

## USING WHATSAPP TO EXTEND LEARNING IN A BLENDED CLASSROOM ENVIRONMENT

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### **Abstract**

This study explored the use of WhatsApp chat group as a platform for extending learning in a blended learning classroom with a small group of undergraduates in the Malaysian context. The aim was to provide learners with the opportunity to reflect the strengths and challenges of using the WhatsApp as an extended learning platform. The students' reflections were further supported by the online interaction archives. Findings revealed that the majority of the students expressed the preference for WhatsApp in their reflections. However, certain problems were also identified in this study. Based on the findings the study has outlined certain pedagogical implications that can be a guide for the future use of apps in teaching and learning activities.

**Keywords:** WhatsApp; instant messaging; Computer-Mediated Communication

### **1. Introduction**

The diffusion of mobile technology (MT) has attracted a great deal of attention from practitioners and researchers to integrate mobile technology innovatively in diverse learning. According to Johnson et al. (2014) and UNESCO (2012), schools have started to adopt a trend called '*Bring your own device*' (BYOD) that permits learners to bring their own mobile devices as a way to encourage learning. Such learning practices seem to be the perfect companion with the digital natives' nature of learning who prefer activities that involved multi-tasking, virtual interactions and collaboration.

A large number of studies have also recognized the crucial role of mobile technologies in making learning more effective. In language learning, Hwang and Tsai (2011) found that the research trends from the year 2001 till 2010 were chiefly focused on mobile learning. These studies have utilized different types of methods with constructivism and collaborative framework that showed positive outcomes.

One of the most popular MIM applications in the market is WhatsApp, which is the focus of this study. A growing body of research has also reported on the use of WhatsApp in mobile learning. Lai (2016) investigated the use of WhatsApp in vocabulary building and found a significant correlation between a learner's chat and vocabulary gain. Andujar (2016)

examined the use of WhatsApp interactions on ESL students' writing skills and found that there were differences between the control group and the experimental group. Nevertheless, he concluded that the findings for syntactic complexity and lexical diversity were not conclusive. In his words, "WhatsApp constitutes a powerful educational tool to encourage second language interaction among participants and its tremendous potential to activate students' involvement remains one of the least exploited functionalities of mobile phones" (p.63). Andujar's statement provides a glimpse of the existing literature to identify the research gaps and guide future studies to provide directions into the less ventured area related to mobile technology.

At a time when mobile learning is gaining attention from researchers and practitioners, it is pertinent to investigate the students' reflections on the use of WhatsApp in educational contexts. The exploitation of WhatsApp to investigate students' reflections is an under-researched area and more is to be discovered in relation to how students choose and utilize WhatsApp on their own initiative for learning purposes in formal and informal settings. Moreover, Sharpes et al. (2010) have pointed out that it is pertinent to investigate the relationship between technology and people and very often the technology users get less attention from researchers. Studies related to technology users are pertinent for future instructors and practitioners to design mobile learning pedagogical practices with minimal obstacles. This certainly points to the necessity for researchers to investigate the users' reflections in the use of mobile technology.

In Malaysia, WhatsApp is a popular social media. A recent survey carried out by The Digital News Report (2017) found that Malaysians are the world's largest users of WhatsApp at 51 per cent. Moreover, WhatsApp is receiving attention from the teenagers and it is pertinent to explore the reflections of mobile learning held by learners as one of the key classroom components. Malaysians are familiar with the use of WhatsApp and, obviously, no training will be required for the participants. In the Malaysian context, studies have addressed the role of WhatsApp in the educational context (Mistar & Embi, 2016; Man, 2016, 2017; Ahad & Lim, 2014; Ganasegaran, 2017). However, despite the proposed advantage of WhatsApp, very few studies have addressed the students' reflections and views qualitatively particularly in the Malaysian institutions in blended learning classrooms.

Adopting a case study approach, this study sought to explore the students' reflections after their engagement in the virtual environment via WhatsApp for interactions and collaboration related to their course. It is hoped that the findings extend and broaden the body of knowledge in mobile learning and application of apps in the educational context.

