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THE IMPACT OF WHATSAPP ON INTERACTION IN AN ARABIC LANGUAGE TEACHING COURSE

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This study aimed to investigate pre-service Arabic language teachers' perceptions of the impact of integrating WhatsApp mobile instant messaging on the enhancement of their instructional interaction. It also sought to identify the challenges of using this application as a mobile learning tool. The data was collected using semi-structured interviews and an analysis of the postings on WhatsApp platform. The results revealed that WhatsApp had the power to enhance the three types of interactions, 71% of the participants reported that it enhances student-student interaction, 54% reported that it enhances student-content interaction and 42% of the participants stated that it enhances student-instructor interaction. They concluded that WhatsApp platform offers them a space for communicating, expressing ideas and exchanging information anytime and anywhere. However, (a) expenses involved in WhatsApp use, (b) extra work load, (c) distraction to learning and (d) lack of students' commitment for effective participation were identified as the greatest challenges of effective WhatsApp use for learning purposes.

Keywords: WhatsApp**,** Mobile technology**,** Interaction, Pre-service.

Introduction

Educational systems suffer from an endemic crisis in numerous Middle East countries. This crisis manifests in the poor-performing education systems, poor-quality teaching and a lack of educational resources to support the teaching and learning process (UNESCO, 2012). Education systems are also challenged by the demands of the twenty-first century. It is obvious that there is a tremendous gap between how students live and how we expect them to learn. These demands are imposing further changes to teachers' responsibilities, required skills and professional roles. There is no doubt that teaching basically the same way that we had taught for decades does not radically improve the educational system. Teachers' roles should be changed from the 'sage on the stage' model, which focuses on the transfer of the knowledge to learners, to the 'guide on the side' model, with a focus on the teacher as a learning facilitator and coach (King, 1993). This idea is aligned with the constructivist approach that emphasizes learner-centered tactics to meet students' needs and pedagogy.

It is widely believed that addressing these challenges requires a range of interventions, including the integration and the use of information and communications technology (ICT) (Perraton, 2007). ICTs have opened up new possibilities for combining learning with other life activities in ways that are optimally adapted to suit the needs and preferences of the students. It has the potential to create environments where students actively engage with materials as well as refine their understanding as they build new knowledge (Johnston, Killion & Omomen, 2005).

Additionally, The emergence of near-universal access to mobile technologies opens up new avenues for improving the quality of teaching, learning and education management (UNESCO, 2012). Mobile technology have now made it possible for teachers and students to have access to up to date information anytime, anywhere without being tied up to a desktop or laptop that restricts their ability to learn and share knowledge while traveling or in areas with bad Internet connectivity (Mockus, et al., 2011). This in turn is spurring today's educators who are educating millennial students to innovate teaching and learning practices. Teachers with this technology are expected to improve students engagement, peer interaction and collaboration; provide and receive feedback; improve communication; reduce computer costs; enhance situated learning; and extend the place and time of learning (Allen, 2011; Kolb, 2011; Shuler, 2009).

Since the interactive instruction has been found to result in positive learning outcomes and it is crucial in promoting academic success (Picciano, 2002; Watkins, 2005), there have been a variety of technologies designed to support active interaction in learning. The research literature appears to provide positive feedback regarding the use of mobile technology to improve student engagement, interaction and collaboration (Allen, 2011; Chen, Chang & Yan, 2012; Hsieh, Jang, Hwang & Chen, 2011; Klopfer, Squire, & Jenkins, 2002; Kolb, 2011).

However, current research is still limited in terms of examining the impact of specific mobile application on interaction in particular content area and context. Thus, this study was set up to investigate pre-service Arabic language teachers' perceptions of the impact of integrating WhatsApp mobile instant messaging on enhancing their instructional interaction. It also sought to identify the challenges of WhatsApp integration in the learning process.

WhatsApp as a Mobile Technology Application

The near ubiquitous access of mobile technology has attracted the attention of educators to seek ways to become more efficient and effective in their efforts to prepare their students for the demands and challenges of a globally competitive society through utilizing mobile technology as educational tools (Clough, Jones, McAndrew & Scanlon, 2008; Sachs & Bull, 2012). Klopfer, Squire and Jenkins, (2002) describe several features of mobile technology that produce unique educational benefits, including: a) portability – can take the device to different locations; b) social interactivity – can use the device to collaborate and exchange information with others; c) context sensitivity– can use it to collect and gather real or simulated data that is appropriate to a specific location, environment and time; d) connectivity – can use it to connect to data collection devices, other devices, and to a network; and e) individuality –can provide scaffolding for learners which is customized to the individual's need. In other words, the convenience, expediency, and immediacy of mobile devices allow students to learn the right thing at the right time at the right place (Seppälä & Alamäki, 2003; Peng, Su, Chou, & Tsai, 2009).

