The Role of the Academic Leaders in Reinforcing Digital Citizenship Among Saudi Students

Eman Ahmed[1] and Kamel Al-hussary[2], [1]Assistant professor, Department of Educational Administration, College of Education, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia, **,** [2]Professor, Department of Curriculum and Instruction, College of Education, Imam Abdulrahman Bin Faisal University, Dammam, Saudi Arabia, Email: eiahmed@iau.edu.sa[1] kdalhussary@iau.edu.sa[2]

The present study examined the role of the academic leaders in reinforcing digital citizenship among students at Imam Abdulrahman bin Faisal University from the perspective of faculty members. To address the objectives of the study, the authors used the quantitative approach, and developed a questionnaire consisting of 30 items applied to a sample of 108 faculty members. The results of the study showed a high degree of contribution by the academic leaders in the promotion of digital citizenship among the students. Moreover, the results showed that there were statistically significant differences in sample responses according to the gender, specialization and years of service in the university. No statistically significant differences were found according to the job title. The authors proposed a set of recommendations that can contribute to improving the role of academic leaders in reinforcing digital citizenship for students at Imam Abdulrahman bin Faisal University, the most important of which is establishing a unit for developing digital citizenship for the students, and partnering with technology houses of expertise to advance the leadership's role in spreading a culture of digital citizenship among students.

Key words: *Digital world, university students,* controls, *technology, faculty*

Introduction

In today's world, awareness of the responsible use of digital technology has become more necessary than before. Information security has become more linked to the digital world, and one of the pillars of security for society, especially with the increase in the number of technology users globally. Obtaining information is no longer problematic, but the challenge has become to prepare the student to obtain the right information at the right time, to do things right and to do the right things (Farmer, 2011), and this represents the essence of the concept of digital citizenship, which is based on educating the student about the difference between what can be done while using the digital world and what should be done to benefit himself and society as a whole (Ribble, 2011).

Digital citizenship is one of the modern topics in educational thought. Britain is one of the first countries that focused on spreading digital culture and described it as the responsibility of the web users to interact and cooperate appropriately (Villano, 2008). Ribble (2006) defined digital citizenship as "regulations over the individual's use of technology appropriately and responsibly" (p. 10). The International Society for Technology in Education (2008) has updated standards for the use of technology to include "promoting digital citizenship and responsibility" as one of the performance indicators, and has stipulated the ethical standards that must be followed by students to ensure proper handling of digital technologies. This is a result of the widespread use of the digital world among students in university education. Kalssen & Chiu (2010) showed that there is a strong relationship between the student's motivation towards digital citizenship and the role of those in charge of the educational process in enhancing students' skills. Digital citizenship has an important role in promoting student's commitment to appropriate behavior when using technology (Tan, 2011).

Several scholars have examined the role of the educational leaders in reinforcing digital citizenship. For example, Al-Otaibi (2018) examined the role of 70 leaders in adopting the digital citizenship project for female students in the city of Riyadh. The results of the study indicated the sample's appreciation of the role of leaders (M= 4.53) in developing the values of digital citizenship among female students. The results of the study did not show statistically significant differences about the role of leaders attributed to the variables of years of experience and training courses. Similarly, Asaadi (2018) showed the sample's appreciation of the educational institution's role in promoting the values of digital citizenship among students (M=4.25). The study did not show any significant differences due to the gender or the experience variables. In addition, Al-Thabiti and Hussein (2016) examined the administrative practices carried out by the university in developing the values of citizenship among students, identifying the most prominent values and whether there are differences attributable to the study variables. The results of the study showed a high level of citizenship among 590 Saudi students. Al-Thabiti and Hussein (2016) found no statistically significant differences due to the variables of specialization, gender, and academic level. Moreover, the results of their study showed that there is a statistically significant positive correlation between the role played by

the university administration and the citizenship values of students at the University. Further, Arrington (2014), examined the degree of the role of academic leadership in an educational institution in the US state of Nebraska. The results of the study showed a high degree of appreciation among the participants regarding the role of leaders in developing the skills of the twenty-first century and a decrease in their appreciation of the role of leaders in promoting digital citizenship awareness.