## **2. Literature review**

### **2.1. Background to the study**

The literature related to apps in general and WhatsApp in particular offers some guidance towards the expected results for the current study, nevertheless, it is important to take note of how the students' needs and preferences vary in different settings and contexts. Secondly, most of the literature in the Malaysian context is based on surveys to quantify certain elements and variables. Although quantitative analysis has its own strengths, this study will address the direct reflections of students via WhatsApp. A qualitative study as the one proposed in this study is timely to further enhance the findings related to apps in education. In fact, a recent systematic review related to mobile learning indicated that mobile learning research which include apps are very much related to mathematics and science and more mobile learning research in arts subjects are needed (Crompton et al., 2017).

The study is based on the activity theory, which focuses on activity as a unit of analyzing human practices (Bakhurst, 2009). The theory was suggested by Vygotsky (1978) and gives importance to how cognitive development is a socially-mediated activity in which language plays a crucial role. The theory was further enhanced by Engestrom (1999) by enlarging the components of the activity theory and detailing the dynamic relationship of the components by suggesting a visualization system with triangles. A number of studies have documented the use of activity theory in mobile learning (Zurita et al., 2007; Park, 2011; Liaw et al., 2010).

Sharpes et al. (2007) have revised the activity theory for mobile learning and suggested a framework for mobile-assisted language learning (MALL). The activity theory and mobile assisted language consist of:

- a. subjectivity in the MALL activity, which involves the participants in the MALL activity;
- b. objective of the MALL activity, which focuses on the goal of MALL, such as acquiring language skills or enhancing learning motivation through mobile devices;
- c. tools/ instruments in the activity, which are norms or regulations that circumscribe the MALL activity, such as the procedure in teaching scenarios designed for MALL or the learning pace or styles designated in MALL platforms;
- d. rules/control for the activity, which are norms or regulations that circumscribe the MALL activity such as the procedure in teaching scenarios designed for MALL;
- e. context of the activity, which refers to physical, social, environment for conducting MALL;

- f. communication/interaction, which refers to the method of interactions between users and MALL technologies or communicating styles among MALL learners (face-to-face vs. computer-mediated-messaging).

## **2.2. Mobile technologies in educational context**

Due to learners growing interest in and engagement with mobile devices and social media, a growing number of studies tend to adopt social media platforms in formal learning. Several studies have found advantages of using mobile technologies in formal education such as vocabulary learning (Lu, 2008), develop ESL writing (Anjudar, 2016), technical advantages (Bouhnik & Deshen, 2014) and idea sharing platform (Ahad & Lim 2014; Man, 2014).

However, studies also found adverse implication of the use of mobile learning. For example, Hunaiyyan et al. (2016) conducted a study in Kuwait higher education institutions and found that video-based social media was useful. However, they reported on social and cultural aspects that became the obstacle in implementing mobile learning. Schmitz et al. (2012) reviewed studies that supported mobile-collaborated learning from the years 2004-2011 and found that there was no adequate evidence to conclude that mobile games improve learning outcomes. Similarly, results from another review of studies by Cheung and Hew (2009) revealed that there were no significant differences in students' test scores for studies that employed mobile devices and paper and pencil treatments. The dark side of the mobile phones was also related to health problems. Findings have warned about the electromagnetic radiation, hearing impairment and psychological disorders (Block, 2008).

Although there have been valuable syntheses of previous research, there are more areas that need further investigation. Some suggestions have been made to address the issues highlighted in previous studies. For example, Mouza and Greenly (2015) highlighted that more research is needed to provide teachers with the support and a clear vision on how mobile devices can be used for meaningful improvement in the educational context. Chang et al. (2016) discovered that most studies related to mobile technology are related to pedagogical practices, interactions and collaborative framework. They pointed out that studies related to motivational strategies and facilitating learning motivation are scarce. Lecturers or teachers would have abandoned the motivational element and assume that the positive characteristic of mobile learning will bring positive outcomes in learning (Huett et al., 2008). However, this study is not about motivational theories, and the qualitative approach will be able to investigate the positive and negative experiences via students' reflections. At a time when WhatsApp is gaining attention in Malaysia, it is pertinent to explore the experiences held by students and

teachers. Reflections have a profound influence on the learning process and will add more knowledge to the existing literature to provide support to the developing mobile technologies in learning.