One popular application of mobile technology is WhatsApp "instant messaging". WhatsApp is a cross-platform mobile messaging app allowing users to exchange messages in real time without having to pay for SMS (WhatsApp, 2013). It is available at different devices including personal digital assistants, smart phones, and tablets. All users of those devices can interact and message each other through various media such as; text, images, audio and video messages. Because WhatsApp messenger uses the same internet data plan as emailing and web browsing, there is no extra charge for messaging and staying in touch with others. In addition to basic messaging, WhatsApp users can create groups which consist of up to 30 group members, which allow them to engage in discussion forums. Another important feature of the WhatsApp is the Offline messaging. It means that all messages transmitted when the device is off or when it is

located outside the coverage area are automatically saved and retrievable when network coverage is restored or when the device is turned on (Bere, 2012). Finally, WhatsApp works via phone numbers and integrates with users' address books, thus there is no need to memorize usernames or passwords.

Interaction and Learning

Interaction is defined as "reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another" (Wagner, 1997, p.8). It is a powerful facilitator for learning, and there is a relationship between the amount of interaction students have with course content and their performance (Heffner & Cohen, 2005; Schrum & Hong, 2002). According to Muirhead (2004), a major challenge for instructors involves creating a consistent level of interaction that fosters genuine learning and cultivates a community atmosphere. The idea of interaction was also emphasized among the seven principles for good practice in education. The principles are encouraging student-faculty contact, encouraging cooperation among students, encouraging active learning, providing prompt feedback, emphasizing time on task, communicating high expectations and, respecting diversity and learning styles (Chickering & Gamson, 1987). More specifically, Wagner (1997) stated that interaction serves as a purpose of increasing participation and motivation, developing communication, receiving feedback, enhancing elaboration and retention, supporting learner, enhancing discovery and exploration, clarifying misunderstanding, and achieving closure.

Three types of interactions were initially described in the literature; student-instructor, student-student, and student- content (Moore, 1989). The student-instructor interaction which transpires between students and faculty is intended to help reinforce student's understanding of the material or elucidate meanings (Thurmond, 2003). According to Moore (1989), student-instructor interaction is a key factor that motivates students to learn, maintain and enhance students' interest in any subject matter. Student-student interaction is defined as an interaction between one student with another student, with or without the real presence of the instructor (Thurmond, 2003). Studies in this area have pointed out the importance of peer interaction, particularly at the stage of application and evaluation of new content (Moore, 1989). The third type of interaction, student-content interaction, is the interaction that results from students examining and studying the course content. The focus is on the understanding and the perspectives that students gain from the knowledge they construct while interacting with the content (Thurmond, 2003).

Interaction and Mobile Technology

Since interaction plays a significant role in enhancing the amount of learning as previously stated, there have been a variety of studies that explored the impact of mobile technology on influencing instructional interaction. For example, Davis (2003) indicated that using mobile technology in the classroom enhanced the instructional interaction through allowing students to respond to the teacher's questions instantly and anonymously. He also reported that students were more willing to take risks in exploring answers, because of the anonymity involved. More in recent studies, Gong and Wallace (2012) report that students in their study provide a number of potentials regarding the use of mobile technology including: enhancing communication with the instructor, simplifying communication, providing a motivating learning experience, and

enabling more convenient studies. From a different perspective, Bere (2012) compared the use of WhatsApp social networking and the Blackboard LMS as ubiquitous tools for academic collaboration. A comparison was made using students' experience to deduce a popular ubiquitous learning platform for the participants. The results indicated that most students prefer the WhatsApp social networking compared to learner management systems. Free access, edutainment and multitasking are among the aspects that made WhatsApp a preferred learning platform.

The previous literature review clearly suggests that mobile technology seemed to be an effective aid that instructors might use to enhance students' interaction. On the other hand, other researchers expressed concerns regarding the impact of integrating technology on interaction and students' engagement (Chen-Chung, Chen-Wei, Nian-Shing & Baw-Jhiune, 2009; Luminita, 2010). Luminita (2010) argues that new technology innovations may decrease the direct interaction and immediate feedback between students and professors. Chen-Chung et al., (2009) state that "*the screen on handheld devices are designed for individual-user mobile applications and may constrain interaction among group learners*" (p. 127).

