A Study of Jordanian Graduate Students' Attitudes toward and Use of Weblog in a Blended Learning Course

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Abstract

This study aimed to examine the Jordanian graduate students' attitudes toward and the use of the weblog as a tool for communication and reflection to support their learning in a blended learning course. The participants in this study are 34 graduate students enrolled in a blended learning class in information technology. For the purpose of the study, the weblog was introduced as a tool for communication and reflection in the third week of the class and lasted for thirteen weeks. The participation in the weblog was voluntary for the students. The study followed mixed methods design. At the end of the semester, students were requested to complete a questionnaire regarding their attitudes toward the use of the blog. Students' blogging behavior and frequency were recorded and analyzed at the end of the semester. Semi-structured interviews were conducted for ten students. Rogers' (Rogers, 2003) innovation-diffusion model was employed to understand and clarify the findings.

The analysis of the collected data showed that the students had positive attitudes toward the use of the blog as a tool for communication and reflection to support their learning. However, students' positive attitudes toward the use of the blog in the educational setting were not reflected in their actual use of the weblog, where their participations in the blog were very limited. Based on the findings, this study provided some recommendations concerning the implementation of the weblog in the Jordanian higher education settings.

Keywords

Weblogs; Blogs; Communication Technologies; Attitudes

Introduction

The use of communication technologies to support teaching and learning are popular in nowadays classroom environments (Harris & Rea, 2009; Goertler, 2009). Communication technologies provide educators and students with several benefits that include, but are not limited to, enhancement of collaboration among students (Beldarrain, 2006), improvement on students' interactivity (Markett, Sánchez, Weber, & Tangney, 2006) as well as critical thinking and problem-solving skills (Burgess, 2009; Brodie, 2009), and the promotion of shy or the quiet students to interact with instructor and peers (Warschauer, 1996).

There are several types of communication technologies that can be used as a medium of communication and as tool for reflection and education in the class settings. These technologies can be categorized as synchronous or asynchronous technologies, of which synchronous communication technologies allows for real time communication, while the other is for delayed time communication (Johnson, 2006). Examples of asynchronous communication technologies include email, mobile text messaging, Weblogs, discussion forums, and social networking websites, while that of the other has online text-chat systems, audio conference, and video conference.

The selection, extent, and nature of implementation of communication technologies in the educational settings are directly related to the adopted educational pedagogy that guides the educational practice (Semple, 2000). In the current era, there are increasing reliance on constructivism and its corresponding practices in the field of higher education (Kundi & Nawaz, 2010). In constructivism, learners are viewed as the center of the learning process rather than passive receivers of information (Jonassen, Peck, & Wilson, 1999). Therefore, it is important for educators to understand students' needs and interests in regard to curriculum developments and the integration of technologies in the educational settings.

The benefits and variety of communication technologies, and the pedagogical shift in learning toward learner-centered environment demonstrate the

needs to investigate students' attitudes toward the use of such tools in the educational settings. Understanding students' attitudes and use of such technologies would allow educational practitioners to select and effectively integrate communication technologies in the educational settings. Therefore, the aim of this study is to investigate the Jordanian graduate students' attitudes toward and use of one of these communication technologies, taking Weblog as an example.

What Is Weblog?

The weblog or blog is a type of Web 2.0 applications including Weblogs, wikis, multimedia sharing services, content syndication, podcasting, and content tagging services (Anderson, 2007). Web 2.0 services have become very popular among internet users (Lai & Turban, 2008). The main ideas behind these technologies allows user to generate web content (Selwyn, et al., 2008), and to facilitate teamwork and sharing among users (O'Reilly, 2005). Web 2.0 applications have found a way to higher education field. Different Web 2.0 services have been employed in traditional and online classes. These applications were perceived as means to create learning-centered environment, to enhance collaboration, and to build knowledge community (Simões & Gouveia, 2008).

Weblog, a concatenation of 'Web Log,' is an informal online journal that usually reflects the author's personal thoughts (Erardi & Hartmann, 2008). The Weblog allows for archive of posts chronologically, post of multimedia, communication through comments, and embedding links to other online resources (Hsu, Wang, & Comac, 2008). The use of the Weblog in classroom can overcome some of the limitations of other communication technologies. Kim (2008) had identified the advantages of Weblog over traditional communication technologies such as email; including the available management of communication through RSS delivery, sense of ownership, reduction of anxiety, the offer of student-centered environment rather than instructor-centered one, and archive. Therefore, Weblog has been employed in higher education courses under different conditions to serve different educational purposes. The following section discussed research studies on the investigation of students' perceptions and use of blog in higher education setting.

