University Students' use of Whatsapp and their Perceptions Regarding its Possible Integration into their Education

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Abstract- The aim of this study was twofold: 1) to investigate first year university students' use of WhatsApp for personal and educational purposes and 2) to examine their perceptions of the formal integration of WhatsApp into their education. A cross-sectional study design was followed in which 154 university students completed a questionnaire. The results showed that participants had access to smart phones and WhatsApp. The use of WhatsApp was common among participants. Students use WhatsApp for personal and social purposes on a daily basis. However, among the participants, the use of WhatsApp for educational purposes was limited. The participants perceived the integration of WhatsApp into their education to be easy, fun, and useful. They had positive feelings and intentions about using WhatsApp in their formal learning if it was introduced.

Keywords: whatsapp, university students, educational purposes, jordan, arab world, developing country, social networking sites.

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UNIVERSITYSTUDENTSUSEOFWHATSAPPANDTHEIRPERCEPTIONS REGARDINGITSPOSSIBLEINTEGRATIONINTOTHEIREDUCATION

Strictly as per the compliance and regulations of:

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Keywords: *whatsapp, university students, educational purposes, jordan, arab world, developing country, social networking sites.*

I. Study Background

Social Networking Sites (SNSs) are very popular among university students. The use of different types of SNSs is common among university students in different parts of the world. For instance, Bsharah, Gasaymeh, and Abdelrahman (2014) found that 92.6% of 282 university students who participated in a study in a university in Jordan reported using Facebook. Hamade (2013) found that 89% of 300 students who participated in a study in a university in Kuwait reported using Twitter. In a large-scale study, Karpinski, Kirschner, Ozer, Mellott, and Ochwo (2013) found that 100% of 875 students from universities in the United States and in Europe reported using different types of SNSs. Students commonly use their smartphones to access their SNSs (Vorderer, Krömer & Schneider, 2016). This enables them to use SNSs anytime and anywhere. SNS have been used for variety of purposes including communication, exchanging media, and entertainment (Raza, Qazi & Umer, 2017; Eid & Al-Jabri, 2016). SNSs are easy, cheap, convenient, reliable, entertaining, and they can be accessed anywhere (Krishnan & Hunt, 2015; Nam, students in the Arab world have used SNSs to overcome

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2015; Billedo, Kerkhof, & Finkenauer, 2015; Al-Jabri, Sohail, & Ndubisi, 2015). Furthermore, university the social norms and cultural constraints that are present in gender segregated societies.

The popularity of SNSs among university students might suggest that they would be suitable and valuable tools which could be used for educational purposes. SNSs have been used to: facilitate online and blended education; provide easy and flexible access to educational materials; provide students with administrative information; facilitate communication among students and between students and instructors; replace learning management systems; and motivate students (Schroeder & Greenbowe, 2009; Wang, Woo, Quek, Yang, & Liu, 2011; Pollara, & Zhu, 2011; Meishar-Tal, Kurtz, & Pieterse, 2012; Callaghan & Bower, 2012; Irwin, Ball, Desbrow, & Leveritt 201). The use of SNSs has great potential in higher education in developing countries because of their availability and affordability.

Their use does not require expensive digital tools such as laptop computers. Students own and know how to use the necessary software (i.e., SNS applications) and hardware (i.e., smartphones).

One type of SNS that might have potential in higher education to support teaching and learning is WhatsApp Messenger. WhatsApp Messenger is a popular SNS in different parts of the world. Statistics have shown that there were 1.2 billion active monthly users of WhatsApp in 2017 (Statista, 2017). WhatsApp Messenger is a smartphone- and web-based instant message application that allows users to exchange information using a variety of media including text, image, video, and audio messages (Church & de Oliveira, 2013; Sahu, 2014). WhatsApp is a free, easy to use, fast, convenient, personal mode of communication.

It is easy to form groups with WhatsApp or to use it for private communication (Tang & Hew, 2017). It can be used to communicate anywhere and at any time, and it is commonly used by university students worldwide (Bere, 2012; Yeboah & Ewur, 2014). WhatsApp is used in different fields, such as health services (Wani, Rabah, AlFadil, Dewanjee, & Najmi, 2013); marketing (Priyono, 2016), tourism (Štefko & Mudrík, 2016), and business (Priyono, 2016). Devi and Tevera (2014) found that WhatsApp was one of the most popular SNSs among university students. Ahad and Lim

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(2014) found that WhatsApp is popular among undergraduate students, and that they they use it on a daily basis. Ahad and Lim reported that students attributed their heavy use of WhatsApp to its ease of use, speed, real-time messaging, and low cost.