Challenges of Mobile Technology as a learning Tool

Although the literature lacks a discussion on the challenges of using WhatsApp as a learning tool, there are several studies discussed the challenges of integrating mobile technology in general. These challenges include small screen size, high expenses, access speeds, requirement of high level of technological proficiency, technical difficulties, lack of mobile technology integration, symbolic view of mobile technology, the potentiality for increasing distraction, and encouraging plagiarism and cheating (Chen-Chung et al., 2009; Gong & Wallace, 2012; Mahmoud, 2008; Tai & Ting; 2011).

In addition to the inconsistent results regarding the impact of mobile technology on interaction, the literature is lacking an investigation of the impact of a certain application on improving interaction in a specific context and settings. Thus, this study was set up to contribute in bridging this gap through answering the following two research questions.

1. How do pre-service Arabic teachers view the use of WhatsApp as a tool to stimulate interaction with their instructor, peers, and instructional content?
2. What challenges do pre-service Arabic teachers face during their integration of WhatsApp as an interactive and collaborative learning tool?

Answering those questions may provide educators with valuable information to select the appropriate ubiquitous technological applications and create meaningful learning activities and tasks that enhance interaction and meet students' learning needs and interests. It will also help administrators and educators to address the challenges that might hinder students' integration of mobile applications as learning tools. In addition, the findings of the study may lead to further research in the area of using mobile technology applications in education.

Methodology

Research Context and Participants

The present case study was conducted at Professional Diploma Program in Teaching at Al-Ain University of Science and Technology (AAU) in the United Arab Emirates (UAE). A virtual learning platform supported by WhatsApp social networking was created as an additional component to Methods of Teaching Arabic course (0601532) over fifteen weeks. In addition to the face-to-face class meetings, students were requested to make both collaborative and individual weekly contributions to the WhatsApp platform. The course instructor created the WhatsApp platform and prepared the students to use different capabilities and functions of it. In addition, the instructor encouraged students to create other virtual platforms for their group assignments. WhatsApp was mainly adapted for allowing pre-service Arabic teachers to connect with others and academically collaborate through posting educational and meaningful content related to Arabic language teaching and learning, supporting their posts with resources (videos, audios, pictures, websites,…etc), discussing course content, asking questions, responding to questions, and commenting on daily lectures.

In order to promote pre-service teachers to engage in productive interaction and in-depth discussions, they were instructed to meet specific posting requirements and evaluation criteria. The criteria included the following:

- Contributions should be reflections of (0601532) course content.
- Contributions should include new ideas, reflections, opinions and critical thinking, not mere description or summary.
- Each pre-service teacher is expected to post at least four messages per week.
- Replying to the instructor and peers' questions should be within 24 hours.

The main purpose of the virtual discussions was to facilitate a productive social interaction by empowering students and encouraging them to take on the role of critic and inquirer (Scarce, 1997). The course instructor's role included responding to students' questions, giving feedback, and evaluating students' contributions based on the provided criteria. The investigation covers 17 female pre-service teachers who were registered in a section of methods of teaching Arabic course during the first semester of 2012-2013. All postings including ideas, thoughts, responses, comments, audio and video clips and threads were available to the pre-service teachers to view throughout the semester.

Data Collection and Procedures

Two different sources of data were used to collect the information needed for answering the research questions. They were semi-structured interviews and analysis of participants' posts on the WhatsApp platform. Interviews were conducted to obtain in-depth perspectives, along with personal stories and contexts of the participants. The interview questions dealt with the following areas of inquiry:

- Individual views of WhatsApp as a tool to foster interaction (student-student, student-instructor, and student-content)

- Successful stories in integrating WhatsApp to enhance interaction and learning.
- Willing to integrate WhatsApp in future Arabic language classes.
- Individual views regarding the challenges of WhatsApp integration in the learning process.