Weblog in Higher Education Setting

"Blogs are popular social media that have powerful potential and used commonly in higher education recently" (Top, 2012).

Research studies have shown the potential of the blog in creating and facilitating constructivist leaning environments. Cheng and Chau, (2011) conducted a study (n=18) aimed at identification and comparison of the effect of using blog or a wiki on the collaborative knowledge construction of students enrolled in face-to-face multimedia and the internet class. The researchers followed the experimental design. For a period of four weeks, the students in the two groups were required to read an article about multimedia learning. Participants divided into two groups using blog and wiki, respectively, were required to reflect on their reading. Students' blog entries were analyzed using the interaction analysis model that is based on social constructivism. The findings showed that blog users were likely to create more posts than wiki users. However, both services, blog and wiki, allowed knowledge construction but blogs allow higher collaborative level in knowledge construction.

Kang, Bonk, & Kim (2011) reported similar findings in their study, who conducted a study (n=24) that aimed to investigate the effectiveness of blog in enhancement of learning environments and followed a qualitative case study approach. The blog was integrated into two graduate blended courses, related to different subjects. The blog was used by the instructor to post class assignments. The students were required to obtain information from the instructor blog and to report and share information in relation to their learning activities. Through analysis on the students' blog entries, the researchers found that the technical capabilities of the blog allowed for some pedagogical possibilities that might transform the educational practice. The pedagogical possibilities of blogs include formation of community of practice, social process of knowledge construction, and available place for self-presentation.

Besides relying on the analysis of the students' posts to understand the potential of the blog in higher education, some research studies directed their attentions to students' attitudes toward and perceptions of the use of blog in their learning process. Halic, Lee, Paulus & Spence, (2010) conducted a study (n=163) that aimed to examine the university students' perceptions of the role of blog as facilitator to their learning. To achieve the goal of the study, a blog was integrated into a nutrition class. Students were assigned to groups with size of 7 to 14 students.

Within each group, each student was required to post on the blog and to comment on other students' posts every week for nine weeks. The study involved in survey research design in which students were asked to fill survey to collect their perceptions of the role of blog to facilitate learning and enhance sense of community. The response rate was 43 percent, showing that the majority of students perceived the blog as way to enhance their learning and to extend the learning process outside the classroom; however, minority of the students valued the peer comments. Mixed results were found in relation to the potential of blogs in creating sense of community.

Similar findings were reported in Top's (2012) study (*n*=50) that aimed to investigate pre-service teachers' sense of community, perception of collaborative learning, and perceived learning in classes that integrated a blog. The blog was used in two undergraduate ICT courses. Students worked in groups with a size of 2 to 4 students to complete class projects. Each group were required to create blog space, submit posts that documented each phase of their project, and post weekly comments on other groups' posts, which lasted for one semester long. At the end of the courses students completed online survey which consisted of three scales related to sense of community, perception of collaborative learning, and perceived learning. Through quantitative analysis of the students' responses, the study found that participants felt positively about the role of the blog in enhancing collaborative learning and perceived learning; meanwhile, they had moderate feelings related to sense of community in the classes which incorporated blogs.

The previous research studies involved the use of a blog as a requirement for the students; however, some researchers argued that the participation in the blogs should be voluntary. "Perhaps the biggest challenge to blog is when instructors take away the voluntary nature of participation and begin requiring postings and responses to other postings" (Brescia, & Miller, 2006). When the participation in the blog is required, the motive of participation for the students would be finishing the requirement rather than learning (Brescia, Swartz, Pearman, Williams, & Balkin, 2004). However, some research studies reported mixed results regarding the use of the blog when the participation was voluntary for students.

Lin, et al (2006) conducted a study (*n*=31) in which

blog was employed in international distance education course to encourage communication and reflection among students. Posting on the blog was voluntary for the students. Analysis of blog's content and the response of self-report in questionnaire showed that there were 700 posts during the three-month course, majority of which were related to the class assignments and lecture notes. Less than half of the students were active blog's users. "Top 40% active blog users shared almost 80% of the total blog entries" (Lin, et al, 2006). For the majority of the students (80%), participation in the course blog was first-time blogging experience. Students perceived blog as e-leaning mode and as communication tool, appreciated others comments and feedback as motivation to post on the blog. Students' concerns were related to the technical difficulties in using blog as well as English language in the blog.

