Unwinding Environment in the Lecture Room Using Mobile Learning (M-Learning) Adoption among the Millennial Generation

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Abstract. Information and Communication Technology (ICT) has provided flexibility for teachers and students to engage in academic discourse irrespective of the location. With rapid technological advancements, Mobile learning offers incredible opportunities, especially in higher education especially during this Covid-19 pandemic. The advancement of mobile and wireless communication technologies has encouraged the mobile learning method where students are able to learn via mobile devices without being limited by space and time. The millennial generation can be situated in a real-world scenario associated with the learning content in higher education. This paper discovered how mobile learning approach can enhance engagement skills and communication skills among millennial generation and employed action research methodology. In this research, mobile learning application such as kahoot! E-exercises and e-quizzes adoption of mobile learning during lecture and outside lectures activities for conversations and consultation. The positive findings showed those students’ engagement skills and communication skills increased via the mobile learning adoption. Students had active learning opportunity where effective conversations and consultation between the lecturer and students. This paper heightens lecturer awareness in identifying the learning tasks via mobile learning that are well developed. This may further be a motivating factor to adopt measures and new strategies for the improvement of students’ skills. Statistics revealed a higher engagement rate and better communication skill when courses are delivered using the mobile learning approach.

Keywords: Mobile learning, engagement skills, communication skills.
1. Introduction

The Covid-19 pandemic occurrence has accelerated the adoption of online teaching and learning among formal educational providers such as schools and universities. Those who previously were reluctant to change have no alternative but to learn new approaches to deliver their knowledge content. On the other hand, online learning requires high motivation among students. The lack of motivation to learn through the online medium should be resolved through the implementation of interesting activities during the delivery. The trends will likely take hold in the next five years, allowing more students access to high quality of education and maintain the engagement with the lecturer from any geographical area. With this in mind, mobile learning more practical alternative presently.

Mobile learning is defined as learning across multiple contexts, through social and content interactions, using personal electronic devices (Crompton, 2013). The Danish & Hmelo-Silver, 2020 explored regarding how to build on mobile learning platform and suggested truly unique ways of learning that leverage the affordances of the mobile technology and culture in new ways (Danish & Hmelo-Silver, 2020). Lee, Fishback, and Cain (2020) ed mobile learning is learning across multiple contexts, via social interaction, adopting personal electronic devices that can immediately capture information about and deliver information to the user.

Devoid of mobile learning, students in class will remain as passive learners and result in lack of engagement in the learning process (Hwang & Chang, 2020). Their lack of involvement in their learning tasks not only in terms on behaviour but also intellectual and emotion. Distractions and interruptions often disrupt mobile learners and task resumption (memory) cues can support users in resuming a learning task. These cues can have multiple forms and designs, but their effectiveness depends heavily on their adaptation to the specific learning use case (Draxler, Schneegass & Niforatos, 2019)

Mobile learning as the digital support of adaptive, investigative, communicative, collaborative, and productive learning activities in remote locations which offer a variety of contexts for the teacher to operate in (Pachler, 2007).

2. Problem Statement

The Accounting Information System course structure requires the students to complete a group project which involves a lot of discussions and collaboration among team members as well as guideline and guidance from the lecturer. The preparation of group project, as well as the group presentation involve a lot of engagement and discussion to come out with a good output hence require the contribution of ideas from each team member and lecturer advices. Since the project (business plan and website) is in a group, teamwork is the most important thing to ensure a well prepared and good quality product is achieved. It is noticeable that some group having a significant problem in producing a good report due to teamwork factor
and there were even the worst scenario where several group of student failed to submit a report on time due to teamwork.

From the observations of the lecturers, Accounting Information System students mostly face this problem due to the lack of time to conduct engagement and discussion face to face among group members. Teamwork engagement and communication skills are noticeably low which led to the failure to produce a good project report.

3. Literature Review

Today’s technology has provided flexibility for teachers and students to engage in academic discourse irrespective of the location. With rapid technological advancements, M-Learning (M-Learning) offers incredible opportunities, especially in higher education. However, there is an ongoing debate regarding the influence of mobile devices on students' academic engagement and performance.

Danish and Silver (2020) explored and discussed the unique affordances of mobile learning such multiple contexts, social interactions, content interactions, and capturing information then providing information to users in real-time via the mobile. Previous studies showed that teacher and students believe that mobile devices are useful for teaching and learning, especially for M-Learning (Christensen & Knezek, 2018; Kolog, Tweneboah, Devine, & Adusei, 2018; Ott, Magnusson, Weilenmann & af Segerstad, 2018). Some teachers found challenges in accessing education resources due to poor Internet connectivity, while others required skills and knowledge about the technology that promote interactive learning (Busulwa & Bbuye, 2018; Baran, 2013; Khairudin, Salleh & Ibrahim; 2018) and lack of teachers' values beliefs in technology integration (Vongkulluksn, Xie, & Bowman, 2018). Theory of Planned Behaviour to better appreciates the university students’ readiness to engage with mobile technologies for educational purposes and explores the perceived usefulness and ease of use of m-learning technologies (Camilleri & Camilleri, 2019).

