

Social media technology as a teaching and learning tool

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Abstract: This study sought to determine whether a social media can be used as a catalyst to motivate students in learning. A social media called WhatsApp has been used as case study. In this study, a course instructor has created a chat group, and he is responsible as the group administrator. All students have been assigned to be a member of the group. A set of guidelines of how to use the chat group have been defined by the course instructor. The course instructor posted questions to the groups. Five major questions were given to the students, where 3 of them required all students to post their answers on the chat group. The course instructor observed the behavior of students in answering questions in a classroom and on the social media. Details of the students' behaviors have been observed, recorded and analyzed. The findings suggest that students were encouraged to answer questions and participate more when the social media is used. This suggests that the social media technology can be used to motivate students in learning.

Key words: Social media; learning

1. Introduction

The Internet has become the greatest invention in this decade. Whoever we are, and whatever we do, we all use the Internet almost every minute of our day. It has given a great impact on every single aspect of life. Besides the Internet, the invention of a smartphone is another "thing" that has dramatically changed people life style.

Smartphone is one the most ubiquitous, dynamic and sophisticated trends in communication. Smartphone is a mobile phone running a complete operating system in a manner similar to a traditional computer, which offer advanced computing abilities and connectivity options.

Nowadays, smartphones have been used to replace desktop or mobile computers. All activities which can be performed on normal computers such as sharing information, sending and receiving emails, chatting, opening and editing documents, paying for products, browsing and shopping can be done using smartphones; a small device which can be kept inside a pocket of a trouser or a shirt. All smartphones are equipped or ready for social media applications like Facebook, Twitter, Wikipedia, YouTube, WhatsApp, Telegram, and Instagram. These applications are characterized by social interaction, content sharing, and collective intelligence.

Smartphone has been adopted by mobile users in many countries around the world. According to Google's latest study, Australia, the United Kingdom (UK), Sweden, Norway, Saudi Arabia and the United Arab Emirates (UAE) all boast smartphone adoption

rates above 50%. With the invention of social media the way people socialize and communicate with each other has dramatically changed. The communication has become cheaper and borderless. The popularity of smartphone is very encouraging.

Previous research conducted at one of universities in Saudi Arabia showed 94% of university students own smartphones (Alfawareh & Jusoh, 2014). Study also shows that college students are among the greatest users of social media. The popularity of smartphone is very encouraging. The widespread usage of social media has surged many researchers to explore applications for classroom teaching and learning activities (Alabdulkareem, 2015).

A recent study examining the state of the social media in Saudi Arabia noted a re-markable increase in the use of mobiles to access various social media accounts. It also documented a sharp increase in the number of WhatsApp, Facebook, Google+, Twitter, Instagram users while LinkedIn still stays behind. The most popular social network is WhatsApp. As of September 2015, WhatsApp had a user base of up to 900 million (Guynn, 2015) making it the most globally popular messaging application as well (Sun, 2015).

Although the use of social media in education has started to rise over the years (Za-karia, 2013) studies investigating student and teacher experiences with social media are lacking; the experience aspect appears to receive little attention. The purpose of this paper is to present our own experience for using a social media technology namely WhatsApp as a tool for teaching and learning.

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This paper is organized as follows. Section II presents related work. Method and data analysis is presented in section III. Section IV presents a summary of paper.

2. Literature review

A primary reason to adopt social media in the classroom is because it is familiar to almost everybody and also because it doesn't cost and requires minimal training. Many researches in education provide evidence for the effectiveness of using social media technologies directly in the context of traditional education (Dawson, 2006, DeSchryver, Mishra, Koehler, & Francis, 2009).

Some studies have demonstrated the benefits of online social interaction in the learning process. Positive aspects of online interaction with teachers and peer include the following: access to peer and expert knowledge, ability to receive feedback from teachers and peers, and an opportunity to reflect on the exchanged messages (Ellis, 2001). By expressing their thoughts, discussing and challenging the ideas of others, and working together towards a group solution to a given problem, students develop critical thinking skills as well as skills of self-reflection and co-construction of knowledge and meaning (Brindley, Walti & Blaschke, 2009).

One of the largest surveys of social media in higher education to date suggests universities to lever social media into the classroom and ensure it is used more than it is now (Qualman, 2009). Facebook has been used in university courses to facilitate teacher/student discussion, and wikis and blogs have been used to collaborate on projects and receive rapid. Some courses have also used YouTube as a platform for students to create and share videos for their courses. In other courses, students have used Twitter to discuss course topics during class, with Tweets being displayed on a large screen to encourage cross group communication (Bexheti, Ismaili & Chio, 2014). However, Henderson, Auld, & Johnson (2014) suggested that, a broader and less defined set of ethical guidelines should be drawn when social media is used in the context of teaching.

Although a number of studies on using social media technology have been reported, but very little research has been conducted in Arabic region, especially in the kingdom of Saudi Arabia. As a matter of fact, almost every student at the university in this country owns a smartphone.

3. Method and Analysis

The normal practice in a classroom is an instructor giving out class assignments to students and then waiting submissions from students within a period of time. In this study, the instructor who is also a researcher has used his Software Engineering class as a case study. The class consists of 18 male students. He has divided the method of assignments submission in two approaches; the first approach is a manual and the second approach is an online

submission. The online submission is conducted through through a social media. Students were not informed that their attitude towards assignment submission was being observed.