Divitini, Haugalokken, & Morken, (2005) have reported different findings in relation to the students' participation in the blog. In their study (*n*=31), Divitini, et al., (2005) employed blog to serve as a tool for communication and reflection for students in their one year teaching practical training. Posting on the blog was voluntary for the students. Analysis of blog's content showed that the blog was not frequently used by the students, as there were only nine posts during the blog implementation. Students' perceived barriers of using blog were related to lack of time and their reliance on traditional communication technologies.

The literatures have shown different uses and advantages of blogs. Different findings were reported regarding students' perceptions of, attitudes toward, and uses of blogs in their education. Considering the presented educational advantages of the blog, the different students' reaction toward the use of the blog in education, and lack of research studies that examine the uses of the blog in Jordanian higher education, this study was conducted to investigate the educational potential of the use of blog in Jordanian higher education settings. The purpose of this study was to examine the Jordanian graduate students' attitudes toward and use of the blog as a tool for communication and reflection to support their learning in a blended learning course.

There are several models and theories that have been used to investigate and understand students' attitudes and uses of information and communication technologies. Examples of such theories include: the

theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), the theory of planned behavior (TPB) (Ajzen, 1991), the technology acceptance model (TAM) (Davis, 1989); and innovation diffusion theory (Rogers, 2003). However, the current study has employed Rogers' diffusion of innovation model due to the need of comprehensive model to guide in-depth investigation of students' attitudes and uses of the blog as a tool for communication and reflection.

Diffusion of Innovation Theory

Roger diffusion of innovation (Rogers, 2003) represents a popular and comprehensive model that helps in understanding the adoption process of a new technology (Sahin, 2006)). The model used to study the adoption of different technologies by the students in higher education (Cheng, Kao, & Lin, 2004; Chang, & Tung, 2008), consists of several theories that explain the diffusion of new technology for individuals as well as for organizations. Rogers (2003) defined diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system".

Based on Rogers (2003), the decision process in which a new technology is adopted by an individual consists of five stages which are: knowledge, persuasion, decision, implementation, and confirmation. Knowledge takes place when one becomes aware of the technology's existence and the way it works. Persuasion occurs when one forms a positive or a negative attitude toward the new technology. Decision takes place when one gets involved in activities that lead to selection to adopt or reject the new technology. Implementation takes place when one starts using the new technology. Confirmation is made when one supports the decision already made regarding the use of the new technology.

The potential users of the new technology get through the decision process considering the attributes of the technology to that including the relative advantages, compatibility, observability, trialability, and complexity of a technology (Rogers, 2003). Relative advantage refers to the level at which the potential user of a new technology perceives the technology as more advantageous in comparison with the existing alternate. Trialability refers to the opportunity for the potential user to test the technology before taking the decision regarding its adoption. Observability means the easiness of imagining or describing the new technology for the potential user. Complexity refers to

the potential user's perception of the difficulty in understanding or in the use of the new technology. Compatibility means the potential user perceptions of the new technology's consistency with his/her past experience, needs, and values.

This model was employed in this study to comprehend and clarify the findings in regard to students' reaction to the use of blog as a tool for communication and reflection in terms of their attitudes and use.

Purpose of the Study

The purpose of this study was to examine the Jordanian graduate students' attitudes toward and use of the blog as a tool for communication and reflection to support their learning in a blended learning course. The research questions for this study were:

1. What are the students' attitudes toward the use of blog as a tool for communication and reflection in a blended learning course?

2. What are the patterns of students' use of the blog when participation is voluntary?

Research Methods

Mixed methods design was selected to investigate the Jordanian graduate students' attitudes toward and use of the blog as a tool for communication and reflection to support their learning in a blended learning course. Quantitative and qualitative data were collected using questionnaire instrument and semi-structured interviews for some participants, respectively. In addition, students' blogging behavior and frequency were recorded and analyzed.

Mixed methods design was used to achieve the purpose of triangulation and complementarity (Greene, Caracelli, & Graham, 1989). The purpose of triangulation looks for convergence of results from the qualitative and qualitative methods. For the purpose of complementarity, the qualitative methods can be used to clarify, elaborate, and enhance the results from the quantitative method (Greene, et al., 1989).

