Teaching and Learning Enhancement Based on Telegram Social Media Tool

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Abstract

This study investigates a perception of students on the implementation of a Telegram application as an enhancement tool for teaching and learning. The population of this study is 66 students who are studying a Bachelor of Electrical and Electronic Engineering programme at Universiti Teknologi MARA (Pulau Pinang). The study has been conducting on Mac – September 2015 academic semester. The students have been using the Telegram tool in their teaching and learning process during the academic semester. Next, an online survey consisting of a number of agreement-level questions and open-ended questions are developed in google form. At the end of the semester, the form has been distributed to students via a link created in Telegram discussion groups to collect students' valuable feedback. The student feedbacks have been analyzed to obtain the results of their perception on the Telegram application as an enhancement tool for teaching and learning process. The results show that Telegram application support teaching and learning enhancement by providing a quick way and easy platform for sharing information.

Keywords: Teaching and learning; Education, Social networking, Facebook, Telegram application, Online survey

Introduction

The emergence of social media tools (SMTs) has a significant impact on people's life. Facebook, Twitter and Instagram are among the most popular SMTs widely used to chat, share images, audio and video as well as to update status. A significant amount of time has been spent by people worldwide on the SMTs (Cheung & Lee 2010). While the SMTs can be used for a variety of purposes such as sharing information and playing games, it is important to use them in a useful and beneficial way.

In education community, integrating the SMT into classrooms is becoming an important part of teaching and learning process. Lecturers at universities around the world have been exploring on how the SMTs can benefits their students. Commonly, lecturers use SMTs to primarily support their teaching. The use of the SMTs can increase interaction between all those parties involved in the teaching and learning process (Arnold and Paulus 2010). Besides, the SMTs can increase understanding of course material. The effectiveness of using SMTs has been reported by many researchers. Kevin, Lori and Bethany (2010) reported on the use of Ning, non-commercial educational-based SMT, on distance learning at North Carolina State University. The result showed that majority of the students agrees that the Ning benefits in their courses.

Naidu, (2005) reported that the Facebook can be used to support course management activities, engage and motivate students through interactivity and collaborations. Further, Irwin et al. (2012) studied on the students' perceptions of using Facebook as an interactive learning resource at university. The finding showed that the Facebook has the potential to promote collaborative and cooperative learning. Roblyer et al. (2012) reported that students are more likely to use Facebook and similar technologies as compared to traditional technology (i.e. email).

While the Facebook or other similar technologies can be used to support teaching and learning, the media may distract student since it primary design is as a social networking (Lin et al., 2013). Mathews Nkhoma et al. (2015) studied on the Facebook as a tool for learning purposes. Their recent result showed that the use of Facebook has negative effects on grade point average. Therefore, suitable social media with less distraction to students is needed. Ideally, a suitable SMTs are the media with simple design, easy to use, free of advertisement as well as it is free of charge

application.

One of the growing popularity SMT in today's generation is a Telegram application. The application was developed by Pavel and Nikolai Durov at Berlin, Germany. The advantages of the Telegram application are that it is a free application for a lifetime, free of advertising and easy to use. The Telegram application can be used not only to send/receive texts, images, audio and video but also documents in different number of formats such as Microsoft word (*.docx), Microsoft excel (*.xlsx) and portable document format (*.pdf). It should be noted that these types of documents are the main format that lecturers at universities used to prepare notes, tutorials and assignments and then share with their students. Beside, Telegram application has the ability to create a discussion group or forum with a maximum number of 200 students. Such advantages make the Telegram application as one of a good tool to use for enhancement of teaching and learning process at universities.

Traditionally, students at universities use workstations in computer laboratories and libraries to access to internet. They need the internet for searching information, completing homework and browsing to lecturer webpages to download course materials. However, the main issue is that the workstation terminals can be limited while some laboratories are reserved by other courses particularly computer programming whereby the course must be conducted in the computer laboratories. This scenario leads to discouragement of teaching and learning process for students who need to access to internet for downloading course materials.

Universiti Teknologi MARA Pulau Pinang (UiTMPP) has a good Information Communication Technology (ICT) infrastructure. Main buildings, library and most of hostels and student centers are equipped with wireless local area network also known as a WiFi. The internet access through the WiFi is free of charge to students and lecturers. The students can use smartphones, tablets and laptops to access to the internet with the available free WiFi or their own internet plan. In any case, the students need to browse to university website or lecturer webpage to download materials required for their learning activity.