In addition, Camilleri & Camilleri (2019) examined whether the research participants were influenced by their friends, acquaintances, and educators to engage with these technologies or by the facilitating conditions at their university. The findings revealed that students held positive attitudes towards the m-learning technologies as they perceived them as useful and easy to use (Camilleri & Camilleri, 2019). In Hong Kong, undergraduate students enrolled at a teacher-training institute who have smartphones with WhatsApp were assigned into experimental and control groups (So, 2016). Besides the traditional classroom learning for both groups, the experimental group was also supported with bite-sized multimedia materials and teacher-student interaction via WhatsApp outside school hours and participants of the control group used WhatsApp only for academic communication (So, 2016).
Key success factors that affect the acceptance of M-Learning within universities are collaboration during studies, the prospect of ubiquitous learning in space and time, and user-friendly application design (Alrasheedi, & Capretz, 2018) followed by teacher efficacy beliefs about technology integration (Ibrahim, Khairudin & Salleh; 2018; Perry, 2018). In study by Nouri, Cerratto-Pargman, Rossitto and Ramberg (2014), found that there was no statistically significant difference between the two teaching methods (with mobile support or without mobile support) but that mobile technology could support actions relevant to inquiry-based learning.

4. Mobile Learning Approach in Accounting Information System Course

This course introduces students to the important concepts of accounting information systems (AIS). The course contents are divided into five main sections. The first section introduces the basic concepts of AIS including its objectives, components, and subsystems. The second section discusses the emerging issues in computer ethics, computer fraud, and the concept of internal control in the organisation.

The third section covers in depth the common features of transaction cycles (i.e., revenue and cash receipts, purchase and cash disbursement, human resource management and payroll, and conversion) and general ledger and financial reporting systems. The application of internal control and the integration of accounting software in the transaction cycles take place at this stage.

The fourth section emphasizes the students on the techniques of documenting business processes. The implications of information technology evolution to accounting profession are discussed in the last section. Upon enrolling the course, students are compulsory registered as member of Accounting Information System group for that class. The platform of mobile application used to deliver the engagement and communication between class member and the lecturer anyway anytime about the Accounting Information System assignments, group project as well as individual assignment via wassap group application. This exposes good opportunity to encourage student engagement between class members and lecturer during completing their compulsory task. Apart from that, during the lecturing time the lecturer implements pop quizzes with applied kahoot application via Mobile learning from time to time regarding the chapters in the syllabus. This kahoot application attracted the student’s attention and high engagement between the lecturer and students (Lee, Fischback & Cain, 2019). Kahoot application is a for-profit educational technology institution that offers a social online learning platform that can deliver massive Mobile learning or other devices. Just like many social media it provides features such as forums to enable students to comment and receive comments which encourage interaction while learning. In addition, it has other interesting features such as karma points, which are gained via obtaining positive comments from peers, and badges that can be issued either automatically or when a certain
learning goal is achieved. Kahoot brings engagement and fun to more than 1 billion players every year at school, at work, and at home and are designed to encourage learning and collaboration throughout the course. Fun quizzes related to each chapter were also embedded to make learning more interesting and fun. All the online students are required to actively involved for all the two-way interactive activities and complete all the questions and other activities of the course.

5. Methodology

Action research (AR) approach is used in this research. Action research is a systemic inquiry that is collective, collaborative, self-reflective, critical, and undertaken by participants in the inquiry (McCutcheon & Jung, 1990). However, in this research, the definition by Rapoport 1970 is used as it defined AR in terms of its contribution to the practical process. They explained that "action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework" (Rapoport, 1970).

To operationalize the action research approach, we adopt a model by Trigwell and Shale (2004) which is a practice-oriented model that favours a notion of scholarship as activity and is concerned with the articulation of pedagogic resonance, assumes a learning partnership, rather than an instructional relationship, with learners and privileges the work of knowledge creation with students. The model includes three interrelated components, Knowledge, Practice and Outcome of teaching. Each of the teaching components is described by a set of elements (in each of the three overlapping ovals). Together these elements and components describe a teaching system (Patton, 2002).

The primary data for this study will be collected through interviews and students’ feedback. The initial interviews will explore their current knowledge, understanding and conception of teaching and learning using Mobile Learning and current problems particularly in the project activities that are conducted by students in their groups.