Study Setting

The study was carried out in a university in Jordan, at college of education, department of curriculum and instruction. The participants were enrolled in educational diploma in information technology program which was part of the Jordanian ministry of

education plan to bring teachers back to universities in order to make them able to cope with the developments in the field of instructional technology. The goal of the program is to provide teachers with the required competence in relation to theory and practice of integration of information and communication technologies in teaching and learning. The course in which the study implemented was web design class. The course aims to provide student with the required skills and knowledge to design and build educational websites through the use of web design and HTML editor software. The class was designed to integrate face-to-face and online activities. Instructor met with the students face-to-face setting twice a week in the first month of the class. In the following three months, the number of face-to-face meetings was reduced to once a week each for an hour. The instructor used the class website to post the class materials and assignments which students can download and send the completed through the email. In addition, students were free to work individually or in groups with two or three students. The instructor introduced the blog in the third week of the semester, where a link to the class blog was posted in the class' website. The class was held in computer lab in which desktops and internet connection were available.

Participants

The participants were school teachers enrolled in web-design class. Students were in their second semester in the graduate diploma program in information technology program. Before collecting data from the participants, all gave their informed consent to participate in the study after informing them of the study methods and purpose. All the participants with the number of 34 were new to blogs. The participants were 23 female students and 11 male students. The majority of the respondents were between the ages of 30 to 39 years (*n*=23) and 20 to 29 (*n*=10); except one student over 40 years old.

Regarding students' major in the undergraduate level, their responses showed that the 67.6% of the respondents have bachelor degree in humanities or social science, 20.6% of them have bachelor degree in science, and 11.8% of them have bachelor degree in disciplines related to information technology.

Participants' responses to their teaching experience showed that 14.7% of them had 1 to 5 years of teaching experience, 41.2% of them had 6 to 10 years of

experience, 38.2% of them had 11 to 15 years of experience, only one of them had 16 to 20 years of teaching experience, and one of them had more than 20 years of teaching experience.

All the students have skills with computer and internet where International Computer Driving License (ICDL) was one of the requirements for admission to the program. However, one of the questionnaire items aimed to measure students' perceptions of their competencies in using computer and internet on a scale that has three categories (novice, average, and expert). Students' responses to this item showed that the majority of them (n=25) selected the average category, while only three of them perceived themselves as expert in using computer and internet. On the other side, six of them perceived themselves as novice in using computer and internet. Table 1 showed descriptive summary of participants' characteristics。

TABLE 1 DESCRIPTIVE SUMMARY OF PARTICIPANTS' CHARACTERISTICS

Variables	Category	Number	Percentage
Gender	Male	11	32.4
	Female	23	67.6
Age	20-29	10	29.4
	30-39	23	67.6
	40-49	1	2.9
Discipline	Science	7	20.6
	Information Technology	4	11.8
	Humanities / Social Science	23	67.6
Experience	1-5	5	14.7
	6-10	14	41.2
	11-15	13	38.2
	16-20	1	2.9
	more than 20	1	2.9
Using computer and internet	Expert	3	8.8
	Average	25	73.5
	novice	6	17.6

Instruments

The employed instruments in this study were questionnaire and set of interview questions. The questionnaire instrument was developed by the researchers based on examined literature on the measurement of attitudes (Triandis, 1971; Kay, 1989; Al-Khaldi & Al-Jabri, 1998, Shahsavar, & Tan, 2012) as well as examined literature of the use of the blog in higher education settings (Halic, et al., 2010; Top, 2011). The questionnaire consists of three scales that aimed to measure the three domains of attitudes that are: cognitive, affective, and conative (Triandis (1971).

Ruffell, Mason, and Allen, (1998) defined each component as follow:

- Cognitive: are expressions of beliefs about an attitude object.
- Affective: are expression of feelings toward an attitude object.
- Conative: are expressions of behavioral intention.

The total number of the items in the attitudes scale was 21, where each components of the attitude (cognitive, affective, and conative) was measured using 7 items. The questionnaire items were all five-point likert scales (from "strongly disagree" to "strongly agree").

In addition, the survey contains questions in relation to students' gender, age, discipline, experiences, and perceived technology competencies. In order to examine the validity of the questionnaire instruments, three Jordanian faculty members reviewed the questionnaire items. The reviewers were from three different educational disciplines that are: instructional technology, educational research and evaluation, and educational psychology. The questionnaire items were adjusted based on reviewers' comments.