The interview questions were reviewed and refereed by a panel of experts to judge their quality and adequacy for answering the research questions. Based on this review process, one question was added, and three questions were modified according to the panel's comments and suggestions. The researchers also interviewed three students who were not participating in the actual study to ensure that the interview questions were comprehensible, and would generate valuable information and an in-depth query. A few questions were modified based on comments raised during the pilot interviews. It is important to note that before conducting the actual interviews, an orientation meeting was held with all participants to explain the purpose of the study, and the data collection details to ensure confidentiality, and to get pre-service' approval to use their comments for scientific research. Each interview lasted for 22 to 49 minutes. The substantive phases of the data collection were audio-taped and transcribed into Arabic in which participants communicate. Recording interviews assured having the most complete record of what was said as advised by Hitchcock and Hughes (1995).

The secondary data collection method for this study was collecting participants' posts on the WhatsApp platform. Students' posts were used to support the findings of the interviews by identifying what students did and what they valued. Both the interviews transcripts and participants' posts were transferred to a computer file. In addition, index cards were prepared for each question and the data were made ready for further analysis.

Data Analysis

To analyze the data drawn from interviews and participants' postings on WhatsApp platform, the framework of verbal analysis method developed by Chi (1997) was utilized. In the present study, the researchers followed this method literally. After gathering and transcribing the study data, it was reduced by doing some preliminary coding on the content of the entire set and then more detailed coding on a selected subset. Later on, the data was segmented into appropriate portions based on semantic features such as ideas, concepts, argument chains and topics of discussion. Once data was segmented, a coding scheme was developed in which each segment was independently coded according to the study research questions. Implementing coding requires deciding which utterances constitute evidence that they belong to a specific category or can be translated into a specific code. After coding the data, the results were depicted to present the data to the audience and to seek patterns that can be detected in the depicted data. Finally, the perceived patterns in the depicted data were interpreted entirely based on the research questions being asked.

To judge the value of a qualitative study, the internal and external validity were utilized. The internal validity was conducted by using peer debriefing techniques and member checking to validate the descriptions of the data and the interpretations. On the other hand, the external validity was conducted by providing much rich and thick description as possible while addressing all of the diverse aspects of the findings (Merriam, 1998) by utilizing quotes from the interviews.

Results

The results of the study are presented in order of the research questions.

Q1. How do pre-service Arabic teachers view the use of WhatsApp as a tool to stimulate interaction with their instructor, peers and instructional content?

The students were asked to evaluate the impact of WhatsApp on enhancing the instructional interaction. It includes student-student, student-instructor, and student-content interaction. They were able to select multiple options that applied for them. *The results revealed mix views. First of all, 71% of participants reported that integrating WhatsApp had the power to enhance and support student-student interaction. They concluded that WhatsApp messenger opened a free and convenient channel for communicating, expressing ideas and thoughts, as well as getting help and assistance easily and quickly. This finding was evident in the participants' typical responses, such as:*

I love teaching and learning when it takes an advantage of what we already have. My iPhone is always in my hand. So it is very easy and comfortable to get clarifications about some things I missed by just asking my classmates using the WhatsApp platform. What I need to do is just post my question and wait for variety of answers.

I used to rely heavily on SMS to contact with my peers to achieve some of my learning purposes. In this course, the instructor provided us with a new source to get help from classmates whenever and wherever; always you will find someone to help you without extra charge.

It is a fabulous and more convenient tool than Google talk, Yahoo messenger and Skype. It is always on, and surely you will find some of your classmates online as well. There are different opportunities to ask or to discuss with them your interesting course topics. WhatsApp made my learning more fun, enjoyable and more interactive.

In many cases, I engaged in discussions while I was in the school bus or in a shopping mall. Learning anywhere and at anytime becomes now true and easier. There is plenty of space for all students to participate without fear or shyness or even being afraid of wasting the class time.

In addition, 54% of the participants expressed that WhatsApp platform enhanced interaction with the instructional content. Those participants stated that accessing to an enormous amount of information posted on the platform allowed them to think more deeply before posting their contributions. The following are some participants' responses regarding the impact of WhatsApp on enhancing student- content interaction:

The criteria that the instructor used to assess our contributions to the WhatsApp are very restrict. Thus, posting a good answer required a big effort to review the instructor's notes, peers' responses and course reading. I believe that this process positively impacted my learning by making me think more deeply and critically.

I have learnt many new things while reading posted materials, for example, reading others' opinions made me think in a different and more creative way. Like waiting for any new post on my face-book page, I'm interested in reading new posts on the WhatsApp platform.

In some cases, it took me a lot of time to read, search and think to respond to some ideas or questions. Furthermore I had to access previous discussions on WhatsApp platform to review some ideas before formulating my final answer. It is burdensome, but it is beneficial.