WhatsApp can be used in higher education in a number of ways to achieve different educational goals. For instance, Gachago, Strydom, Hanekom, Simons, and Walters (2015) argued that WhatsApp can be used in higher education to create immediate connections, encourage reflection, and facilitate coordination in informal and formal learning. Chipunza (2013) found that WhatsApp was a useful electronic tool to facilitate information sharing among university students on a range of subjects related to the courses that they were studying. The author reported that "WhatsApp served as a tool for bridging access to learning resources, rendering peer-based and hierarchical support, leveraging on-task behavior and enhancing meaningful context-free learning" (p. 336). Tarighat and Khodabakhsh (2016) found that WhatsApp can be useful in language assessment. Students can use WhatsApp to record their speech and share their recordings with their teachers and other students. Alsaleem (2013) examined the effect of the use of WhatsApp on English as Foreign Language (EFL) students in written vocabulary tasks in Saudi Arabia. The author found that WhatsApp had a positive effect on students' performances. The students enjoyed using WhatsApp as a learning tool. They perceived the use of WhatsApp as a game rather than a formal class requirement. Ngaleka and Uys (2013) reported that WhatsApp can be used to facilitate mobile learning. In their study the students used WhatsApp as a communication tool outside the classroom to exchange information about meetings and projects. Barhoumi (2015) found that the use of WhatsApp to facilitate blended learning had a positive and significant impact on students' learning performance and their attitudes toward blended learning. Bansal and Joshi (2014) examined college of education students' experiences of WhatsApp mobile learning and found that the use of WhatsApp increased students' social interactivity with each other and with the instructor, and this facilitated collaborative learning. In addition, the authors found that students had positive attitudes toward the use of WhatsApp in their leaning. Bere (2013) found that WhatsApp could be useful to "create alternative dialogic spaces for student collaborative engagements in informal contexts, which can gainfully transform teaching and learning" (p. 544). Tang and Hew (2017) reported that WhatsApp had been used in different academic disciplines to support students' learning.

These academic disciplines included education, mathematics, information systems, and languages.

The educational advantages of WhatsApp, students' positive attitudes towards its use, and its popularity suggest that WhatsApp has significant potential for use in higher education. In developing countries, university students have limited access to expensive technologies such as desktop and laptop computers. The use of WhatsApp in education does not require special infrastructure. University students own the hardware (i.e., smartphones) and they can download the software (i.e., the WhatsApp application) for free. WhatsApp can be used for teaching and learning to bridge the digital divide among students.

Some research studies have examined university students' use of WhatsApp. Yeboah and Ewur (2014) examined higher education students' use of WhatsApp. Four hundred and eighteen students completed a questionnaire. The results showed that most were heavy users of WhatsApp. More than 96% of the participants reported using it for more than three hours a day. Most participants used WhatsApp for chatting while only 7% reported using it for academic work.

Students' perceptions of the use of WhatsApp in their educational processes have been examined in some studies. For instance, Malecela (2016) examined students' perceptions of the use of WhatsApp as a learning tool in a university in Malaysia. A qualitative research design was followed in which interviews were conducted with some students. The results showed that the students believed that WhatsApp could be helpful in their learning by facilitating: communication with other students and with the instructor, collaborative learning, and access to and sharing of educational information. WhatsApp can be used as a medium for learning and teaching the English language. However, the students in Malecela's (2016) study believed that the use of WhatsApp as a learning tool had the following limitations: it did not involve face-to-face communication, it was time consuming, there was a risk of miscommunication, it was constrained by the rules of phone etiquette, it was dependent on Wi-Fi connections, and it could not be used by individuals who had their phones on silent mode.