After administrating the questionnaire instrument to the participants, consistency of the questionnaire instrument was measured using Cronbach's alpha for each the three components of the attitude scale as well as for the total scale. The results showed high value of Cronbach's alpha for each subscale (cognitive was α=82, affective was α=0.74, and conative was α=0.81) and for the whole attitude scale (92). The resulted values of Cronbach's alpha indicated acceptable to excellent reliability (George & Mallery, 2003)

The interview questions were constructed to fulfill the purpose of the study which was to provide more detailed explanation of students' attitudes toward and use of the blog. The validity of the interview questions was checked by the same questionnaire review panel. The researchers followed semi-structured interviews, where nine open-ended questions were asked to each participant in the interviews (Appendix A).

Procedure

The instructor of the course (the first author) introduced the Blog in the third week of the semester, showing the students how to create an account in the

Blogger website (http://www.blogger.com), changing themes, posting entries and comments, as well as inviting friends. Then the instructor asked all the students to create account in the Blogger website and to subscribe to the class blog and other students' blogs. For the next 13 weeks, the use of the blog was optional; and the students were encouraged to use the blog as an open communication tool and reflection space by and in which they can post whatever they like to share with their peers. In order to encourage students' to use the blog, instructor used the class's blog to post class' advertisements throughout the semester.

For the purpose of the study, the data regarding students' attitudes and use of the blog was collected from three different sources which include questionnaire, students' blog posts, and interviews.

The questionnaire was administrated in the last day of instruction of the second semester for the 2011/2012 year. The participants were asked to fill the questionnaire in paper format anonymously. The participations in the questionnaire were voluntary. No extra grades were given to complete the questionnaire. All the students in the class (*n*=34) completed the questionnaire with a response rate of 100%.

In the last week of the semester, the researchers visited all the students' blogs in order to review the students' participation in the blog within the semester and then counted the number of the students' entries and comments which were coded based on the type of their contents afterward.

After a few days of the end of the semester, one of the researchers (the second author) conducted semi-structured interviews with ten students who sent, via email, their agreement to participate in follow up interviews each of which lasted for one hour.

Data Analysis

The data collected through the questionnaire was analyzed by descriptive statistics (e.g., means, standard deviations) using the statistical analysis software SPSS 16.0. Typological analysis was employed to analyze the qualitative data collected through the interviews. Typologies generated from theory, common sense, or research objectives (Hatch, 2002). In this paper, typologies were derived from the research objectives. LeCompte and Preissle (1993) defined typological analysis as "dividing everything observed into groups or categories on the basis of

some canon for disaggregating the whole phenomenon under study". The pre-selected typologies in this study were students' attitudes toward the use of the blog as well as the factors that would explain students' use of the blog. The patterns of students' use of the blog were identified through visiting students' blogs to count the number of the students' entries and comments which were then coded based on the type of their contents.

Results

Questionnaire Findings

Table 2 shows that, after reversing the negatively stated items, the students' overall attitudes toward the use of blog as a tool for communication and reflection in a blended learning course were positive with an overall mean score of 3.93 and a standard deviation of 0.642.

The students' responses to the affective scale scored the highest value (M=4.09, SD=.654) followed by the cognitive scale (M=3.95, SD=.670), and then conative scale (M=3.74, SD=.739). In the affective domain, students respond most favorably (M=4.35, SD=.597) to the statement that reflects their happiness with the availability of the blogs over the internet and least favorably (M=3.70, SD=1.142) to the statement that reflects their excitement about use of blogs in their class. In the cognitive domain, students respond most favorably (M=4.14, SD=.892) to the statement that reflects their perception of the fun added by the blogs to the traditional classes and least favorably (M=3.67, SD=.944) to the statement that reflects their perception of the positive contribution of the blogs in the educational settings. In the conative domain, students respond most favorably (M=4.02, SD=.999) to the statement that reflects their future intention to participate in educational blog if it is available in the class and least favorably (M=3.29, SD=1.059) to the statement that reflects their preference of using a blog rather than other means of communication.

Analysis of Students' Actual Use of the Blog

All the students have signed in the blog website to create their own blog and have become followers to the class blog. Out of the 34 students, only 15 students have posted their own pictures in their blog. Only 12 students had provided their personal information on the blog such as gender, location, interests, etc. Only

20 students had posted entries into their own blog, contributing to only 39 entries. The number of post for each participant ranged between 1 to 5 posts. The analysis of the students' posts in the blog showed that 6 of these posts were welcoming posts to the blog, 12 of which contained educational content that clarify