With the widespread use of technology in universities, many negative practices associated with this use have recently emerged (Tawbla, 2017). To address these practices and positively affect students' use of new technologies, It has become imperative that universities contribute to developing regulations for students' use of digital technologies. Students in the digital world have specific rights, and academic leaders at the university should promote digital citizenship and clarify those rights, responsibilities and obligations associated with it. (Suppo, 2013). Therefore, the current study examined the role of academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University based on the perceptions of the faculty members.

Statement of the problem

Digital citizenship has received increased attention from those in charge of higher education institutions, and it has become one of the basic goals of education in many countries throughout the world. With the widespread use and role that technology plays in college students' lives in universities, and the emergence of many negative practices associated with that use, (Perkins et al., 2014); It has become imperative to enhance students' ability to use technology properly (Ribble, 2012; Suppo, 2013). Tremendous technological developments have created a knowledge gap and students are unaware of the regulations of dealing with it appropriately (Ribble, 2006; Jun & pow, 2011). Our study is in line with the vision of the Kingdom of Saudi Arabia 2030 in building a digital homeland based on creating digital platforms to enrich effective community participation and a vibrant society based on responsible citizenship and to students' basic values and skills. Ministry of Education (2012) emphasizes that a plan should be drawn up to achieve the dimensions of digital citizenship to ensure that the student adheres to ethical standards in dealing with social media programs. Therefore, the universities should support digital citizenship among students in a way that serves the goals of society for digital transformation by the year 2030. Students must be prepared for the proper use of the mechanisms of digital society and to acquire the skills that enable them to participate in this world effectively. The use of technology has been accompanied by many practices that should not be ignored by academic leaders in universities in order to provide an appropriate environment for digital transformation. Thus, this study sets out to answer the following questions:

1-What is the role of the academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University based on the perceptions of the faculty members?

2- Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the degree of responses of the study participants about the role of academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University due to the variables (gender - specialization – years of service - job title)?

Theoretical Framework

In this section, the authors describe the concept and the dimensions of digital citizenship.

Concept of Digital Citizenship

The concept of digital citizenship is an emerging concept in educational literature. This concept came to ensure the proper use of technology in an appropriate, ethical and social way. The recent years have witnessed a great interest by researchers in defining the nature of digital citizenship. Nonetheless, there is no agreement among researchers about what digital citizenship is (Manzuoli, 2019), as some view digital citizenship as a set of values, and some view it as skills that enable the individual to deal with the mechanisms of the digital world, and other scholars who define it from the perspective of continuous monitoring of individuals' behavior while using digital technologies. For example, Sanabria & Cepeda (2016) define digital citizenship as "the values of respect, tolerance, and security ... and the set of democratic principles such as ethics and responsibility that guide one's behavior in using the digital world" (p. 98). Similarly, Tawbla (2017) define digital citizenship as " a set of values that must be followed by students in using technological tools, regardless of their age, in order to prepare them as citizens capable of contributing to the development of their communities and protecting them from the negative effects of misuse of those tools "(p. 291).

Other scholars state that digital citizenship refers to the possession of a set of skills that enable the individual to properly deal with digital technologies. For example, Sharaf and El Demerdashy (2014) define digital citizenship as the awareness of the digital society and the possession of skills to use its various mechanisms. Similarly, Farmer (2011) views digital citizenship as a set of skills and behaviors that enable the individual to access information, evaluate it, and then use it to be able to deal with the mechanisms of the digital world. Hobbs & Jensen (2009) also emphasized that digital citizenship is a set of skills and knowledge needed to effectively deal with the digital environment.

Therefore, digital citizenship is not limited to introducing students to the mechanisms of a digital society to become a digital citizen, but rather enabling them to have the skills to use these mechanisms properly (Ribble, 2017). Digital citizenship is controlled by a set of regulations that must be adhered to in order to ensure the proper use of technology.