In Hong Kong, So (2016) found that university students who had experience with the formal use of WhatsApp to support their learning, and those who had no experience with the use of WhatsApp for learning, had positive perceptions of its use to support teaching and learning in higher education. The students agreed that WhatsApp can be a useful learning tool. Examples of reported possible advantages of the use of WhatsApp for students' learning included: providing immediate messaging support, bringing new opportunities of learning, facilitating communication between students and teachers, enabling fast feedback in learning, providing flexible learning, supporting multimedia learning, and supporting collaborative learning. However, the participants said that the use of WhatsApp in their learning might interfere with their private lives

Smartphones and their apps can be beneficial for disadvantaged universities and for countries that suffer from limited budgets and a shortage of computer labs. WhatsApp is a commonly available, popular, and affordable electronic tool. It has been integrated into university students' learning in different ways to accomplish diverse educational tasks. It provides several educational advantages for university students.

In Jordan, the use of smartphones and SNSs is popular among university students. However, the availability and affordability of such technologies do not necessarily mean their integration into students' learning will be successful. Therefore, the current study examined the use of WhatsApp, one of these popular technologies. It investigated university students' use of WhatsApp and their perceptions regarding its possible integration into their education

II. Purpose Of The Study

The aim of this study was twofold: 1) to investigate first year university students' use of WhatsApp for personal and educational purposes and 2) to examine their perceptions of the formal integration of WhatsApp in their education.

The research questions of the current study were:

Research Question 1: What is the extent of students' use of WhatsApp for personal purposes?

Research Question 2: What is the extent of students' use of WhatsApp for educational purposes?

Research Question 3: What are the perceptions of students regarding the formal integration of WhatsApp in their education?

III. Research Methods

A quantitative research method was used in this study. Data were collected using a questionnaire instrument to measure university students' use of, and perceptions of, the formal integration of WhatsApp in their education.

a) Participants

The participants were a group of students from a university in Jordan. They were all enrolled in one class. Table 1 shows the demographic characteristics of the participants.

Table 1: Descriptive Summary of Participants' Demographic data

	Category	Frequency	Percentage
Gender	Male	72	46.8
	Female	82	53.2
Age	18-20	150	97.4
	21-25	4	2.6
Major	Education	4	2.6
	Arts and Literature	37	24
	Science	50	32.5
	Engineering and Computer Science	35	22.7
	Nursing and Health Science	22	14.3
	Business Management	6	3.9

One hundred and fifty-four students completed the questionnaire. The numbers of female students and male students were approximately equal. Most participants were under the age of 20, and the class in which the participants were enrolled was offered to first- and second-year students. The participants were from a range of academic disciplines.

b) Instruments

The data collection tool was a paper-based questionnaire. The questionnaire consisted of four sections that were designed to collect the following data: 1) demographic characteristics; 2) students' use of WhatsApp for personal purposes; 3) students' use of WhatsApp for educational purposes; and 4) students' perceptions of the formal use of WhatsApp for educational purposes. The options for responses in the 'use' sections (i.e. sections 2 and 3) were: daily, weekly, monthly, and never. The options for responses in the perceptions section (i.e. section 4) were: strongly disagree, disagree, undecided, agree, and strongly agree. The questions were based on the researcher's observations and previous research studies (e.g., Roblyer, McDaniel, Webb, Herman, & Witty, 2010; Abu-Alruz, 2014; Al-Emran, Elsherif, & Shaalan, 2016; So, 2016).

c) Procedure

A class that was available to all students in the university was randomly selected for the study. The class was offered as an elective unit, and students from two streams of the class participated in the study. The instructor and the students agreed to participate. The researcher visited the two streams and made a presentation about the aim of the study and the use of WhatsApp in students' formal learning. During the same visits, questionnaires were completed by the students and collected by the researcher.

d) Data Analysis

Frequency distributions were used to represent participants' demographic data, and to answer the first and second research questions regarding participants' use of WhatsApp for personal and educational purposes. Descriptive statistics, in the form of means and standard deviations, were used to answer the third research question regarding students' perceptions of the formal integration of WhatsApp in their education.

IV. Results And Discussion

a) WhatsApp Use for Personal Purposes

All the participants reported using WhatsApp in their personal and social lives. Table 2 shows the types of personal and social activities that the students used WhatsApp for, based to the frequency of use (daily, weekly, monthly and never). Most of the participants reported using WhatsApp for staying connected with fiends, parents, and relatives on a daily basis. In addition, most of the participants used WhatsApp daily to share pictures and videos. Most participants used WhatsApp groups to exchange information. Using WhatsApp to share music files and personal information with others was less common. The findings in relation to the popularity of WhatsApp among university students align with the findings of similar studies (Yeboah & Ewur, 2014; Ahad & Lim 2014; Devi & Tevera, 2014).

