



Guided Mobile Learning for English Language Teaching: The Teachers' Perspective

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Authors' contributions

This work was carried out in collaboration among all authors. Author SFN designed the study and managed the analyses and findings of the study. Authors ANAK, MAK and AM performed the data collection and wrote the introduction, literature review and methodology of the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Aims: This study evaluates teachers' perspectives on the integration of guided mobile learning through the Mobile Intervention Module (MIM) in English language teaching. As previous studies suggested that there are conflicting views among scholars with regards to mobile usage in classroom learning, this paper attempts to address scholars' concerns by suggesting English language teachers' opinions on the possibility of having practical guided mobile learning activities to complement the course contents.

Study Design: This study adopts a qualitative approach.

Place and Duration of Study: Universiti Malaysia Kelantan, Malaysia, between February 2019 to July 2019.

Methodology: Interview sessions are conducted among four language instructors to see how they perceive the effectiveness of guided mobile learning intervention towards teaching and learning. Content Analysis is later adopted to analyse the interview data where specific themes are derived.

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The concept of MIM that incorporates appropriate web learning tools is developed and explained. MIM functions as a comprehensive guide that matches the course contents to the most appropriate web learning tools.

Results: The results show that all instructors perceive guided mobile learning through the MIM positively. This study implicates that guided mobile learning could be useful in facilitating the teaching approach shift from conventional to technology-assisted, enabling the integration of interactive activities in learning, developing specific language skills and enhancing engagement. It should also be noted that there may be some adaptation barriers of mobile learning that can hinder learning process.

Conclusion: While it is recommended that mobile learning is integrated with lessons, to achieve effective results, however, as suggested in the findings of this study, it has to be guided, thus a proper module that links the syllabus to the mobile apps needs to be created.

Keywords: Guided mobile learning; intervention design; English language teaching; English as a second language; mobile learning.

1. INTRODUCTION

The development in global Information and Communication Technologies (ICTs) has propelled recent advances in media use in education [1]. This includes the formal integration of various digital platforms into English language classrooms. Mattheos [2], for example, argue that educational methods must be dynamic and continuously adapt to an ever-changing social environment. As information and communication technology (ICT) has become a serious component of tertiary teaching and learning, one particularly important trend is the increasing reliance on mobile-connected devices not only in daily tasks but also within professional and academic contexts [3]. However, there are also concerns regarding the usefulness of mobile usage in language learning [4]. Woodcock [5], for instance, believed that learners always use their phones more for playing games and other leisure activities than for learning. Hence, this particular study discusses the instructors' feedbacks on the possible mobile learning intervention design for English language learners.

The increasing attention on digital technology engagement has consequently contributed to the integration of media use in language teaching and learning. Due to the importance of technology integration in making educational approaches relevant for 21st century learners [6,7,8] mobile learning has been adopted by the language instructors at Universiti Malaysia Kelantan (UMK). Apart from the consideration of using mobile devices in learning due to their popularity and practicality, studies have also suggested guided usage of mobile devices in learning is necessary and that studies need to focus on this matter as there are conflicting

views. Based on the findings of previous research conducted on the effectiveness of guided mobile learning, it has been found that several factors may impact on its effectiveness including the mobile learning engagement time which has been found to impact on the learners' performance [6].

At UMK Jeli Campus, where the study was focused, all four instructors teaching English for Science subject were employed in this study. Ranging from the age of 28 to 59 years old, all the instructors are proficient technology user and have served for UMK for more than four years. One of the instructors is a native English speaker from Australia, while the other three instructors are Malaysians. All instructors are qualified English Language instructors majoring in English.