Dimensions of Digital Citizenship

The concept of digital citizenship is a multi-dimensional concept (Ribble, Bailey & Ross, 2004). The current study adopted Ribble and Bailey's model of digital citizenship (2007), which defined digital citizenship in nine basic dimensions. These dimensions are digital access, digital communication, digital rights and responsibilities, digital literacy, digital etiquette,

digital laws, digital commerce, digital health and wellness, and digital security and safety. These dimensions are sufficient to enhance students' digital citizenship and enable them to use digital technologies appropriately (Ohler, 2012). Ribble et al (2004) argue that "part of these dimensions falls within the scope of leaders' responsibility" (p. 7), as the dimensions of digital communication, digital literacy, digital rights and responsibilities and digital access are matters that do not fall within the scope of the responsibility of the student but are the responsibilities of leaders and those in charge of the educational process. Thus, the current study examined the role of the academic leaders in reinforcing digital citizenship students' digital citizenship on the dimensions that fall within the scope of leaders' responsibility.

Digital access

Digital access refers to full electronic participation in the society. It allows all users to participate in the digital world, and in this context, those in charge of the educational process should help students understand the nature of the technological tools available in the educational institution and how to use them in the classroom.

Digital Communication

Digital Communication refers to the electronic exchange of information and understanding the available options for digital communication and the extent of their suitability (Ribble, 2017). Digital communication takes place through several mechanisms, including e-mail, electronic platforms, messages, etc. Through these mechanisms, the individual can interact with any person at any time without limits. Academic leaders have an important role in educating students about the most effective mechanisms in the communication process (Dotterer, Hedges & Parker, 2016)

Digital literacy

The concept of digital literacy is not limited to the processes of teaching and learning technology, but goes beyond that to include the skills of proper dealing with the digital community (Ribble, 2017). Digital literacy includes several skills, the most important of which is the ability to collect, evaluate, analyze, and classify digital content and use digital technology media (digital tools and sources) in a legislative and ethical manner (Jun & Pow, 2011).

Digital Rights and Responsibilities

Digital rights and responsibilities refer to the duties and rights granted to all users of the digital world. They include protecting others in addition to protecting the individual's personal rights, and educating students that technology provides many privileges, and to maintain these privileges, they must adhere to a set of ethical regulations while using technology and help others to do so.

Methodology

To answer the questions of the current study, the authors used the quantitative method. In this section, the authors describe the participants, instrument, and validity and reliability procedures.

Participants

The population of this study consisted of all the 359 faculty members at the colleges of Art and Science at Imam Abdul Rahman bin Faisal University. A total of 108 valid response was received from the faculty members, and this sample is acceptable in descriptive studies. According to Melhem (2000), it is possible to choose "20% of the members of a relatively small community (a few hundred)" (p. 274). Table 1 shows the demographic characteristics of the participants of the study.

Table 1 Demographic characteristics of the participants of the study

Variable	Sub-variables	No	Percent
Gender	Male	42	38.9
	Female	66	61.1
	Total	108	100%
Specialization	Humanitarian	56	51.9%
	scientific	52	%48.1
	Total	108	100%
Rank	Assistant professor	59	54.6%
	Associate Professor	42	38.9%
	Professor	7	6.5%
	Total	108	100%
Years of service	1-5	18	16.7%
	5-10	56	51.9%
	More than 10 years	34	31.5%
	Total	108	100%

Instrument

The authors used the questionnaire in order to address the objectives of the current study. For measurement of digital citizenship , items were drawn from Ribble and Bailey's model of digital citizenship. The study focused on the digital citizenship dimensions that fall within the

scope of leaders' responsibility: digital communication (8 items), digital literacy (8 items), digital rights and responsibilities (6 items) and digital access (8 items).

Validity and reliability

The validity of the instrument was measured in two different ways. First, the apparent validity was measured through a number of academic referees in educational management and leadership and other related disciplines who were selected to ensure the clarity of the instrument. Second, the internal consistency was measured using Pearson correlation and was statistically significant at 0.01 (see table 2).

Table 2

Pearson correlation coefficients for the dimensions of the axis (promoting digital citizenship) with the overall degree of the axis

Dimensions	correlation coefficient
�۱Digital Access	**0.894
Digital communication	**0.916
۱ Digital rights and responsibilities	**0.901
Digital literacy	**0.922
Total	0**.969

** Significant at level 0.01

The reliability of the instrument was measured using Cronbach Alfa. The value of the overall reliability coefficient was (.969), which is a high degree of reliability, and the reliability coefficients of the instrument ranged between (0.653, 0.839), which indicates the reliability of the instrument.