University students use their smartphones to access WhatsApp. Smartphones are popular among university students (Tahat, Al-Dabesi, & Al-Qta, 2014; Dahlstrom & Bichsel, 2014). Unlike other technologies, the use of smartphones does not require special equipment or infrastructure. The students had the necessary hardware and software in their hands constantly. The smartphone is a personal technology that users carry with them wherever they go and at all times. The popularity of WhatsApp among university students can be attributed to the technological affordability of such technology. WhatsApp is commonly available, free, and easy to use. Furthermore, the popularity of WhatsApp is related to the popularity of the traditional Short Message Service (SMS). SMS is a popular communication tool among university students (Gasaymeh & Aldalalah, 2013; Gasaymeh & Qablan, 2013; Balakrishnan & Loo, 2012; Tahat et al. 2014; Ahad & Lim, 2014). Students use SMS in their social and personal lives because it is fast, convenient, readily available, immediate, straight to the point, and private (Bouhlel, Mzoughi, Hadiji, & Slimane, 2011; Balakrishnan & Loo, 2012; Oluga & Babalola, 2013).

They use it to contact friends; exchange information, congratulations and jokes; for banking; and to receive news (Tahat et al. 2014). However, the use of traditional SMS has some limitations and shortcomings. For instance, text is the only type of data that can be exchanged via SMS, and there are limitations to the number of characters that can be sent in one SMS message. Therefore, the users of SMS usually use abbreviations (such as "2" for "to" and "AFAIK" for "as far as I know"), and many users find them confusing (Leung, 2007) WhatsApp has the same communication capabilities as SMS but has some more advanced features and technical characteristics. Different types of data (text, audio, video, Microsoft office files, and location-based messages) can be exchanged using WhatsApp. Users of WhatsApp can find out whether people on their contact list are available, typing messages, or offline. In addition, users of WhatsApp can know whether a sent message has been received and read. In addition, electronic groups can be formed using WhatsApp. Therefore, WhatsApp can provide users with the feeling of being part of a group. Cost might be another factor that encourages smartphone users to use WhatsApp. WhatsApp allows users to exchange information free of charge using their internet data plans. Church and de Oliveira (2013) summarized some motives for WhatsApp adoption. These included: low cost, social influences, technical characteristics, sense of connection and community, immediacy, and reliability,

Table 2: Frequency Distributions of Participants' Responses to WhatsApp Use for Personal Purposes.

		Daily	Weekly	Monthly	Never
	I use WhatsApp to				
1.	… share music files with others	59(38.3%)	34(22.1%)	26(16.9%)	27(17.5)
2.	… share pictures with others	101(65.6%)	28(18.2%)	16(10.4%)	9(5.8%)
3.	… share videos with others	82(53.2%)	40(26%)	17(11%)	12(7.8%)
4.	… keep in touch with friends	113(73.4%)	21(13.6%)	8(5.2%)	9(5.8%)
5.	… keep in touch with parents	106(68.8%)	23(14.9%)	7(4.5%)	16(10.4%)
6.	… keep in touch with relatives	76(49.4%)	36(23.4%)	15(9.7%)	24(15.6%)
7.	… to chat with specific electronic groups	78(50.6%)	32(20.8%)	11(7.1%)	30(19.5%)
8.	… keep others informed of what's going on in my life	60(39%)	36(23.4%)	12(7.8%)	39(25.3%)

b) WhatsApp Use for Educational Purposes

Table 3 shows the types of educational activities that the students used WhatsApp for. Students' use of WhatsApp for educational purposes was less common than their use of WhatsApp for personal and social purposes. The finding in relation to the limited use of WhatsApp for educational purposes among university students aligned with similar research studies (e.g., Yeboah & Ewur, 2014). The most common use of WhatsApp for educational purposes was to facilitate communication among students. Such use is similar to their use of WhatsApp for personal and social purposes.