As an example, there were several small video clips about different aspect of teaching posted on the platform. I watched each one several times during my leisure time before my

lesson presentation assignment. Watching and thinking of these clips provided me with a clear picture about quality teaching. Really, there is no time to waste.

In regard to student- instructor interaction, 42% of the participants pointed out that WhatsApp was valuable in enhancing interaction with the instructor. They highlighted the significance of using this tool to interact directly with the instructor. A participant said:

Personally I prefer to ask my instructor over the WhatsApp platform rather than asking her in class. When I post, I have time and opportunity to think and correct myself before saying my question or idea without being shy or afraid of wasting class time.

Another participant said:

WhatsApp is easier now than visiting the instructor during office hours or even sending her an email. The question you post will be answered by the instructor or peers. This tool encouraged us to communicate with the instructor and each other on regular and daily basis.

From a different perspective, some participants highlighted the value of audio note feature available in the WhatsApp. A participant concluded: "*Even if you don't like to write your question, answer, idea etc, you can send it as an audio note. In this class, things are more possible".*

On the other hand, 24% of the contributors reported that WhatsApp had no value in improving any type of interaction. As evidence, a participant stated: "*I do not have time to read all these posted materials. In addition, I do not seriously respond to my classmates' questions and thoughts because I think that no one will read it".* It is worthy to note that two participants totally opposed the idea of WhatsApp integration. One of those participants affirmed that using WhatsApp has no educational benefit: "*WhatsApp has no value for my learning. Its only impact is making learning tougher."* The other participant declared:

I like to talk in front of my classmates; I like to visit my instructor during her office hours. There is nothing better than having discussions with others than face to face. I think we started to use technology improperly to replace essential issues of our learning process.

Another important finding of this study is pre-service teachers' willing to use WhatsApp as an interactive learning tool in their future career. Participants were asked about if they will integrate WhatsApp in their Arabic language teaching classes. The finding of this question reflects the previous findings regarding the impact of WhatsApp on interaction. Participants who valued the use of WhatsApp as an interactive tool reported that they surely will integrate WhatsApp in their future teaching. In other words, 76% of the participants indicated that they will use WhatsApp to enhance interaction in their future Arabic language classes. Those participants asserted that WhatsApp helped them to learn in an environment which is full of motivation, fun and opportunity to participate and engage in effective instructional interaction and reflection. Thus, they reported that they will transfer such environment to their Arabic classes.

A participant summarized her willingness to use WhatsApp in the future:

Of course I would like to use it. It will allow my students to work with me or with others, and to review class materials at convenient times for them. With such technology, there is no reason for being a passive learner. Each one will have adequate chance to participate effectively.

Another participant said:

I'm sure that I will find in my teaching classes some students like me who hate or hesitate to speak in class. I will use technological tools such the great WhatsApp to enable those shy students to participate and share their ideas freely and conveniently. There is plenty of time to review old posts that are archived, to think, and to write good answer.

Furthermore, some participants reported that language teaching and learning is in need for such tools. They argued that learning the target language requires a huge amount of practice and interaction. WhatsApp has the capability to provide students with the space for variety of language learning activities. One participant stated: *"It is a tool that allows students to practice Arabic language in a way that is impossible or difficult to be done in regular class sessions."*

On the other hand, 24% of the contributors opposed the idea of using WhatsApp to enhance interaction in their future teaching of Arabic. They concluded that they did not view it as a valuable tool as students, so they will not use it when they become teachers. A participant explained her opposition of using WhatsApp as interactive tool: "*It requires more financial expenses, more time and more work without getting real educational benefits. I did not like it as a student, and I won't use it as a teacher*."

Another one noted: "WhatsApp is a toy for socializing and having fun, it is not for learning. In my opinion, using it will distract students from learning."

In order to support the results revealed from participants' interviews, all participants' posts on WhatsApp platform was collected and analyzed. During the 15 weeks of the study, participants posted 1639 posts. These posts were categorized under six major themes: (a) responding to peers' questions, (b) commenting on course materials, (c) asking or getting clarifications from peers, (d) responding to instructors' questions, (e) adding supplementary materials, and (f) asking or getting clarifications from the instructor. Table 1 presents these themes with their frequencies and percentages.

Themes Regarding Participants' Posts

Table 1.