This study addresses the research question of what the students' reflections on the use of WhatsApp to extent their learning are. It is hoped that the study will shed light and provide valuable evidence for designing strategies and maximizing the potential of WhatsApp as a platform for enhancing interactions, collaborations and engagement in the blended environments.

### **3. Method**

The study is a qualitative interpretative case study with a small group of undergraduate students in a higher institution. A case study focuses on describing process, individual or group behaviors and provides an intensive in-depth description and analysis of a single bounded unit placed in a specific context (Merriam, 2009). It offers a greater understanding of the event being investigated and reduces the potential for any bias, by diluting the agenda of a particular individual. In this study, case study is a research design employed to a very broad field of research: technology and education. Students' reflection and online archives were employed to gather in-depth information on the use of WhatsApp by a small group of Malaysian students. It is hoped that this study will offer guidelines for further research and hypothesis creation on this subject.

#### **3.1. Participants**

Ten part-time students were involved in this course. The students were briefed on the purpose, the nature of the study and its ethical considerations. After the briefing only six students were willing to participate, five females and one male. According to Perez-Sabater & Rising (2009), it is best for students to work in small groups for better cohesion, intimacy, safety and trust. Furthermore, the data collected by the researcher was sufficient for discussion. After obtaining the permission from the Ministry of Higher Education the study employed purposive sampling to engage participants in the WhatsApp platform. Their English proficiency levels were determined as high intermediate and advanced based on the local standardized General English proficiency test. The course is for the undergraduate first semester students (Advanced Writing Skills) in a blended learning environment. The course design involves face-to-face classroom interactions and interpersonal communications roundtable sharing slides to humanize the learning activities. The learning materials were covered monthly. The instructor met the

students for 3 hours each week for three times. The ten students in this course were the second intake students. Therefore, the duration to complete the course is short and they need to have a three-hour lecture for three face-to-face lectures. There were five units and the lecturer covered two units for every meeting. The students have to prepare two written assignments and sit for their final examination on the 14th week. The written assignments were 40% each and their examination was 60%. Students were given pseudonyms and consent forms were signed in the 1<sup>st</sup> week. The duration of the study was 12 weeks.

### **3.2. Research procedure**

The data collected and analyzed include reflections and online archives. The use of online archives serves as a layer of triangulation to the qualitative data. After the traditional classroom lectures, students were given the flexibility to choose the social media they are comfortable with. The students opted for WhatsApp although other platforms such as Facebook, Google docs and the Learning Management System (offered by the university) were available. The reason for their choice was because all students were familiar and used it regularly. They were given the flexibility of discussing any matters related to their course such as content, instructions, feedback on written assignments, units and also exam questions. A group leader was selected to set up the group and add the members in the virtual space where students were encouraged to discuss their syllabus, assignments and exam questions.

The WhatsApp group was active for 14 weeks, during which the instructor interacted when necessary. For the first six weeks the instructor was not really active as she wanted the students to independent deal with the syllabus and assignments. As soon as the students completed both their assignments, the lecturer encouraged them to discuss the past year examination questions.

### **3.3. Data collection and analysis**

Students were instructed to write their reflections on the 16<sup>th</sup> week after engaging in the WhatsApp group. Reflection is viewed as an important tool for “advanced thinking skills such as problem-solving, critical analysis, synthesizing, determining patterns and evaluation” (Cevik 2014, p.718). Cevik et al. found that learning is a metacognitive act and learners should examine thoroughly on what they have been experiencing. Students were told to reflect on how they were engaged in the WhatsApp group to complete their course and prepare for their examination. The guiding questions for the students to write their reflections are as follows:

- a) How did the engagement in the WhatsApp group assist you in completing your assignments and prepare for your examination?
- b) What are your positive and negative experiences while students were engaged in the WhatsApp chat group?