The use of WhatsApp for communication between students and instructors was not common; the majority of the students did not use WhatsApp to communicate with instructors or to build relationship with instructors. However, about a quarter of the participants reported that they used WhatsApp daily to: publish course announcements, discuss ideas about courses with classmates, seek help from the students who had already taken courses, post links to topics and resources related to courses, form groups for study purposes, organize meetings with classmates, and organize times to study.

The findings showed that a limited number of students used WhatsApp for educational purposes, and that these students used WhatsApp for informal learning activities. A possible explanation of the low use of WhatsApp for educational purposes is that the students responded to the course requirements, and WhatsApp was not formally integrated into their learning. It is likely that students' use of technology for educational purposes was affected by the use of technology by faculty members. In addition, the students might have been unaware of how to use WhatsApp to support their learning

Table 3: Frequency Distributions of Participants' Responses to WhatsApp Use for Educational Purposes.

		Daily	Weekly	Monthly	Never
	I use WhatsApp to				
1.	… communicate with my classmates about matters related to courses requirements	61(39.6%)	35(22.7%)	28(18.2%)	28(18.2%)
2.	… communicate with my instructor about matters related to courses requirements	16(10.4%)	30(19.5%)	30(19.5%)	74(48.1%)
3.	… publish courses announcements	35(22.7%)	29(18.8%)	25(16.2%)	64(41.6%)
4.	… to discuss ideas about courses with my classmates	37(24%)	34(22.1%)	30(19.5%)	42(27.3%)
5.	… discuss ideas related to courses with instructors	25(%16.2)	27(%17.5)	32(20.8%)	64(41.6%)
6.	… seek help related to the course requirements of students who have already taken the courses	36(23.4%)	42(27.3%)	27(17.5%)	44(28.6%)
7.	… post links to topics and resources related to courses	41(26.6%)	25(16.2%)	40(26%)	46(29.9%)
8.	… to form student groups for educational purposes	36(23.4%)	23(14.9%)	37(24%)	54(35.1%)
9.	… organize meetings with my classmates regarding the assignment and projects required by the instructors	38(24.7%)	35(22.7%)	28(18.2%)	48(31.2%)
10.	… communicate with instructors about office hours and meetings	24(15.6%)	25(16.2%)	25(16.2%)	79(51.3%)
11.	… build good relationships with the instructors	25(16.2%)	20(13%)	25(16.2%)	81(52.6%)
12.	… to get feedback from course instructors	33(21.4%)	26(16.9%)	32(20.8%)	59(38.3%)
13.	… organize my time to study	40(26%)	26(16.9%)	19(12.3%)	69(44.8%)

Table 4 shows that the participants' perceptions of the formal use of WhatsApp to support their learning ranged between "undecided" and "agree" (*M* =3.44, *SD* =.77). Participants responded most positively to the item that stated "I think it would be easy to use WhatsApp in my education" (*M*=3.66, *SD*=1.11), and least positively to the negatively worded item that stated "I think using WhatsApp in education will cause me social problems" (*M*=3.03, *SD*=1.17). The results indicate that students believed using WhatsApp in their education would be: easy, fun, and useful. The students had positive intentions regarding the use of WhatsApp in their education if it were to become an option. The students' responses suggest that they would accept the use of WhatsApp in their learning. However, the students were not sure about the effect of the use of WhatsApp for educational purposes on their social lives. Arab culture is characterized by collectivism rather than individualism (Ameen & Willis, 2015), which means that individual behavior is influenced by the surrounding gender segregated society. Using SNSs, including

WhatsApp, is one way for students in Arab cultures to seek freedom from cultural and social restrictions.

Using WhatsApp to send or receive messages, or to form groups, does not require a complex set-up process (Tang & Hew, 2017). The findings of this study showed that the use of WhatsApp to support students' learning does not require adaptation and intensive training for students, and this would make it easy for WhatsApp to be integrated into their learning. The finding regarding students' positive perceptions of WhatsApp's ease of use in their learning aligned with the findings of other studies (e.g., Ahad & Lim, 2014).

Students believed that the use of WhatsApp to support their learning would be fun. This belief was based on their use of WhatssApp in their personal and social lives. Most university students enjoyed using WhatsApp to socialize with people and exchange different forms of data. Their positive perceptions would make it easier to integrate WhatsApp into their learning. Students' enjoyment of the use of a technology is an important factor in the success of its adoption (Davis, Bagozzi, & Warshaw, 1992). The finding regarding

students' positive perceptions of the enjoyment of the use WhatsApp's in their learning aligned with the findings of other studies (e.g., Alsaleem, 2013).