Theme	FREQ	Percent
Responding to peers' questions	511	31%
Commenting on course materials	314	19%
Asking or getting clarification from peers	274	17%
Responding to instructors' questions	239	15%
Adding supplementary materials	183	11%
Asking or getting clarification from the instructor	118	7%
Total	1639	100%

The results presented in Table 1 supplement the result revealed from interviews. The significant number of posted contributions on the WhatsApp platform supports the idea that WhatsApp has the power to enhance the different types of interactions. However, 48% of the posted contributions related to asking or responding to peers' questions. Therefore, this reveals that WhatsApp enhanced student- student interaction more than student- content or student-instructor interactions.

What Challenges Do Pre-service Arabic Teachers Face During Their Integration of WhatsApp as an Interactive and Collaborative Learning Tool?

During interviews, pre-service teachers provided a total of 69 comments regarding the challenges of using WhatsApp as a mobile learning tool. These comments were categorized under seven main themes: (a) expenses involved in WhatsApp use, (b) extra work load, (c) distraction to learning, (d) lack of students' commitment for effective participation, (e) lack of WhatsApp

integration skills, and (f) small screens of mobile technology. Table 2 presents these themes with their frequencies and percentages.

Themes Regarding Challenges of WhatsApp Use

Table 2.

Theme	FREQ	Percent
Expenses involved in WhatsApp use	16	23%
Extra work load	14	20%
Distraction to learning	12	17%
Lack of students' commitment for effective participation	11	16%
Lack of WhatsApp integration skills	8	12%
Small screens of mobile technology	8	12%
Total	69	100%

It is evident that the expense of integrating WhatsApp was the greatest challenge as identified by the participants. A participant explained this challenge by saying: "*We live in dorms with no Internet access and our university doesn't provide us with wireless Internet. Thus, I have to buy some Internet service to use WhatsApp."*Another participant concluded: *"Using mobile learning activities requires a reliable device and high speed of Internet access to be able to download material which means more money is needed."* In this regard, participants stressed the need for mobile technology infrastructure support as a way to succeed in WhatsApp integration. A participant summarized this issue by saying: "*I can't keep asking my family for more money. They pay a lot of expenses. If the University wants us to integrate new things, they should support us."*

The amount of work required for online learning activity was a great challenge as well. According to some participants; reading and responding to unlimited amount of questions and opinions is exhausting activities. As evidence,

> *It is okay that WhatsApp might enhance interaction. However, it requires more time and efforts to participate. The instructor and peers should respect that I have other responsibilities. I am married and I live with a little kid and old mother. I really don't have time to participate in learning activities during my family's time.*

Another participant said: "I personally can't handle all these assignments. Reading, thinking, searching, typing, downloading and uploading require too much time and effort."

The participants' responses also suggested that using WhatsApp might distract students from learning. Some of the participants argued that using WhatsApp involves different types of distracters such as students' contributions noise, updating notifications, and none related comments and materials. Participants noted:

With my Galaxy Note in my hand, there is no chance to concentrate. There is many distracters. My Facebook or email notifications are just simple examples. If someone watches me holding my Galaxy, he would not believe that I am studying. People still think of these new devices as toys.

Talking about not related issues, side discussions and disarrangement of responses in a logical or sequenced order are some problematic issues that distract my effective learning. Thus, I think to improve the use of such application, the instructor continuous involvement is a must.

Lack of students' commitment for effective participation was also among the significant challenges of WhatsApp use. It means that some of the students do not make enough efforts to

post high quality contributions. A participant said: *"The bad thing about WhatsApp is the huge amount of redundant and none sense comments. Each one wants to participate just to get the participation marks."* Another participant showed her dissatisfaction with WhatsApp as the following: *"After long time of waiting, you get sick of reading the same idea over and over again. No thorough and deep thinking before posting."*

Moreover, this issue was justified by the ease of plagiarizing other ideas. A participant said:

While some students work hard and take long time to prepare a good post, others just cut and paste others' work with few changes. This action really makes me frustrated. I think that our instructor should find a way to fight such shameful behaviors.

Other participants showed their dissatisfaction to WhatsApp due to lack of WhatsApp integration skills and the small screens of mobile technology. The following typical participants' responses explain these two considerable challenges:

Using technology for learning is different from using it in daily life. I always communicate with my friends using different mobile applications. For socializing, I use the chat language which is easy and fast, but it is not acceptable by our instructor for WhatsApp activities. Posting high quality contribution using standard language is challenging.