Results and Discussion

First Question: What is the the role of academic leaders in reinforcing digital citizenship digital citizenship among students at Imam Abdul Rahman bin Faisal University based on the perceptions of the faculty members? To answer this question, means and standard deviations of the responses of the participants were calculated (See Table 3).

Table 3 Arithmetic averages and standard deviation of participants' responses about the role of academic leaders in reinforcing digital citizenship digital citizenship

Variable	Arithmetic * mean	Standard deviation	Degree	Order
١Digital Access	33.67	3.76	High	2
Digital communication	33.69	3.82	High	1
١ Digital rights and responsibilities	29.9	3.36	High	4
Digital literacy	31.6	5.1	High	3

Table 3 indicates the arithmetic means of the dimensions ranged between (29.9 - 33.69). The digital communication had the highest arithmetic mean (33.69) and a standard deviation of (3.82), followed by digital access (M=33.67, SD= 3.76), digital literacy (M=31.6, SD= 5.1), followed by digital rights and responsibilities with an arithmetic mean of (29.9) and a standard deviation (3.36). This finding reflects the ability of academic leaders to reinforce digital citizenship and its sub-dimensions to keep pace with technological developments, and to positively direct students' use of technology, This result is consistent with the findings reported in prior studies such as Al-Otaibi (2018). Nonetheless, this finding is inconsistent with Arrington (2014) who revealed a low estimate of the research sample about the the role of academic leaders in reinforcing digital citizenship and the reason for the difference may be due to the different environment and timing in which the research was conducted.

Table 4 Means and standard deviation of the role of academic leaders in reinforcing digital access

No	Item	Mean	Standard deviation	Degree of availability
1	Providing appropriate modern technologies for students in the classroom	4.48	0.53	Very high
2	Encouraging the use of digital technologies in the educational process	4.54	0.50	Very high
3	Enabling students to use the various search engines within the college	4.37	0.55	Very high
4	Use of computer labs by students	4.53	0.52	Very high
5	Educating students on the basics of proper handling of smart devices	4.15	0.63	high

6	Providing opportunities for participation in the digital world for all students within the college	4.55	0.55		Very high
7	Providing appropriate modern technologies for students outside the classroom	3.69	0.72		high
8	Providing modern technologies suitable for students with special needs	3.37	0.84		moderate
	Overall mean of digital access	33.67	3.76		high

As indicated in Table 4, the digital access had the highest mean in items (1,2,3,4 and 6), while items (7and 5) was high. It should be noted that item 8 "providing modern technologies suitable for students with special needs," has the lowest mean of (3.37) with a response degree (average), which reflects the need to pay attention to providing modern technologies for students with special needs. Arithmetic means ranged between (3.37, 4.55), and these Arithmetic means fall into the fourth, fifth and third categories of the scale. These findings indicate that the degree ranged between (very high and medium degrees). This result reflects the efforts made by the academic leaders at the university in the pursuit of digital availability for all students. Academic leaders provide students with multiple opportunities to participate in the digital world through encouraging faculty members to use appropriate technologies inside and outside the classrooms. This result is inconsistent with the findings reported in previous studies such as Arrington (2014) and Oyedemi (2012) who showed that there are many challenges in providing opportunities for students to participate in the digital world.

Table 5 Means and standard deviation of the role of academic leaders in reinforcing digital communication

No	Item	Mean	Standard deviation	Degree
1	Raising Students' awareness of effective means in digital communication	4.17	0.52	high
2	Clarifying the ethics of dealing with digital communication technologies	4.14	0.60	high
3	Training students on mechanisms to protect their privacy and exchanging information digitally without risk	4.12	0.62	high
4	Raising Students' awareness of the multiple means of digital communication	4.30	0.58	Very high
5	Encouraging the use of effective digital means of communication among students within the college	4.16	0.58	high
6	supporting faculty members to set up a system to encourage the exchange of electronic information among students	4.13	0.67	high
7	Developing electronic communication skills among students	4.48	0.61	Vey high
8	Encouraging the use of digital means of communication in the educational process	4.20	0.60	high
	Overall mean of digital communication	33.69	3.82	high