In the practice of Mobile Learning in Accounting Information System course subject, we will implement the method where all the materials are given online while projects discussions will be conducted in sessions together with the presence of the lecturer in the classroom. We will examine their methods of learning the subject and how they could benefit the time given for the group discussion. In this phase, the investigation is conducted through reflection, communication and learning process using the Mobile Learning approach. There will also be questions and answers session conducted online which will allow students to interact and ask questions on Mobile Learning platform and really understand the topic and that everything is clarified. The data will be collected through interviews, observations, and students’ feedback on the reflections on the activities conducted in the Mobile Learning platform for the topics in the course.
Table 1: Questions for reflections on the implementation phase

|   |                                                                                           |
|---|-------------------------------------------------------------------------------------------|
| 1. | Do you understand the topics that are taught using Mobile Learning approach?               |
| 2. | Do you think that using Mobile learning for selected topics in the course allow you to have more time for group activities (group project on Accounting Information Systems course)? |
| 3. | Do you experience better engagement qualities during your group activities after having several topics being taught using Mobile Learning? |

**Figure 1. Questions for reflections on the implementation phase**

**6. Significant of the Study**

The results from the analysis of the data related to the Implementation phase - Practice perspective show three criteria emerged. They are “Enhance the understanding on the topics”, “More collaboration, time and understanding to complete project activities” and “Enhancing engagement skills”.

6.1 Enhancing the understanding on the topics

Under the “Enhancing the understanding on the topics” criterion, there are two themes emerged. The first theme is on the notes in which the participants agreed that better engagement and collaboration. The following are some quotes with regards to this theme.

- “Easy to engage with friends”
- “Gaining more attention from the lecturer”
- “A lot of collaborations and discussion via m-learning”
- “Mobile Learning approach more closeness with friends and lecture”.

The second theme is more attention and focus. The following are quotes from the participants on this theme.

- “the Mobile Learning more attractive”
- “Gaining more focus and interesting”
- “A lot of attractions”
- “Using Mobile Learning approach, I can focus better.”
6.2 More collaboration, time and understanding to complete project activities anytime and everywhere

From the analysis on the data, another criterion found is on the time to complete the class project. Two themes emerged under this criterion. The first theme is more coaching. The participants agree that using mobile learning approach provide more collaboration and engagement to complete their project.

- “Gives us more collaboration and engagement to complete our project”
- “We can complete the tasks given in our own room with lecturer coaching and it saves time because we do not need to take the time to go to lecturer room.”
- “My schedule this semester is very packed so Mobile Learning approach gives me opportunity to complete my tasks anytime that I am convenient and close to lecturer.”

The second theme is on the time saving. The participants felt that using mobile learning approach saves their time especially on the time spent to go to class and having more time to spend to complete their group project.

- “Extra time to complete our projects and assignments”
- “I can complete the tasks given faster because mobile learning is flexible.”
- “Faster in understanding topic via Mobile learning approach, gives me opportunity to explore via my hand phone.”

6.3 Enhancing engagement skills

Various exciting findings are students generally enjoyed using the technology and students’ level of enjoyment of using the technology was correlated with perceived success of learning. Further determination whether using the application caused improvements in learning outcome such as better engagement (Meyer, 2020). The third criterion found from the data analysis is “Enhancing engagement skills”. The participants felt that by using Mobile Learning platform like chatroom and forum, they can enhance their engagement skills thus helping them to complete their group project (Ibrahim, Khairudin & Salleh; 2018; Vahey & Crawford, 2003). The theme under this criterion is the online engagement activities. The following are some quotes pertaining to this theme.

- “We know our progress by looking at the progress button in the Mobile Learning platform, so we know what task that has not been completed yet. This will keep us aware of our progress and do not forget our responsibilities for the team project.”
“We can learn about the hard sell, soft sell and teaser from the notes online and we can do it on the Facebook project online.”

6.4 Improving Communication Skill

From the results, it has been found that most of the students’ communication skill enhance with the use of mobile learning. They react positively toward the mobile learning approach. They said:

- “I like kahoot application because can apply active exercise regarding the topic and good communicating style”

- “I feel more interested and aware with my classmate”

- “It gives me a good experience in understanding the question provided”

The result on exercise assessment showed that students able to demonstrate passion for the topic presented. The classroom became lively where the students can actively communicate with each other on the exercise given. This is consistent with previous studies which shows that through mobile learning approach, the students actually are able to identify issue/problem in a complex situation and able to assess and justify the situation (Kashefi, Ismail and Mohammad Yusof, 2012).

7. Conclusion

As a conclusion, it is felt that Mobile Learning approach should be taken up in Accounting Information Systems courses as this might make the most effective use of technology. From the study, we can conclude that Mobile Learning approach is an effective way in enhancing engagement skills among accounting students. This is because Accounting Information Systems course students need more time to conduct outside class projects and the time in class for lecture should be minimised. Mobile Learning approach encourage the establishment of a learner-centred and flexible learning environment that can allow for knowledge construction, skill development training, and performance support across a variety of locations and contexts. This environment is supported using mobile devices that allow for direct access to learning materials and other resources, regardless of time and location (Pachler, 2007).
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