Some of my classmates sent different types of messages including links to related material, video clips, audio notes, and many other interesting posts. To be honest, I don't know how they got it and posted it. I think that I need some help in this manner.

I do value the significance of the availability of learning material all the time on the WhatsApp platform, but using these small devices for interactive learning confuses me. Simply, I do not feel comfortable reading from a small screen. Mobile applications are not for learning, they are for fun and playing.

It is nice to get advantage of handheld devices, but for learning purposes it is difficult for me to receive learning materials or engage in reflective discussion on a small screen. I can't type efficiently using small buttons. I do prefer my laptop which has a bigger screen.

Other smaller themes regarding challenges of WhatsApp integration that emerged from participant interviews are also interesting to mention. They include concern about the benefits of WhatsApp in learning, difficulty of using WhatsApp, and insufficient of immediate instructor involvement. As evidence, a participant stated: "It is difficult to use and it is useless as well. So you don't need to waste your time to learn it."Another participant said: "I used to wait a long time for the instructor's feedback."

Some of the challenges raised in participants' interviews were also noticeable during the analysis of students' postings on WhatsApp platform. It was noticed that 47% of the total posts are less than 20 words. They include brief and quick questions or responses regarding some aspects of the course without reflective, critical or deep thoughts. It was also obvious that the same idea is being written repeatedly by many students. In some cases, some posts are rewritten with the same errors.

Discussion

Since technology can play a role in enhancing instructional interaction which is in turn may contribute to improve learning, this study *investigated* the impact of WhatsApp mobile instant messaging on interaction between students and the instructor, students and content, and student with other students. *It also sought to identify the challenges of using this application as a mobile learning tool.* Based on the interviews with 17 female pre-service teachers registered in methods

of teaching Arabic course, and analysis of their postings on the WhatsApp platform as well, some notable themes could be seen across the responses. These themes will be further discussed.

Majority of the pre-service teachers participated in the study viewed the WhatsApp platform as an effective tool to promote interaction. More specifically, *71% of the participants reported that WhatsApp enhanced their interaction with peers, 54%of them stated that it enhanced interaction with the instructional content and 42% of the participants reported that it enhanced interaction with the instructor.* Pre-service teachers indicated that WhatsApp helped to create *convenient, easy*, free, *quick* and open *channel for communicating, expressing ideas and thoughts, as well as getting help and assistance anytime and anywhere. The major benefit of WhatsApp is allowing students to* utilize the small free time slices for learning. Many participants noted that they conducted different types of learning activities on the school bus or in a shopping mall.

It is one advantage of WhatsApp application to allow students to benefit from convenience, expediency, and immediacy of mobile devices to learn the right thing at the right time in the right place (Seppälä & Alamäki, 2003; Peng et al., 2009). Additionally, Text-based communications may enhance interactions through removing and diminishing obstacles of participation such as lack of time during class time, lack of communication skills, cultural differences, and shyness, or any other learning difficulties experienced by students in the classroom. With such application, there is an opportunity for all voices to be heard. Even those students who may be intimidated by speaking in class, or those who need more time to think, reflect and respond. The anonymity involved in WhatsApp learning activities could also contribute to improve participants' interaction. Allowing students to use nick names during their discussions may enhance students' willing to participate and take risks in exploring answers.

The positive views toward WhatsApp may also attribute to allowing participants to experience something that is motivating, enjoyable and different from what they used to do in traditional face to face interaction. *The results revealed from interviews were supported by the results reveled from the analysis of students' postings. The noteworthy number of posted contributions on the WhatsApp platform (1639 posts) suggests that participants welcome the idea of using WhatsApp as a tool for interaction. The type of postings indicates that WhatsApp was used to interact with peers, instructor, and content. However, it was used more heavily for interacting with Peers.* These results were in line with previous research studies that reported positive feedback regarding the impact of mobile learning activities on instructional interaction (Bere, 2012; Davis, 2003; Gong & Wallace, 2012; Seppälä & Alamäki, 2003; Peng et al., 2009).