Table 6 reveals that the role of academic leadership in reinforcing digital communication was high in items (1,2,3,5,6, and 8). The arithmetic means of the items ranged between (4.12 and 4.48). These athematic means fall into the fourth and fifth categories of the five-point likert scale. This result indicates that academic leaders reinforce digital communication among students by updating the courses in the academic departments' programs to introduce students to digital communication technologies, and through developing their skills of using them appropriately in line with the principles of the Saudi society for digital transformation by 2030 (Digital Transformation Unit, 2019).

Table 6 Means and standard deviation of the the role of academic leaders in reinforcing digital rights and responsibilities

No	Item	Mean	Standard deviation	Degree
1	Raising students' awareness about digital rights and responsibilities.	4.16	0.55	high
2	Make students aware of their responsibilities for their actions while using the technologies of the digital world	4.13	0.62	high
3	Establish clear regulations for the use of technology among students within the college.	4.44	0.74	Ver high
4	Educating students about the regulations of using the materials available on the Internet.	4.12	0.70	high
5	Raising students' awareness on how to protect their personal rights while using the technologies of the digital world	4.03	0.67	high
6	Inform students about how to protect the rights of others while using the technologies of the digital world.	3.97	0.74	high
	Overall mean of digital rights and responsibilities	29.9	3.36	high

Table 6 indicates that the role of academic leaders in reinforcing digital citizenship digital rights and responsibilities among students was high. The means of this dimension ranged between (3.97 and 4.44). These arithmetic means fall into the fourth and fifth categories of the five-point likert scale. This finding reflects the academic leaders 'awareness of the importance of educating students on the basics of how to deal with modern digital technologies to ensure their proper use. This trend is consistent with what was stated in the Ministry of Education report (2012), which indicated the importance of enhancing the dimensions of Digital citizenship in order to create a secure technological society. Further, this finding is consistent with Al-Otaibi's results (2018) which showed a high appreciation of the study participants of the role of leaders in promoting digital rights and responsibilities.

Table 7   Means and standard deviation of the role of academic leaders in reinforcing digital literacy

No	Item	Mean	Standard deviation	Degree
1	Raising students' awareness about the digital health and safety culture	4.42	0.73	Very high
2	Give the students multiple opportunities to learn about digital technologies	3.81	0.75	high
3	Encouraging faculty members to motivate students to collaborate on digital to do group assignments	4.05	0.71	high
4	Contribute to developing students' skills in collecting, classifying, and analyzing digital content	4.07	0.81	high
5	Raising students' awareness about the negative practices that may occur while using digital technologies	4.11	0.74	high
6	Providing resources to spread the culture digital citizenship among students	3.69	0.83	high

7	preparing students to deal with digital technologies at the national and social levels	3.69	0.92		high
8	Providing students with the skills of time management in using the digital world	3.49	0.85		high
	Overall mean of digital literacy	31.6	5.1		high

As shown in Table 7, the overall degree of academic leadership's role to enhance the dimension of digital literacy was high. The means of the digital literacy itms ranged between (3.69 and 4.42). These athematic means fall into the fourth and fifth categories of the five-point likert scale. These results reflect the academic leadership's interest in enhancing students' digital health through initiating training programs and events to educate students digitally and make them aware of the safe use of technologies of the digital world, especially with the increasing number of technology users. This result is consistent with the results reported in prior studies such as Al-Otaibi (2018) who emphasized the role of female leaders in prompting digital literacy among students.

Second question: Are there statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the degree of responses of the study participants about the role of academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University due to the variables (gender - specialization – years of service - job title)? To answer the second question, t-test and one-way ANOVA analysis were used to identify if there are any statistically significant differences at the significance level ($\alpha \leq 0.05$) among averages of the research sample estimates towards the role of academic leaders in reinforcing digital citizenship among students due to the variables of gender , specialization , years of service , and job title (see Tables 8, 9, 10, and 11).