A. Application Used

In this study WhatsApp has been selected as the application of choice, because all students own smartphones and have installed WhatsApp on their phones. All of them are using the WhatsApp as a part of their daily life. WhatsApp is a messaging application which allows users to text, chat, and share media, including voice messages and video, with individuals or groups. WhatsApp also provides group chat and location sharing options. It works on iPhone, Android, BlackBerry, Symbian, and Windows devices.

In this case study, the course instructor had created a class chat group on the WhatsApp. The group consists of 18 male students of Software Engineering class. Each student has been assigned as a member and the course instructor plays a role as an administrator. The administrator will post questions and a member will post an answer. Students were informed grading points will be assigned to each answer submission.

B. Guidelines

A set of guidelines had been first defined by the course instructor. The guidelines for using the group chat include:

1. Students are not allowed to use the chat group for personal issues.
2. Students are not allowed to post any materials which are not relevant to the course topics.
3. Students are not allowed to post impolite talk
4. Students are not allowed to discuss any topic beyond the posted issue.
5. Only the course instructor can post questions.
6. A collection of answers will be commented and discussed by the instructor in a classroom.

C. Data and Analysis

Five questions were given to the students. All questions have the same weight of points and are related to the Software Engineering course only. The questions are listed below.

- Question 1: What is software engineering? Explain your answer with an example.
- Question 2: What is software process or Software Development Life Cycle (SDLC)? Explain your answer with a diagram.
- Question 3: What is functional requirement? Explain your answer with a diagram and an example.
- Question 4: What is nonfunctional requirement? Explain your answer with a diagram and an example.
- Question 5: What is concurrency and how it is achieved in software? Explain your answer with an example.

Students' behaviors in answering questions, in both platforms, in a classroom and on the chat group were observed, recorded and analyzed by the course instructor.

Table I present the details of the posted questions and submitted answers. Question 1 and Question 2 required students to submit their answers in a typed and printed form, while Question 3, Question 4, and Question 5 required students to post their answers online on the WhatsApp chat group. Each student was allowed to submit his answer only once. The total number of submissions, and submission dates were recorded. For the question 1, only 4 students took 2 days to submit their answers (the earliest),

but 4 students took 1 month to submit their answers. While for the question 2, 7 students took 3 days and 3 students took 2 weeks to submit their answers. However, 10 students managed to submit their answers for Question 3, on the same day of the question being posted, when the method of submission was changed from a manual submission to an online through a social media.

Table 1: details of posted questions and submitted answers

Question No	Method of Submission	Date of Posting Question	Date of Receiving Answer	No of Submission
1	Hardcopy	12/11/2015	15/11/2015	4
			17/11/2015	5
			24/11/2015	5
			12/12/2015	4
2	Hardcopy	7/12/2015	10/12/2015	7
			17/12/2015	8
			19/12/2015	3
3	WhatsApp	14/11/2015	14/11/2015	10
			15/11/2015	8
4	WhatsApp	17/11/2015	18/11/2015	9
			19/11/2015	8
5	WhatsApp	26/11/2015	26/11/2015	3
			01/12/2015	2
			02/022015	12

In this paper, only Question 3 and Questions 5 are discussed in details. The results of Question 4, is similar to the question 3. Question 3 was posted on November 14, 2015 at 3.26pm.

Table 2 shows response details from students for Question 3. The table shows that there are 18 responses. This shows that all students took effort to complete his assignment and made a submission.

Table 2: Details of students' responses for the first question

QUESTION 3		
Student No.	Date of Response	Time of Response
1	14/11/2015	3.56pm
2	14/11/2015	4.04pm
3	14/11/2015	4.11pm
4	14/11/2015	4.23pm
5	14/11/2015	4.24pm
6	14/11/2015	4.33pm
7	14/11/2015	4.37pm
8	14/11/2015	4.52pm
9	14/11/2015	4.27pm
10	14/11/2015	6.46pm
11	15/11/2015	2.19am
12	15/11/2015	10.30am
13	15/11/2015	12.01pm
14	15/11/2015	2.05pm
15	15/11/2015	3.12pm
16	15/11/2015	3.30pm
17	15/11/2015	4.00pm
18	15/11/2015	4.13pm

The time response also indicates that students were able to participate in the class activity at their preferable time. When one student saw a response

from the other, he was motivated to participate. The response time also shows that 16 students posted their answers between 12:00 pm to 7:00 pm. Question 5 was posted on 26 November 2015 at 10:40 am. Table III shows response details from students for the question. There are 17 responses. This indicates that only one student did not participate. The response time shows that only 7 students answered the question in the morning and the other 10 students answered between 12:00 pm – 7:00pm. This suggests that students are active on social media during afternoon and evening time.

Table 3: Details of students' responses for the fifth question

QUESTION 5		
Student No.	Date of Response	Time of Response
1	26/11/2015	10.46am
2	26/11/2015	10.48am
3	26/11/2015	11.41am
4	01/12/2015	9.53am
5	01/12/2015	10.15am
6	02/12/2015	10.48am
7	02/12/2015	10.55am
8	02/12/2015	12.30pm
9	02/12/2015	12.35pm
10	02/12/2015	12.38pm
11	02/12/2015	12.40pm
12	02/12/2015	12.45pm
13	02/12/2015	12.50pm
14	02/12/2015	2.05pm
15	02/12/2015	2.08pm
16	02/12/2015	2.09pm
17	02/12/2015	2.20pm

4. Conclusion

The results analysis reveals that social media is a very useful tool for encouraging students to participate in class activities. The social media also give chance for students to be involved in the class activities at their own pace. This also encourages them to engage in learning outside the classroom. The findings of this study suggest that many class activities can be planned and structured to be on the social media if students have the required facilities for a social media.

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