The students believed that the use WhatsApp to support their leaning would be useful for their learning. Students' intense use of WhatsApp for personal and social purposes reflected the benefits of WhatsApp in their daily lives. Therefore, the students anticipated that the formal use of WhatsApp in their learning would be helpful. Students' use of WhatsApp for personal and social purposes, and their perceptions that it was easy, fun, and useful, meant they had positive attitudes towards the use WhatsApp in their formal learning. The students liked the idea of using WhatsApp in their formal learning and they said they would use it if it became available. The finding regarding students' positive perceptions of the use of WhatsApp in their education aligned with the findings of similar studies. For instance, So (2016) found that university students who had no experience with WhatsApp for learning had positive perceptions of its use to support teaching and learning in higher education.

Table 4: Descriptive statistics of participants' responses to their perceptions of the formal integration of WhatsApp in their education

		M	SD
1.	I think it would be easy to use WhatsApp in my education	3.66	1.11
2.	I would not feel scared and hesitant when using the WhatsApp in my learning	3.60	1.20
3.	I think using WhatsApp in my education would be fun	3.54	1.14
4.	If face technical problems using WhatsApp I can solve them in one way or another	3.49	1.10
5.	I would like to use the WhatsApp in the educational process	3.43	1.31
6.	I think the use of WhatsApp in my education would be helpful	3.34	1.02
7.	*I think using WhatsApp in education will cause me social problems	3.03	1.17
	Overall	3.44	.77

Negatively stated item

V. Conclusions and Recommendations

Previous research has shown that WhatsApp has several technological, social, and pedagogical advantages.Theses studies have shown that WhatsApp is popular among university students and that students use it constantly for different purposes in different parts of the world. These advantages and WhatsApp's popularity suggest that it could be used to support students' formal learning, particularly in developing countries that might have economic and infrastructure constraints. The current study found that participants have access to smartphones and WhatsApp. Students use WhatsApp for personal and social purposes on a daily basis. However, among the participants the use of WhatsApp for educational purposes was limited. Students used WhatsApp in their education in ways that were similar to its use for personal and social purposes. For instance, the most common use of WhatsApp for educational purposes among the

participants was to communicate with each other on matters related to their education.

Students' limited use of WhatsApp for educational purposes can be attributed to the lack of formal integration of WhatsApp in their learning, and their lack of knowledge and skills on how to use WhatsApp to support their learning. However, the participants had positive perceptions of the formal use of WhatsApp to support their learning. They believed the integration of WhatsApp into their education would be easy, fun, and useful. They had positive feelings and intentions regarding the possible use of WhatsApp in their formal learning. However, the participants were not sure about the social acceptance of the use of WhatsApp in their education. The use of WhatsApp to overcome some social norms in conservative Arab societies that limit communication between female and male students might not be socially supported. Students in Arab cultures look for liberation from cultural and

male students might not be socially supported. Students in Arab cultures look for liberation from cultural and social restrictions through the use of SNSs such as WhatsApp.

Jordanian students were already users of smartphones and WhatsApp. They had positive perceptions of the use of WhatsApp to support their learning. The use of WhatsApp in higher education does not require costly infrastructure for the students or their universities, as the students have the required software and hardware in their hands all the time. The availability of software and hardware is a significant consideration in emerging countries, in which higher education institutions have difficulty providing students with expensive ICT that might be used to support their learning. Students' ways of using WhatsApp for personal and social purposes would inform the ways in which the technology is integrated into their education. The findings of this study suggest that the use of the WhatsApp would enable students to access learning and educational material outside of lectures, and it would facilitate communication between students, and between students and their instructors, and it would facilitate collaborative learning through the formation of electronic groups. The formal integration of WhatsApp into university students' learning requires considering the students' social constraints and privacy.

Further studies are required to improve understanding in relation to the use of WhatsApp in university students' learning. The findings of the current study have shown that the use of WhatsApp in students' learning in Jordanian universities would be accepted by the students. However, future research should address students' perceptions of and attitudes towards specific uses of WhatsApp in their learning. In addition, there is a need to for empirical studies that examine the effect of the use of WhatsApp on students' learning performance and motivation.

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