Students' written reflections were analyzed in an iterative manner as suggested by Akerlind (2005). Thematic analysis was employed and the reflections were analyzed based on four phases of thematic analysis provided by Braun and Clark (2006). The four phases of thematic analysis are: 1) Familiarization with the data; 2) Coding; 3) Searching for themes; 4) Reviewing themes. According to Cevik et al. (2014), the purpose of the three stages was to make certain that all the coded extracts for a theme were coherent. If they were found not coherent, the entire process of coding and identifying was conducted again. The main themes and sub-themes were further considered for reliability by two other coders. The Kappa Value was 0.8. The emerging themes were further triangulated with the online archives. All the online interactions were automatically logged and stored in the WhatsApp system.

#### **4. Findings and discussion**

The emerging themes were categorized into positive and negative reflections. Students appreciated the WhatsApp platform in the way that it provides them with the opportunity to actually use language in an authentic content. A total of 574 messages were contributed by the six students and a lecturer. The positive and negative emerging themes were supported by the online archives in the following section. Their reflections are presented as they are with language errors committed by the participants.

##### **4.1. Learners' empowerment**

A key affordance of WhatsApp is its flexibility to interact without time and space constraints. Students have better control of their learning activities and submission of assignments. Besides, students are able to decide upon the approach to be taken to do their revision and to prepare for their examination. One of the students described:

P1... to clarify small details of TMAs or final exam such as due dates, exam venue time and TMA format reminder. This is also very useful for me to get a general idea what other group members are doing and just to make sure that I am on the right path.

In the reflections, it was found that students were able to reach consensus on their replacement classes by considering the need for everybody to attend the classes. The students explained:

P1 ... Attendance rate is always good at the beginning and going downhill as we move along. The easiest and the fastest way to make sure those who absent from tutorial sessions are able to catch on important matters discussed during tutorial sessions. I snap photos on what the entire class has done. I record presentation during tutorial and share on LMS or somehow they can't find it on LMS.

Rather than contacting the instructor, the students took responsibility to interact with peers to gather important information. This certainly facilitated academic growth and self-efficacy among students. In other words, WhatsApp was a positive atmosphere for learning. For example:

P4: if the tutor is busy and not picking up my phone call, I can directly send her a WhatsApp message as she read it immediately after her work is done

Figure 1 illustrates the students' interactions when they had problem submitting their assignments to Turnitin.