Table 8

The results of T-test for two independent samples for the differences between the means of the responses of participants about the role of academic leaders in reinforcing digital citizenship according to gender

Variables	Gender	No	Mean	SD	T	Significance value
Digital Access	Male	42	33.9	3.2	-.606	.045**
	Female	66	33.5	4.08		
Digital Communication	Male	42	33.5	3.0	.265	.016**
	Female	66	33.7	4.2		
١ Digital rights and responsibilities	Male	42	24.8	2.5	.320	.011**
	Female	66	25.0	3.7		
	Male	42	31.0	3.8		
Digital literacy	Female	66	31.9	5.8		
Total	Male	42	123.4	11.2	.281	.004**
	Female	66	124.3	16.8		

Table (10) indicates that there are statistically significant differences between the averages of the responses about the role of academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University and its sub-dimensions represented in (digital access, digital communication, digital rights and responsibilities, Digital literacy) due to the gender variable. This finding showed that the responses of the participants differed according to the gender variable in favor of females regarding the role of academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University. This result may be attributed to the fact that female academic leaders represent a large percentage in the colleges where the study was conducted. Thus, females are more informed about the contributions that female academic leaders make in developing digital citizenship. This result is inconsistent with the results reported in prior studies such as Asaadi (2018), whose results concluded that there were no statistically significant differences in the responses of the study individuals about the reality of the educational institution's role in promoting the values of digital citizenship due to the gender variable, and this may be due to the different educational environment in which the study was conducted.

Table 9

The results of T-test for two independent samples for the differences between the means of the responses of participants about the role of academic leaders in reinforcing digital citizenship according to specialization

Variables	specialization	No	Mean	SD	T	Significance value
Digital Access	Humanitarian	56	32.8	4.3	- 2.394	.000**
	Scientific	52	34.5	2.7		
Digital Communication	Humanitarian	56	33.2	4.6	- 1.256	.013**
	Scientific	52	34.1	2.7		
١ Digital rights and responsibilities	Humanitarian	56	24.5	4.0	- 1.436	.000**
	Scientific	52	25.4	2.1		
Digital literacy	Humanitarian	56	30.4	6.17	- 2.434	.000**
	Scientific	52	32.8	3.4		
The total score of the academic leadership role	Humanitarian	56	121.1	18.0	- 2.095	.000**
	Scientific	52	127.0	9.5		

Table 9 shows the existence of statistically significant differences between the averages of the responses of the faculty members about the total score of the role of academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University due to the specialization variable. This result indicates the effect of specialization on the responses of the faculty members about the role of academic leaders in reinforcing digital citizenship at Imam Abdul Rahman bin Faisal University in favor of scientific specialization. This result can be attributed to the nature of the specialization of the faculty members that may make their perceptions more objective in evaluating the practices of academic leaders at the university in promoting digital citizenship and its sub-dimensions.

Table 10

Results of "One way ANOVA" analysis measuring the existence of statistically significant differences on the role of academic leaders in promoting digital citizenship among students according to years of service

Variables	Groups	Sum of Squares	Degree of freedom	Average of Squares	F value	Level of significance
Digital Access	Inter-groups	293.163	2	146.581	12.549	.000**
	Inside groups	1226.495	105	11.681		
	Total	1519.657	107			
Digital Communication	Inter-groups	272.313	2	136.156	11.043	.000**
	Inside groups	1294.604	105	12.330		
	Total	1566.917	107			
١ Digital rights and responsibilities	Inter-groups	250.395	2	125.198	14.311	.000**
	Inside groups	918.596	105	8.749		
	Total	1168.991	107			
Digital literacy	Inter-groups	625.613	2	312.807	14.806	.000**
	Inside groups	2218.267	105	21.126		
	Total	2843.880	107			
Total	Inter-groups	5525.857	2	2762.929	16.078	.000**
	Inside groups	18044.106	105	171.849		
	Total	23569.963	107			

Table 10 reveals that there are statistically significant differences between the averages of the responses of the faculty members about the total score of the role of academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University

and its sub-dimensions due to the service variable. This result can be attributed to the awareness of the most experienced faculty members working at Imam Abdul Rahman bin Faisal University of the efforts and practices of academic leaders in reinforcing digital citizenship among students. These results are inconsistent with results reported in previous studies such as Asaadi (2018) and Al-Otaibi (2018) who found that there are no significant differences about the role of academic leaders in promoting digital citizenship according to the service variable.