TABLE 2 MEAN AND STANDARD DEVIATION OF PARTICIPANTS' RESPONSES TO THE ATTITUDE SCALES

Cognitive Scale	N	Mean	SD
Blog is one of the most enjoyable ways to communicate with others.	34	3.94	1.071
I think that the use of blog as tool for communication and reflection is useful for learning.	34	4.00	.984
Blogs have contributed positively in the educational settings.	34	3.67	.944
*Blog is hard to use.	34	4.11	1.037
The use of blogs in the class would make me learn more.	34	4.00	.887
Classes that use blogs are more fun than traditional classes.	34	4.14	.892
I have more good experiences than bad experiences with blogging.	34	3.82	.903
Average		3.95	.670
Affective Scale	**N**	**Mean**	**SD**
I am happy with the availability of blogs service on the Internet.	34	4.35	.597
Posting and reading messages and comments in the blogs is a pleasant process for me.	34	4.26	.994
*I do not like to use the blogs in my learning.	34	3.94	1.369
I feel excited about the use of blogs in my class.	34	3.70	1.142
*I feel bored towards the use of blogs in my class.	34	4.20	1.008
I feel comfortable with the use of blogs as a tool for communication and reflection	34	3.97	1.167
*I do not feel contented with the use of blogs in my class.	34	4.23	.923
Average		4.09	.654
Conative Scale	**N**	**Mean**	**SD**
Blogs must be used in all classes.	34	3.44	.959
*I avoid the use of blogs as possible.	34	3.94	1.042
I prefer to use blog rather than other means of communication.	34	3.29	1.059
I would participate in the blog if it is available in the class.	34	4.02	.999
I would revisit the blog frequently.	34	3.85	1.158
I do care about the content of other students' messages in the blog.	34	3.73	1.309
If possible, I would use blog as tool for communication and reflection in the classes I teach.	34	3.91	.965
Average		3.74	.739
Overall attitude		3.93	.642

Note: * reversed scored items

some aspect of the course, while 17 of which contained examples of educational websites related to the course, and 4 posts contained unrelated content to the course such as poems and songs. Students were not active in posting comments on other students' posts, and there were only three comments found on students' posts. The comments contained only compliments regarding the posts. All the students' entries were within the first three weeks that followed the introduction of the blog as a tool for communication and reflection in the class.

Interviews Findings

1)   Students' Attitudes toward the Use of the Blog

Similar to the findings from the students' questionnaire responses, the analysis of the students' responses in the interviews showed that students have overall positive attitudes toward the idea of using the blog a as a tool for communication and reflection to support their learning.

Students confirmed their positive attitudes in the affective domain regarding the use of the blog in the class and were excited to know about a new technology and to learn the way how to use this new technology. One of the students stated that "It was good experience to learn about the blog, which is my first time to use it. Learning and using the blog added experiences in dealing with technology". Another student stated that "this is the first time, different type of communication tool rather than email in used in the classes I took; and I appreciate the alternative to communication with the class".

In the cognitive domain, students perceived the blog as fun way of communication and believed that blog is an effective and free way of communication. One of the students noted that "the blog's posts can reach large group of students at once, and it allows getting feedbacks from others easily". In addition, students believed that blog has the capability to enhance students' collaboration. On the other side, some participant regarded that there are some disadvantages of the use of the blog that include difficulties in posting large media into the blog and the lack of privacy in communication.

In the conative domain, it is reported that students would use the blog in the future if it is integrated in their classes. However, some participants believed that popular social network (e.g. Facebook), with similar technical capabilities compared to the blog, can be integrated in the classes. Students' familiarity with such tools would motivate them to use these tools more than the blog. One of the students noted that "after knowing the capabilities of the blog, I think Facebook or twitter can replace the blog in class, definitely I would use these tools more than the blog because I am already user of them". Due to the popularity of email among university students, some students reported their preference of keep using email rather than blog to communicate with peers and instructor. While students reported that their future uses of the blog, in the classes they would take, would be influenced by the way of its integration in terms of the role of instructor and students. This issue will be discussed in the following section.

As teachers, the participants expressed their intention to use the blog with their students if they have the required resources and tools. However, they reported some barriers of using such technology in the current time in their schools, including the lack of internet access and computer labs in schools.

2)   Students' Use of the Blog

Participants' responses to the interview's questions explained their low uses of the blog during the time of its integration in the class. Participant attributed their low uses of the blog to different factors. All the interviewed students believed that their low participation in the blog were due to the conditions and the way of blog's integration and noted that that they would participate more in the blog if participation was required rather than voluntary, in which some of course' credits would be assigned to the participation in the blog.