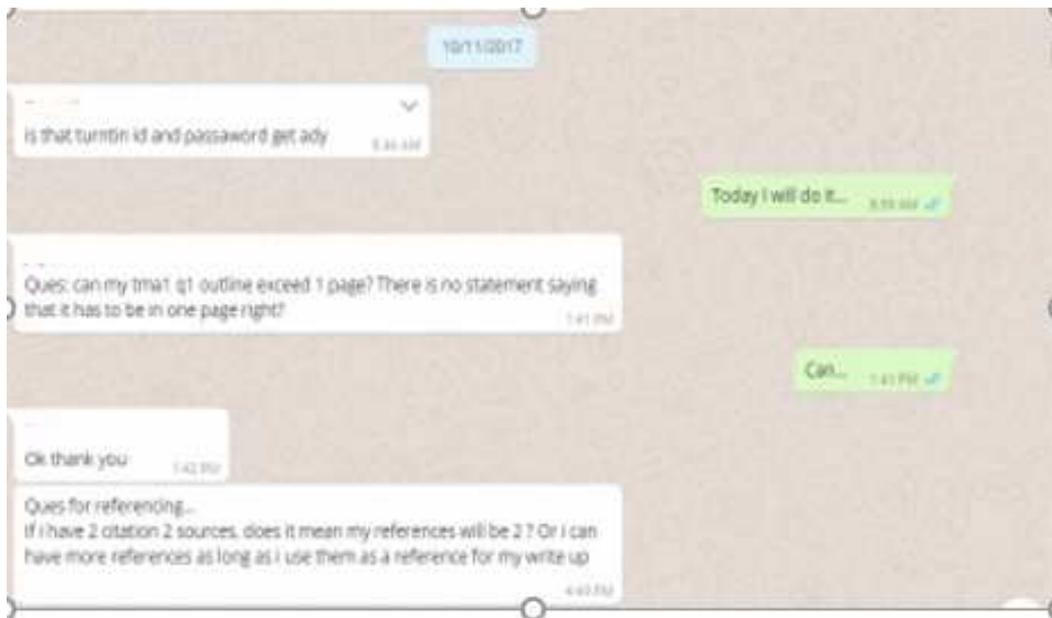


Figure 1. Online archives related to Turnitin submission

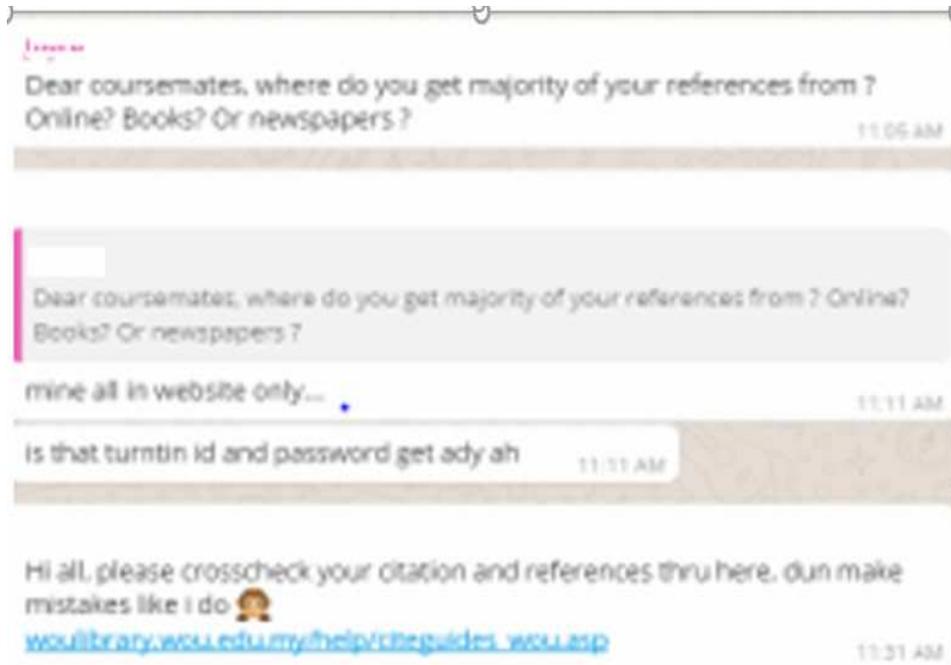


Figure 2 illustrates the interaction among group members on issues related to references and citations.



Figure 2. Online archives related to their doubts about the citations and references

Students were actively interacting in the WhatsApp chat group and updating the group members of important activities related to their assignments and examination. In fact, the students were together and were concerned about the group members till they set for the examination. This was found in their interactions in the WhatsApp group. The members became worried when one of the members was late for an exam. Such co-operation is very

much needed for the part-time students. Figure 3 illustrates the interactions related to the friend who was not able to find the exam hall.