Table 11

Results of "One way ANOVA" analysis measuring the existence of statistically significant differences the role of academic leaders in reinforcing digital citizenship among students according to job title

Variables	Groups	Sum of Squares	Degree of freedom	Average of Squares	F value	Level of significance
Digital Access	Inter-groups	5.195	2	2.597	.180	.835
	Inside groups	1514.463	105	14.423		
	107					
Digital Communication	Inter-groups	21.558	2	10.779	.732	.483
	Inside groups	1545.359	105	14.718		
	107					
١ Digital rights and responsibilities	Inter-groups	14.224	2	7.112	.647	.526
	Inside groups	1154.767	105	10.998		
	107					
Digital literacy	Inter-groups	46.857	2	23.428	.879	.418

Variables	Groups	Sum of Squares	Degree of freedom	Average of Squares	F value	Level of significance
	Inside groups	2797.023	105	26.638		
	107					
Total	Inter-groups	197.253	2	98.627	.443	.643
	Inside groups	23372.710	105	222.597		
	Total	23569.963	107			

Table 11 indicates that there are no statistically significant differences between the averages of the responses of the faculty members about the total score of the role of academic leaders in reinforcing digital citizenship among students at Imam Abdul Rahman bin Faisal University and its sub-dimensions. The result indicates the job title has no effect on the role of academic leaders in reinforcing digital citizenship and its sub-dimensions at Imam Abdul Rahman bin Faisal University. This result can be attributed to the awareness of the participants, regardless of their job titles, of the efforts of academic leaders in promoting digital citizenship among students, and the clarity of practices undertaken by academic leaders.

Recommendations

Based on the findings of the current study, the authors present a set of recommendations to enhance the role of academic leaders in reinforcing students' digital citizenship. First, the authors suggest establishing a unit for the development of digital citizenship among students in humanitarian colleges that seeks to provide resources to spread digital rights and responsibilities among students. Second, it is important to provide modern technologies inside and outside the classroom for students with special needs. Finally, it is recommended to establish a partnership with houses of expertise in the field of technology to upgrade the role of leaders in spreading the culture of digital citizenship among students by introducing a digital driver's license system for academic leaders in universities in a way that would support their role in strengthening students' digital citizenship.

References

Al-Otaibi, f.(2018). The Role of School Leaders in Adopting the Digital Citizenship Project. *Journal of Educational and Psychological Sciences, 14* (2), 37-56.

Al-Thabiti, M and Hussein, M. (2016). The role of the university administration in developing the values of citizenship for Tabuk University students, *Thebes University Journal for Educational Sciences, 11* (3), 349-365.

Arrington, J . (2014). *Crearing 21st Century Classrooms: What district level instructional leadersknoa about leading in 21 century learning*. (UMI No. 3732068). Available from ProQuest Dissertations & Theses Global. (1734864296). Retrieved from https://search-proquest-com.library.iau.edu.sa/education/docview/1527109341/fulltextPDF/DA6E0E12834A4B8EPQ/2?accountid=136546

Asaadi, A (2018). The school's role in promoting citizenship values among middle school students in the city of Makkah. *Journal of the Educational Society for Social Studies, 99,* 127-153.

Ayetkin, I. (2013). Digital Citizenship. *The Turkish Online Journal of Educational, 13* (1), 1-16.

Digital transformation unit. (2019). *Digital transformation*. Retrieved from https://ndu.gov.sa

Dotterer, G., Hedges, A., & Parker, H. (2016). *Digital natives: Citizens of a changing world.* Retrieved from: https://net-ref.com/white-paper-fostering-digital-citizenship-in-the-classroom/

Farmer, L. (2011). *Digital citizenship*. Long Beach, CA: California State University Long Beach.

Hobbs, R. & Jensen, A. (2009). The past, present, and future of media literacy education. *Journal of Media Literacy Education, 1*, 1-11.

