, followed by the activities, while the representation of the indicators in the rest of the curriculum categories was almost absent. Moreover the most representative of the Arabic language curricula for these indicators was in the first grade. Figure 4 illustrates this.



**Fig.4:** Inclusion of Digital Citizenship Elements in the Curricula of the Three Grades of Middle School In order to evaluate the differences among the three grades and their significance, a one-way analysis of variance was used using the frequencies of the availability of indicators in the three grades in the different units of analysis. This is illustrated in Table 6, below.



**Table 6:** One-way Analysis of Variance among the Frequencies of Including Digital Citizenship Elements in the Curricula of the Three Grades of the Middle School.

Units of Analysis	Source of variance	Sum of squares	df	Mean of squares	F	significance
Objectives	Between groups	.961	2	.481	7.272	.001
	Within groups	15.065	228	.066		
	Total	16.026	230			
Activities	Between groups	20.684	2	10.342	1.047	.353
	Within groups	2251.247	228	9.874		
	Total	2271.931	230			
Multimedia	Between groups	338.987	2	169.494	.300	.741
	Within groups	128701.662	228	564.481		
	Total	129040.649	230			
Questions	Between groups	.632	2	.316	.098	.907
	Within groups	736.805	228	3.232		
	Total	737.437	230			
Content	Between groups	23.126	2	11.563	18.572	.000
	Within groups	141.948	228	.623		
	Total	165.074	230			

Table 6 shows that although there are differences among the three grades in the level of inclusion of the elements of digital citizenship, these differences are not statistically significant at the 0.05 level in all units of analysis, except for the content. Moreover, in order to find out the direction of the significance, Scheffe's test was used, the results of which are shown in Table 7.

**Table 7:** Results of a Schiffe Test for Dimensional Comparisons to Include Digital Citizenship Elements in the Arabic Language Curricula of the Three Grades of the Middle School.

Grade	Differences between averages			
	Average	1 <sup>st</sup> grade	2 <sup>nd</sup> grade	3 <sup>rd</sup> grade
1st grade	0.692283		63636	-.11688
2nd grade	0			.70130
3rd grade	0.382464			

Table 7 shows that at the level of 0.05: (a) the difference between the first and second grades was significant at the level of 0.05, in favor of the first grade, (b) the difference between the first and third grades was not significant, and (c) the difference between the second and third grades was significant in favor of the third grade.

#### 4 Discussion and recommendations

The first research question was "What are the elements of digital citizenship necessary for middle school students in the KSA?" In order to answer this question, the researcher prepared a list of 13 digital citizenship elements in three dimensions: respect (digital access, digital behavior, digital law), education (digital communication, digital literacy, digital

language skills), and protection (digital life skills, digital commerce, digital rights and responsibility, digital health and safety, digital information security, digital cultural security, and digital intellectual security).

The second research question was "What is the percentage of digital citizenship elements indicators available in the Arabic language curricula used in the middle school in the KSA?" In order to answer this question, the researcher prepared a content analysis form based on the dimensions and elements included in the aforementioned list. This form was used to evaluate the inclusion of digital citizenship in the Arabic language curricula of middle school. Frequencies and percentages of indicators of digital citizenship elements available in each of the three curricula were calculated. As for the curriculum of the first-grade, the level of inclusion of digital citizenship elements was very weak; represented by 0.14% in the objectives, 5.06% in the activities, 14.77% in the multimedia, 0.698% in the questions, and 0.692% in the content. As for the curriculum of the second grade, the level of inclusion of digital citizenship elements was also very weak; represented by 0.08% in the objectives, 2.12% in the activities, 9.55% in the multimedia, and 0.4% in the questions, while never represented in the content. As for the curriculum of the third grade, the level of inclusion of digital citizenship elements was very weak as well; represented by 0.11% in the objectives, 0.489% in the activities, 6.62% in the multimedia, 0.12% in the questions, and 0.38 in the content.

The third research question was "What are the differences among the Arabic language curricula used at the three grades of the middle school in terms of including the indicators of digital citizenship elements?" In order to answer this question, a one-way analysis of variance was used to evaluate the differences among the three curricula with regard to the inclusion of digital citizenship elements. The analysis showed that there were differences among the three curricula that were not statistically significant in all units of analysis, except for the content where the analysis showed a statistical significance at the 0.05 level. In order to find out the direction of the significance, Scheffe's test was used. It showed a significant difference at the level of 0.05 between first and second-grade curricula in favor of the first grade, which had the highest average (0.692). However, the test showed no significant difference at the level of 0.05 between first and third-grade curricula, which means that the level of the two curricula converge in this matter. Moreover, the test showed a significant difference at the level of 0.05 between second and third-grade curricula in favor of the third grade, which indicates that the second grade is the least representative of including indicators of digital citizenship elements.

This result is consistent with a number of studies that focused on analyzing curricula in the light of digital citizenship. For example, Sallam (2016) found that the National Education curricula of secondary schools have inadequate inclusion of the elements of digital citizenship in their objectives and content. It is also partially consistent with the results of the study of Alkhalifa and Alobaikan (2019), which indicated the inclusion of the concepts of digital citizenship in the content of a Computer Science course. However, the results of the present study are inconsistent with those reached by Alqahtani (2017) who analyzed the content of an Educational Technology Course and found that most of the digital citizenship elements are available.

As Hollandsworth, Donovan, and Welch (2017) indicate, digital citizenship should teach students at an early age to cultivate good online behaviors before becoming adults. Scholars have also mentioned digital citizenship as being part of the concept of digital awareness that help to practice respectful online behavior and online civic engagement, reduce cyber bullying, and increase upstander behavior (Jones & Mitchell, 2016). Therefore, there is a clear need for education authorities to adopt a concerted and comprehensive approach to digital citizenship education and integrate it into school curricula to ensure that it is effectively implemented (Frau-Meigs, O'Neill, Soriani, & Tomé, 2017).

The above analysis of middle school Arabic language curricula in light of the inclusion of digital citizenship elements shows very limited inclusion, which is an indication of giving less attention to relating these curricula to the needs of the learners as well as to the requirements of the digital age they live in. Therefore, the study recommends that the Arabic language curricula of middle school in the KSA need to be revised to suit the needs of the digital age in order to help students become productive and responsible users of digital technologies. These curricula need to be adapted in order to include new content that relates to recent life changes and interests of today's generation via including relevant digital citizenship elements. As Jones and Mitchell (2016) assume, if digital citizenship is going to become a new educational focus, a significant amount of conceptual and evaluation work is needed to ensure that its goals are well-defined and its outcomes successfully achieved. Schools also need to begin setting a direction for how to use the tools of technology and provide the best education for students. Moreover, the present study suggests conducting future research to investigate: (1) the inclusion of digital citizenship elements in the Arabic language curricula of the secondary school, (2) the obstacles to including the dimensions of digital citizenship in K-12 curricula, and (3) Arabic language teachers' perceptions of digital citizenship as an essential component of education in the digital age.

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