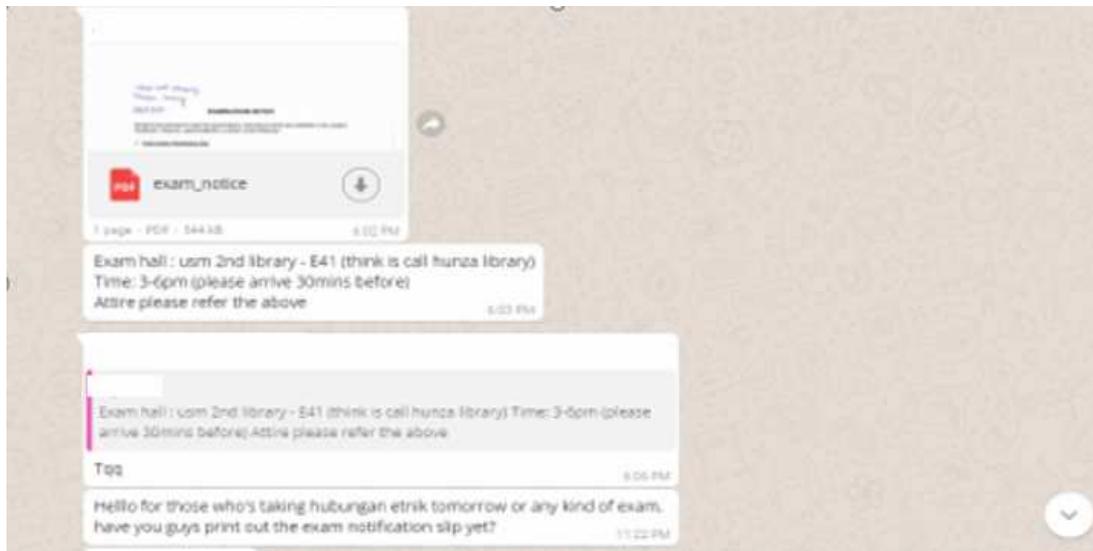


Figure 3. Online archives related to the friend who was not able to find the exam hall

Significant findings emerged from the current study. The participants detailed the rationale for favoring WhatsApp as a platform to interact. As it appears from the findings, the use of WhatsApp is consistent with the previous finding by Lai (2016) and Andujar (2016) that WhatsApp is a worthwhile and promising app for learning and can be assessed wherever they are located.

#### 4.2. Knowledge concretization and consolidate learning

Materials shared by students allow them to assimilate what they have learned in the face-to-face interactions and imbibe skills easily. As the attendance for face-to-face classroom is not compulsory and many of the students are working adults, the apps seem to be a platform for them to share what was discussed with the lecturer in the traditional classroom. The discussion basically expanded their learning. Participants expressed the following ideas:

P2... gives a better view of everything that is relevant for ... and increases the learning skills

P4... can learn more by watching the video over and over again to make sure they get the lesson

P1... WhatsApp was formed on the first day of my tutorial to assist the entire learning process and act as a secondary medium of material sharing, short discussion and knowledge transfer.

Figure 4 illustrates the video shared by the group members.

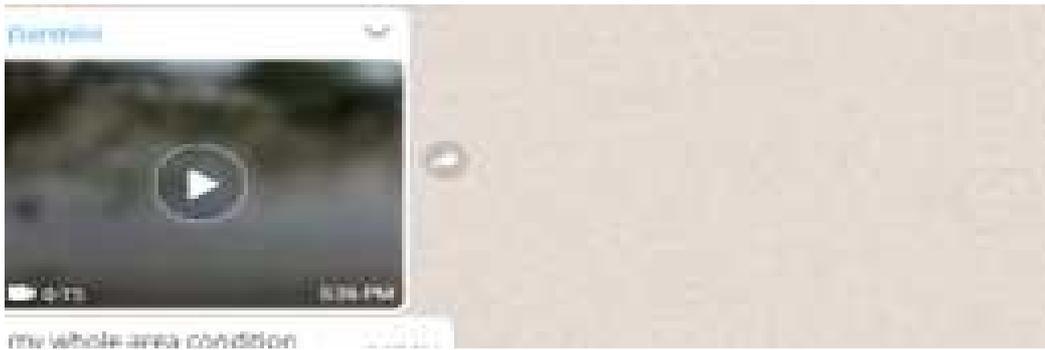


Figure 4. Video shared by the group members

Figure 5 illustrates the relevant materials related to their course that was shared by the group members.



Figure 5. Online archives related to materials shared by the group members

What is also evident is the bite size learning. Students are able to understand the gist of the lessons and able to deliver it to their friends. Ideas and knowledge are broken down into small chunks. Materials assessed in mobile learning have to be concise and short for students to create learners' experiences because students are not in classroom settings to focus on lengthy modules. In this study the three hour' lecture and discussion has been transformed to effective framework as visible in Figure 6.