International Society for Technology in Education. (2008). *ISTE standards for teachers. ISTE*. Retrieved from https://www.iste.org/docs/pdfs/20-14_ISTE_Standards-T_PDF.pdf

Jun, F. & Pow, J. (2011). Fostering digital literacy through web-based collaborative inquiry learning- A case study. *Journal of Information Technology Education: Innovations in Practice*, 10, 57-71.

Kaya, A and Kaya, B. (2014). Teacher candidates' perceptions of digital citizenship . International Journal of Human Sciences, 11(2). 346-361.

Klassen, R & Chiu, M. (2010). Effects on Teachers' Self Efficacy and Job Satisfaction: Teacher Gender, Years of Experience, and Job Stress. *Journal of Educational Psy-chology, 102*, 741-756. https://doi.org/10.1037/a0019237.

Manzuoli, C. (2019). Digital Citizenship: A Theoretical Review of the Concept and Trends. *The Turkish Online Journal of Educational Technology, 18*(2), 10-18.

Melhem, S. (2000). *Measurement and Evaluation in Education and Psychology*. Beirut: Dar Al-Sirah Publishing and Distribution.

Ministry of Communication and Information Technology. (2020). *More than 18 million users of social media programs and applications in the Kingdom*. Retrieved from https://www.mcit.gov.sa/en/media-center

Ministry of Education. (2012). *Digital Citizenship Policy Development Guide*. Ministry of Education: Saudi Arabia.

Nordin, I., Denisova, A.,& Cairns, P. (2016). Psychometric Properties of a Digital Citizenship Questionnaire. Canadian Center of Science and Education. *International Education Studies, 9* (3), 2-7.

Ohler, J. (2012). Digital Citizenship Means Character Education for the Digital Age. *Education Digest, 77*, 14-17.

Oyedemi, T. (2014). Internet access as citizen's right? Citizenship in the digital age. *Citizenship Studies*, 19(3-4), 450-464.

Perkins, A. B., Becker, J. V., Tehee, M., & Mackelprang, E. (2014). Sexting behaviors among college students: cause for concern? *International Journal of Health, 26*(2), 79-92.

Ribble, M .(2012). Digital Citizenship for Educational Change. *Kappa Delta PiRecord, 48*(4,) 148-151, DOI: 10.1080/00228958.2012.734015.

Ribble, M. (2011). *Nine Themes of Digital Citizenship*. Available at: digital citizenship. Net/Nine_Elements.html.ret.

Ribble, M. (2017). *Nine themes of digital citizenship. Go Daddy Custom Design Group.* Retrieved from http://www.digitalcitizenship.net/Nine_Elements.html.

Ribble, M., & Bailey, G. (2007). *Digital Citizenship in Schools*. Washington DC: ISTE.

Ribble, M; Bailey, G; & Ross, T. (2004). Digital citizenship: Addressing appropriate technology behavior. *Learning& Leading With Technology, 32* (1), 6- 12.

Sadi, B. (2018). The role of the school in promoting the values of citizenship among middle school students in Makkah. *Journal of the Educational Society for Social Studies, 99*, 127-153.

Sanabria, A. & Cepeda, O. (2016). Education for digital competition in schools: the digital citizenship Education for digital competence in schools: digital citizenship. American Educational Technology-RELATEC, 15 (2), 95-112.

Sharaf, S and El Demerdashy, M. (2014). *Standards of Education on Digital Citizenship and its Applications in Curricula*, 6th Annual Conference, Egypt: Faculty of Education, Menoufia University.

Suppo, C. (2013). *Digital citizenship instruction in Pennsylvania public schools*, Unpublished doctoral dissertation, Indiana University of Pennsylvania, Pennsylvania, USA.

Tan, T. (2011). Educating Digital Citizens. *Leadership, 41*, 30-32.

Tawbla, H. (2017). Digital Citizenship in National and Civic Education Books - Analytical Study. *Jordanian Journal of Educational Sciences, 13* (3), 291-308.

Villano, M. (2008). Text unto Others... As You Would Have Them Text unto You. *T.H.E. Journal, 35*(9), 47-51. Retrieved March 13, 2021 from https://www.learntechlib.org/p/77001/.