The aim of this paper is to investigate the implementation of Telegram application to support teaching and learning process at UiTMPP. For a case study, a few groups of undergraduate students and lecturers are selected. These groups use the Telegram application for discussion, sharing notes and educational links as well as providing virtual notification. To access the effectiveness of the Telegram application as the enhancement tool for teaching and learning, an online survey is developed using google form. The survey is distributed to the groups at the end of their semester to obtain their valuable feedbacks.

Methodology

The objective of this study is to gather information about students' perceptions towards the used of Telegram application as an enhancement tool in their learning process. A total of 66 students (*n=66*) and three lecturers were participated in this study. These students are the full-time undergraduate students completing a Bachelor of Electrical and Electronic Engineering programme at UiTMPP. The study was conducted during Mac – September in 2015. The course selected in this study is Electronic Circuit Analysis (ELE512).

At the beginning of the semester, students and lecturers were encouraged to install the Telegram application in their smartphone. Beside, Telegram application for desktop can also be installed in their laptop or desktop. The Telegram application has the capability to synchronize any posted information among smartphone, laptop and desktop devices. Therefore, any update information can be replied or read in real-time using any of those devices.

Next, a number of discussion groups were created by lecturers based on the ELE512 classes. Once the groups were set up, student representative for each class is invited into their respective discussion group and then the student representative can invite other students to join the group. Students who already joined the group can invite other students to join the group. Besides, students may join the group by clicking a link provided in the Telegram application. In this way, members of the discussion group can be formed immediately.

Within 14 weeks of the Mac – September 2015 academic semester, the students and lecturers used the Telegram application to share course materials. Lecturers posted notes, tutorials and homework by browse to the interested documents in lecturer's personal computer or simply by drag and drop those documents. Moreover, comments, descriptions or instructions can be also added in the Telegram conversation. Figure 1 shows a sample of conversation in Telegram application for one of the created group which is Class C.

The course materials, short videos were posted in several stages based on the topics of ELE512 course syllabus. The students were encouraged to ask questions and explanation on the course materials during normal lecture or tutorial sessions. However, outside the sessions, the students can ask questions by posting the questions in their respective discussion group. The students can post the question at any time using the Telegram application. While some of the questions might be answered by members of the discussion group, other questions might be answered by

the lecturer. If further explanation is required, the student and lecturer can make a face to face appointment through the Telegram application.

Figure 1: A sample of conversation in Telegram application

At the end of the semester, the students were asked to complete an online survey asking about their perceptions on the Telegram application as a tool for enhancement during their learning process. The online survey consisted of 10 questions that were published using google form. Appendix A shows the design questionnaires.

The first question (Q1) asked about the past experience of student population on using Telegram application as a tool for teaching and learning. Second until eight questions (Q2-Q8), asked the students to rate their level of agreements which were based on five scales ranging from Strongly Disagree to Strongly Agree. Next, the last two questions (Q9 and Q10) are the open-ended questions. These open-ended questions asked the opinion of student on the main benefits and drawbacks of using the Telegram application. Figure 2 shows a snapshot of online survey that students were asked to provide their feedback. Students' responses were saved in google drive. Next, the student responses were downloaded and analyzed to obtain their experience, level of agreements and opinions.
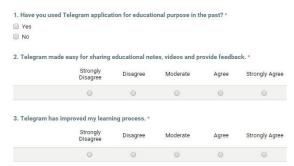

Figure 2: Snapshot of online survey form using google drive

Results and Discussions

The first survey question (Q1) is on the student experience using Telegram application as educational tool. Figure 3 shows the result of the survey. It is found that 56% of the students' populations have used the Telegram tool for educational purpose in the past.
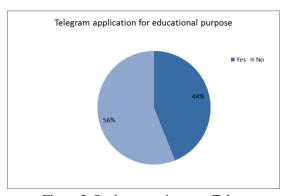

Figure 3: Student experience on Telegram application as an educational tool

The second until eight survey questions (Q2 – Q8) are the agreement-level questions. The design questions are shown in Appendix A. The answer to these questions are either Strongly Disagree, Disagree, Moderate, Agree or Strongly Agree. Figure 4 shows the results for these agreement-level questions.
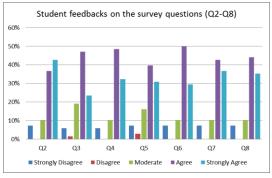

Figure 4: Student responses to survey questions (Q2 – Q8)

The results shows that most students agree with the capability and the learning process using Telegram application: Telegram application made easy for sharing educational notes, videos and provide feedback (82%); Telegram tool has improved my learning process (72%).