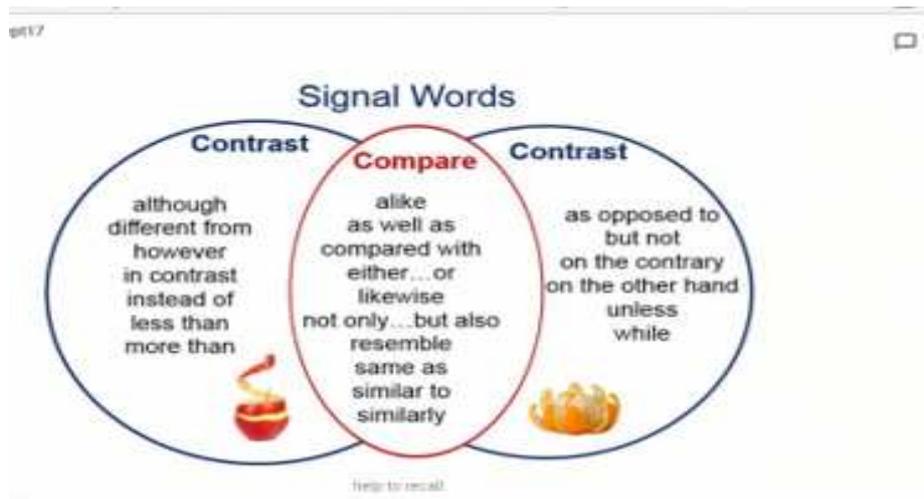


Figure 6. Lectures transformed to diagram

Another important contribution of this study is when students are able to know the gist of the lessons and the friends are able to process the relevant information cogently. In other words, bite size learning is evident in the WhatsApp interactions. According to Boyette (2012), a study conducted by the Rapid Learning Institute found that learners prefer bite size online learning modules instead of depending on bulky notes. Bite sized learning permits learners to digest idea or knowledge before moving on to next idea (Stahl et al., 2010).

The online archives (Figure 7) document the WhatsApp interactions related to how to write a good proposal. The students summarized the lectures and shared with the WhatsApp group, thus taking ownership of their learning. The study is in line with Chipunza (2013), who claims that WhatsApp allows students to express their ideas and knowledge in a non-restricted environment. However, at times they need to consult the lecturers on certain issues. The role of teacher as a facilitator is certainly evident in the interactions when they were not able to decide on certain issues. The students also shared relevant topics that they need to consider for their exams by highlighting the key words. Figure 7 illustrates the interactions related to exam topics.



Figure7. Online archives related to exam topics

### 4.3. Portability and accessibility

Students have constantly highlighted the portability and the accessibility of WhatsApp smoothly without time and space constraints. They took screen shots of slides used in their classroom and shared them with other friends who were not able to make it for the class. Video clips and other web materials were used in their discussions. Students highlighted that they were at work and were able to respond to the chat related to the assignment without any constraints. It seems WhatsApp has achieved the status to support pedagogical practices at any time anywhere with immediate results which cannot be achieved with the desk bound computers. This added dimension can be effectively manipulated by instructors for learning. There were various degrees of experience highlighted by the participants in this category:

P1...able to post anything real quick and then get fast respond from a member for their answer

P3... I am carrying my cellphone more often than my laptop, it will be very useful for last minute short notes revision if I Posted it on WhatsApp

P4... it is easier for us to reach because I'm usually on my phone during the day without login in into website or app

P4: ...convenience, check if the receivers read he message or not

P5: ... it is one of the easiest software. It can be downloaded in our mobile phone. It also saves cost and time.

P5: Easy to bring anywhere... it is a wonderful app to me

Based on the above excerpts it is obvious that WhatsApp is an easy and effective application for learning. In fact, as Bouhnik and Deshen (2014) highlight, "WhatsApp might be the first technology that entered class without any training or administer supervision, as teachers and students are using in their private life and its advantages enabled it to become naturally, an educational technology" (p.229). Further, Berger (2011) highlights that mobile learning brings the shift from learning anywhere anytime to everywhere and every time.

### 4.4. Challenging issues

The students' reflections on challenging issues were determined in the sub-themes as overloaded messages, small screen and technical problems. Admittedly, the main challenge expressed by the students in their reflections is the overloaded messages. Students expressed their dissatisfaction when being swamped by too many messages that upsets the receivers. The following excerpts from reflections are selected as representative.

P2: Most of the time. There seems to be too much for you to read if you turn off your data or Internet for a short time or a whole day. The situation becomes more alarming if one receives over 100 messages to read in only one chat group...

Another student mentioned that it is difficult to gather all the information if once the phone is problematic by saying:

P1: ...can't recover back once phone has been lost of your smartphone no function?