The students pointed to the important role of the instructor to motivate them to participate in the blog in terms of determining the posts topics and committing on the students posts. One of the students noted that "I think my participation in the blog would increase if the instructor determined the topic of discussion and reflect on my posts through the comments".

Other students stressed on the role of their peers in motivation to participate in the blog through posting comments. One of the students pointed that "I think making the students post comments on my blog entries would encourage me to participate in the blog in terms of the number and

quality of the posts". In addition, they believed that the instructor should have active role in the blog in terms of evaluation and commit on students' posts. One of the students noted that "I posted on the blog couple of time; however, I have not received any comments from either the instructor or other students. Therefore, I stopped posting any more entries into the blog".

Other reported factors that contributed to low usage of the blog in the class were technology related factors. Some students reported using other type of electronic communication rather than blog to communicate with other students. One student noted that "I am used to the Facebook to communicate with my friend and I did invite some of peer students in this class to be friends over the Facebook, and Facebook easier to use and allow you to do more thing compared to the blog". Some other student reported their reliance on the email to communicate with peers, and they believed that the use of email allows for private communication with other rather than public. Beside preference of using other type communication tools, some reported technology-related reasons for low participation in the blog included technical difficulties in using blogs and issues related to internet browsing speed and reliability.

The last reported factors for low participation in the blog were personal. Some students reported lack of time as one of the reason for low participation in the blog. Table 3 shows the frequency of students' perceived factors contributing to low participation in the blog.

TABLE 3 REPORTED FACTORS CONTRIBUTING TO LOW PARTICIPATION IN THE BLOG (N=10)

Responses	Frequency
Being voluntary compared to required/No credit assigned for using the blog.	10
Lack of instructor supervision and support.	8
Relying on other modes of electronic communication (e.g. email and Facebook).	8
Low participation of other students in terms of posting entries and comments.	7
Technical difficulties and issues related to internet reliability.	5
Lack of time to participate in the blog.	4

Discussions

Students' Attitudes toward the Use of the Blog as a Tool for Communication and Reflection

Students' attitudes toward the use of a technology

have been identified as one of the main factors for the success of introduction and implementation of such technology in the educational settings (Alexiou-Ray, Wilson, Wright, & Peirano, 2003). The analysis of the students' responses to the questionnaire showed that students' attitudes toward the implementation of the blog in their class were positive at high level. The students' responses to the affective scale scored the highest value followed by the cognitive scale, and then conative scale. In the interviews, participants confirmed and justified the questionnaire's findings. Through the interviews, the majority participants showed that they had a positive attitude toward the use of the blog as a tool for communication and reflection. In the affective domain, students liked the opportunity of learning the way how to use new technology. In the cognitive domain, students thought that the blog is a fun way of communication, and effective tool for students' cooperation and collaboration. The findings were similar to that in Top's (2011) study in which the participation of the blog was required rather than voluntary.

The interviews' findings revealed some factors that contribute to the low score of students' responses in the conative domain, including preference of other type of electronic communication such as social networks and email, as well as the way of integration of the blog in terms of the roles of the instructor and students. As teachers, the lack of internet access and computers in the participants' schools, had contributed to low score in the conative scale regarding their intention to use the blog in their classes.

The participants have become aware of the blog's existence and the way it works, and they have formed positive attitudes toward the blog. Therefore, the integration of the blog in the class helped the students get through the first two stages of the Rogers' (2003) innovation decision process, i.e., knowledge and persuasion.

The blog's integration in the students' class helped them to consider some of the Rogers' (2003) attributes of technology, and the majority of participants believed that the blog has some educational advantages. Furthermore, they perceived it easy to use.

The Patterns of Students' Use of the Blog

Students' positive with high level attitudes, in the affective and cognitive domains, were not reflected in students' uses of the blog during the thirteen weeks of

implementation in the class. While students' participation in the blog was very low, students posted some entries after the short period that followed the introduction of the blog in the class. Students posted entries into the blog only within the first three weeks of the introduction of the blog. Students' participation in the blog did not form any clear pattern, and the number of students' entries were very limited taking into account the time of blog integration. Only 29 entries were related to the class topic. The students did not use the blog to engage in discussion or conversation in relation to the class topics and really post any useful comments on each other's posts that would lead to discussion.

The results regarding students' uses of the blog were different from the findings in the studies (Halic, et al., 2010; Kang, et al., 2011; Cheng & Chau, 2011), in which the students were required to participate in the blog. In these studies, the blog was successfully integrated to enhance students' learning, to form community of practice, and to create constructivist learning environment. The findings of the current study were similar to that of the study conducted by Divitini, et al., (2005) in which when it was voluntary to use the blog, students did not actually use the blog, but different form that of the Lin's, et al (2006) study in which it was also voluntary, students did use the blog to post entries related to the class assignments and lecture notes, and they perceived the blog as an effective tool for communication and reflection.