On the other hand, 24% of the participants reported that WhatsApp had no impact on improving interaction and learning. Small screen size of mobile technologies or the symbolic view or these applications as a tool for edutainment rather than for education may constrain interaction among learners. This view is consistent with the findings of some of previous studies that reported negative feedback regarding the impact of mobile applications on instructional interaction (Chen-Chung et.al., 2009; Luminita, 2010)

Pre-service teachers' willing to integrate WhatsApp in their future Arabic language classes is a further fundamental finding of the study. 76% of participants indicated that they will use WhatsApp to enhance interaction in their future teaching. It is apparent that participants who valued the use of WhatsApp as a learning tool reported that they will integrate it in their teaching since it is appropriate for Arabic language teaching and learning classes. Visibly the perceptions of pre-service teachers on WhatsApp influence their decisions to integrate it. According to Barnes, (2000), if teachers believe that technology fulfill their own and their students' needs, most likely they attempt to implement it into their classes.

Despite the fact that students' experience of WhatsApp integration was positive, they reported initial hesitation or frustration at using the new application due to several challenges. The utmost challenge of WhatsApp integration emerged from our data was due to the expenses involved in WhatsApp use. Most of the Diploma students are Omanis coming from low incomes families. They live in the dorms in a small Omani town which is very close to the University in The United Arab Emirates. Both the University and the dorms are not provided with Internet access "wireless". Therefore, to participate in WhatsApp activities, they need to buy Wi-Fi connection, a SIM card or a subscription to a local Internet service provider. In addition, they need to have an advanced mobile device. The high price of new mobile technologies and the fees for internet connections may not be affordable by all the students.

Another key challenge of WhatsApp integration was the extra workload. Similar to other asynchronous applications, students especially married ones complained of not having enough time and effort to read, summarize and type postings. Integrating WhatsApp as described by participants involves reading and responding for unlimited amount of questions and opinions which is bothersome and strenuous. Distraction was also one of the greatest challenges of WhatsApp integration. Students indicated that balancing the attractiveness of their mobile device with learning activities is challenging and difficult. Because of the wide functions and features of mobile devices, students' attention may split between learning and buzzing of these technologies.

Lack of students' commitment for effective participation presented another main challenge. The problem of huge amount of short, redundant, useless and irrelevant comments was a common concern of the participants. Apparently some students tended to just copy and paste others ideas and opinions. This was also evident during the analysis of students' postings on the WhatsApp platform where the same idea was being written repeatedly. This finding suggests the necessity to provide students with more comprehensible, restricted and detailed criteria for contribution and evaluation of these contributions. In addition, the significant number of repeated, unrelated and nonsense comments may be justified by students' lack of WhatsApp integration skills. Participants indicated that using mobile technologies in daily life is different from using them for learning. Thus, special preparation in new technological applications should be offered for pre-service teachers to support their efforts of technology integration.

Finally, small screen of mobile technology is an additional challenge. Participants indicated that using devices with small screens for learning purposes is difficult and thorny. They believe that devices with bigger screens are more effective. Therefore, new tablets such as ipad tablets can play significant role in overcoming this key limitation. Other researchers reported similar concerns and challenges of mobile learning activities (Chen-Chung et al., 2009; Gong & Wallace, 2012; Mahmoud, 2008; Tai & Ting, 2011).

Conclusion and Recommendations

This study revealed that WhatsApp platform had the power to enhance students' instructional interaction, mainly student-student interaction in the first place, followed by student-content interaction and student-instructor interaction in the second and third place. The main function of WhatsApp platform was providing participants with an open and flexible space for communicating, expressing ideas and exchanging information. However, expenses involved in WhatsApp use, extra work load, distraction to learning, lack of students' commitment for effective participation, lack of WhatsApp integration skills and small screens of mobile

technology were identified as the greatest challenges of effective WhatsApp integration as a learning tool.

Based on the findings of this study, a number of recommendations were offered that may lead to effective integration of WhatsApp in the learning process:

- Utilizing WhatsApp mobile application as a learning tool to enhance interaction and improve students' learning.
- Providing students with adequate and reliable wireless internet access to enable more equal access on their mobile technologies.
- Providing educators with training programs that focus on the effective integration of new technology application.
- Creating pedagogical strategies that support students' efforts of WhatsApp and other technological applications integration.
- Creating a strategy for WhatsApp integration that explicate regulations of technology use, criteria for the participation and guidelines for evaluating students' contributions.
- Conducting further research that includes larger sample, mix methods, different group of students and different types of WhatsApp activities to validate the findings of the present study. As well, investigating other aspects of WhatsApp integration, such as the impact of WhatsApp on students' achievement in specific content areas, the ways of evaluating WhatsApp learning activities and educators' perspectives toward WhatsApp are also recommended.

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