Other challenges were related to identifying the sender of the message. The participant emphasized that:

P3: when you read a message, it is written by the actual person? or is it written by someone else? There is no way to verify that. I can just assume the person that replied me is the owner...

Technical problems are a common and significant issue in mobile learning environment.

Students have expressed their dissatisfaction:

P5 Must have Internet access to send and received message

P3 ... it is a waste of time like any other social media platforms. its easy accessibility enables one to read anywhere and this can be time consuming. This also calls for spending more time typing the messages to the recipient.

P3... chat group is wasting of Internet bundles and one's credit more especially on irrelevant issues

These findings are further supported by Qureshi (2012); Park (2011); Bakari et al. (2005), namely that technical challenges seem to be a major concern in implementing mobile learning. It is also mentioned that the screen is cumbersome for text input. The small screen in a way provided them to focus on ideas and knowledge through pictures, graphs and diagrams. These findings are consistent with those obtained by Wang et al. (2009) and Cheng et al. (2008) that mobile technology is challenged with limited screen size, small batteries and storage capacity.

#### **4.5. Pedagogical implications**

The present study was designed to investigate the students' reflections after their engagement on the WhatsApp chat group to extend their learning. One of the additional conclusions that can be drawn from the current study is that the interactions were more focused on cognitive load in general. The WhatsApp chat group was used to exchange information about assignments, exam procedures and shed very basic idea and knowledge about their course. In other words, deep learning (higher order thinking skill) was not taking place. The WhatsApp platform was not suitable for learning achievement and course design discussions that need intensive reading writing and individualized feedback. This is probably because of the size of the screen and space for writing. Therefore, the students need guidance and pedagogical interventions to maximize the use of social media to support their learning goals (Cigognini et al., 2011). While studies have highlighted that students should be given the flexibility to choose a preferred online platform or activities (Cheng & Chau, 2016), the teacher needs to suggest or integrate

other online document format and collaborating tools such as Google doc, PB works and Mixed Ink when instructors realize that WhatsApp is not suitable to discuss essays or assignments.

It is pertinent for teachers to decide wisely based on the activities and task given to them. By doing this, negotiation of ideas and deep learning will take place. There is a tendency for instructors to assume that adult learners are able to use technology efficiently. Exploiting WhatsApp for educational contexts demands pedagogically wise and sound learning methods and incorporating other relevant tools based on the task given. For this reason, the teachers' effective intervention is needed from the beginning of their interactions.

This study is not about claiming that the WhatsApp platform will lead to effective learning, but it can suggest that the need for teachers to consider the popular apps among learners and further consider WhatsApp intentionally to achieve best and most effective practices by integrating other technology tools which allows meaningful outcomes. The emerging themes provide a frame of reference for lecturers to consider about how to use the apps wisely and to overcome the limitations. According to Cook-Sather (2006), learners should be given the opportunity to express their experiences to effectively shape educational practices. Similarly, Fielding (2004) pointed out that learners' voices have 'transformational potential' for educational practices and educational practices will not succeed within learners' direct involvement. New assessments are needed to enhance students' abilities to organize their learning and advance their self-direction when they are put in the online environment. The interactions and fruitful collaboration should also be considered as part of the assessment to encourage the use.

## **5. Conclusion**

In the era when the use of social media apps is scaling up, learners should be encouraged to integrate informal learning activities to support and enhance formal learning. This study provides a better understanding of the use of WhatsApp for language learning in general and English writing skills in particular. Evidently, mobile technology in education is also faced with an array of challenges that must be addressed if high standards of education quality and relevance to students need to be sustained and to determine the best practices for future learning. Studies must attend to the affordances and the limitations in various contexts that influence the use of apps and how students interact and learn in the online learning environment. To improve our integration of mobile technology in higher education, we should continually discover evidence of what, how and why it works, otherwise effort and time will be wasted if our anecdotal ideas turn out to be inaccurate and fallacious.

The study is an initial exploration into a new terrain and the study offers insights based on a small scale study of introducing WhatsApp in an undergraduate blended classroom in the Malaysian settings. This will certainly necessitate the implementation of robust quantitative as well as qualitative research. The findings of this study have laid the ground work for future research for the use of smartphone and apps in education.

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