In the interviews, participants justified their limited uses of the blog. The factors that hinder the use of the blog were grouped into three categories: pedagogical, technological, and personal factors. Pedagogical factors include the voluntary participation in blog rather than required and the lack of the instructor supervision. Based on the researchers' experiences, such findings can be explained through students' perceptions of the role of the instructor, while Jordanian students tend to perceive the instructor as the controller of the educational process rather than facilitator. Such tendency can be attributed to the educational practice in the Jordan universities that rely on traditional classroom approach in which objectivism rather than constructivism guides the educational practice.

The technological factors include availability of other familiar modes of communication (e.g. email and Facebook), and technical difficulties in managing and using the blogs. Personal factor include lack of time to

participate in the blog. Similar findings were reported in the Divitini, et al., (2005) and Lin, et al (2006) studies.

Based on Rogers' (2003) innovation-diffusion model, the findings showed that the students were still in the decision stage of the innovation decision process in relation to the adoption of the blog as a tool for communication and reflection. Most of the participants have used the blog to post entries related to the class, however, their uses of the blog were limited. The integration of the blog in the class gave the students the opportunity to use the blog. Trialability is one of the attributes of the new technology that the potential adopters would consider in the process of the adoption of such technology (Rogers, 2003). Regarding the students' perceptions of the compatibility of the blog, some participants believed that other type of electronic communication (e.g. email and Facebook) would be more consistent than blog with their needs and past experience.

Conclusion and Recommendations

"Students have long learned as much from each other as they have from an instructor or a textbook" (Williams & Jacobs, 2004). Blogs have the potential to provide students with communication mean to facilitate students learning from each other (Williams & Jacobs, 2004; Kang, et al., 2011). The purpose of this study was to examine the Jordanian graduate students' attitudes toward and use of the blog as a tool for communication and reflection to support their learning in a blended learning course.

The findings revealed that the students had positive attitudes toward the blog as a tool for communication and reflection, and they appreciated the idea of blogging and had positive perceptions regarding the use of the blog in their education. However, their high positive attitudes toward the blog were not reflected in their use of it. Students' participation in the blog was low. Such mismatch between students' attitudes toward and use of the blogs were related to some factors which were grouped into three categories: pedagogical, technological, and personal factors.

In order to translate students' positive attitudes toward the blog into actual use and to make the students take advantage of the educational benefits in the case of the integration of blog in the class. Instructors should consider some issues related to blog integration in the educational settings. Firstly, the instructor should make students' participation in the class required rather than voluntary, at least in the

beginning period of introduction of the blog in the educational process. Making the use of the blog required for the students, in terms of posting entries and posting comments on other students' posts, would motivate students to participate in the blog. In addition, using the blog overtime would enhance students' skills in using and managing the blog, helping them overcome technical difficulties they might face. Secondly, the integration of the blog in the educational process should be accompanied with active participation from the instructor side in form of guiding the blogging process. Thirdly, other types of web 2.0 technologies (e.g. social networking sites) can be used as tool for communication and reflection to support students' learning. Students' familiarity with such tools might increase the utilization frequency in the educational settings.

The findings of this study have limited generalizability due to the low number of participants and their characteristics as well as the adopted pedagogy in the Jordanian educational system which relies on learning environment that is closer to objectivism, along the constructivism-objectivism continuum. In objectivism, the teacher rather than student is the center of the educational process (Jonassen, 1991). In the educational settings, the way a new technology implemented in terms of the role of an instructor and the students should cope with adopted learning environment (e.g. Constructivism versus objectivism).

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Appendix A

Interview questions:

1. How do you feel about using the blog as a tool for communication and reflection in the class?

2. What you like and dislike about using blog in the class?

3. Do you think the use of the blog in the educational setting would be useful? Why? Why not?

4. What are the advantages and disadvantages of using blog in the class?

5. As a students, will you use the blog as a tool for communication and reflection? Why? Why not?

6. As a teacher, will you use the blog with your students? Why? Why not?

7. What are the factors that promote the use of the blog in the educational settings?

8. What are the factors that limit the use of the blog in the educational settings?

9. What are your suggestions on improvement of the process of the use of the blog in the educational settings?