For the contents of the course notes, it is found that most students agree that the quality of notes posted by lecturers are sufficient (84%).

The results also shows that most students agree that using Telegram application can increase their interaction: Telegram application allows me to interact with colleagues who I would not otherwise be able to communicate with in traditional learning process (73%); Telegram application allows me to interact with lecturers more effectively (82%).

Most students agree that the Telegram application should be continued for this course and extended to other courses: Telegram application should be continue for this course in next semester (82%); Telegram application should be used for other courses in next semester (82%).

The last two survey are the open-ended questions.

The questions asked were:

Q9 - In your opinion, what are the main benefits of using Telegram tool for teaching and learning?

Q10 - In your opinion, what are the main drawbacks of using Telegram tool for teaching and learning?

The analysis on the Q9 shows that their response can be categorized into three common themes: Improve Outside Class Learning, Easy to Share Notes and Enhance Communication between the lecturers and students. Some of the given responses were: *"We can communicate although not face to face"*; *"Lect can share file(notes) on the spot for student, the process to print the notes given become easier since telegram can be used in dekstop or laptop."* and *"It makes me easy to keep updating with my course"*. Figure 5 shows the result of analysis on Q9. It indicates that the main benefit of Telegram application is that the application isan easy tool for sharing information.
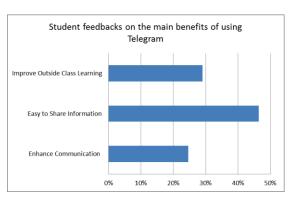

Figure 5: Student responses to a survey question (Q9)

Next, the analysis on the final question (Q10) shows that their response can be categorized into five common themes: Discussion Topic, Distraction, Internet Issues, Non-Telegram User and Reduced Face to Face Communication. Some of the given responses were: *"Cannot have a detail discussion for certain problem in this subject."*; *"If no internet wifi, student cannot use or open this application."* ; *"It need to internet data for open this application"* and *"Less direct communication between lecturer and students"*. Figure 6 shows the result of analysis on Q10. It indicates that the main drawback of using Telegram application tool is the internet issue. The common internet issue that feedback by the respondents is on the free wifi coverage.
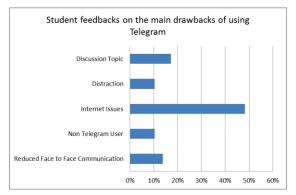

Figure 6: Student responses to a survey question (Q10)

Conclusions

This paper presents the perception of students on the use of Telegram application as an enhancement tool for teaching and learning process. There were 66 students ($n=66$) participated in this survey. The students were required to answer a total of 10 online survey questions. Most of the respondents have experience on using Telegram application for educational purpose. The analysis results show that most of the respondents agree that Telegram tool can enhance the learning process and increase the interaction between students and lecturers. Further, the respondents agree that the Telegram tool should be extend to next semester as well as to other course. The results on the open-ended questions show that the main benefit of using Telegram application is that the tool is easy for sharing information for teaching and learning process while the main drawback is the internet coverage.

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APPENDIX A

1. Have you used Telegram application for educational purpose in the past?
    a) Yes
    b) No

2. Telegram made easy for sharing educational notes, videos and provide feedback.
3. Telegram has improved my learning process.
4. The quality of notes, assignments, etc are sufficient.
5. Telegram application allows me to interact with colleagues who I would not otherwise be able to communicate with in traditional learning process.
6. Telegram application allows me to interact with lecturers more effectively.
7. Telegram application should be continue for this course in next semester.
8. Telegram application should be used for other courses in next semester.
9. In your opinion, what are the main benefits of using Telegram application for teaching and learning?
10. In your opinion, what are the main drawbacks of using Telegram application for teaching and learning?

* Questions (2) to (8) are agreement-level questions ranging from Strongly Disagree to Strongly Agree. Questions (9) and (10) are open-ended questions.