All learners at UMK are provided with an iPad. This is part of an effort by UMK to drive the institution towards Industrial Revolution 4.0 that envisions a new-era society of cyber-physical systems, the Internet, cloud and cognitive computing [9]. In line with that, the education system in UMK is also working towards providing 21st-century skills needed by the learners to survive; namely collaboration, creativity, critical thinking, and communication [10]. In attaining these skills, it is essential to embrace mobile learning as a vital driver of the incorporation of these skills. Mobile learning encourages learners' collaboration through various applications, be it within or beyond class time. Language learners can also use mobile learning platforms to sharpen their creativity and critical thinking skills through a myriad of reading materials and information that they can get at their fingertips [11]. Finally, it seems evident that mobile

learning may enhance learners' communication skills through the usage of communication devices such as smartphones and tablets in language lessons. Despite the positive impacts that mobile learning offers to the learners, moving forward, it seems vital to look at mobile learning from the perspective of instructors.

2. LITERATURE REVIEW

The literature on 21st Century learning, mobile learning concepts and findings on guided mobile learning has been examined to develop an understanding of current thinking about these issues and to assist in developing a practical Mobile Intervention Module (MIM).

2.1 21st Century Learning

Twenty first century learning has become an integral part of educational thinking and planning for the future [10]. Concerning this concept, educational communities have been formulating ways to train learners for the future. The path includes the shift from teacher-centred to learner-centred learning and from subject-based to problem-based approaches. According to Nichols [10], the role of education in the 21st century is to prepare learners to become active, successful, and contributing members of society. 21st-century learning thus considers several aspects that demand the instruction in a particular lesson to be learner-centred. This means that education should be focused on learners active engagement with and accomplishing tasks rather than passively listening to a teacher lecture. Solving problems thus should involve learners acquiring proper information through the incorporation of technological devices and the internet in classrooms.

Twenty first century learning also concerns collaboration between learners [10]. This is seen as a crucial factor that prepares learners for future survival in the borderless world, where they need to have the proper skills and knowledge to work with people from different cultures and backgrounds. The implementation of mobile learning is in sync with this particular idea of 21st century learning, where learners can access a wealth of knowledge about cultures and nations, world problems and solutions to be discussed in the classroom. From a language learning perspective, collaborative learning enhances the use of language as a tool to share ideas and opinions while it serves to bridge gaps between people of different backgrounds.

2.2 The Concept of Mobile Learning

Mobile learning refers to any form of learning that happens when the learners are not at a fixed, predetermined location or learning that happens when the learners take advantage of the learning opportunities offered by mobile technologies [12]. Several studies have been conducted on mobile intervention in language learning and its effectiveness. In general, scholars are divided into two groups; one that favours mobile learning and believes it has a positive impact on learning and a second that opposes this view [4]. Studies conducted in this area include Wilmer [13], which believe that the body of empirical evidence demonstrating tangible effects of mobile devices on memory and knowledge is limited. Earlier, Sparrow [14] argued that with their close relation to technology, people are remembering less actual information and instead commit to memory where such information can be found. As Wilmer [13] suggested, when people turn to mobile devices, they generally learn and remember less from their experiences. Barr [15] considered that the use of mobile devices in learning correlates with more intuitive but less analytic thinking. Meanwhile, a more extreme view of mobile learning includes Beland [7], which contended that enforcing mobile phone bans in school is associated with learners achieving better academic performance. Junco [16] argued that the use of social media in learning is negatively correlated with academic performance, as it is used more for socialising than learning.

As opposed to the abovementioned views on mobile learning, some studies support mobile usage in classrooms. Yu [8] believed smartphones have a huge potential to be used as a learning tool in higher education as they can be used to access a vast range of materials as well as a wide variety of inexpensive but useful learning applications that can be integrated into learning. Goh [17] argued that, as opposed to traditional teaching, mobile learning could benefit learners in many ways, such as games and competition in learning, classroom learning, laboratory learning, field trip learning, distance learning, informal learning, pedagogical and learning theory, learning and teaching support, and evaluation. Talking about 21st century learning where collaboration is involved, Yu [8] continued that digital technologies such as blogs, wikis, and interactive websites have ushered in a whole new era of information sharing and collaboration which can be applied in a mobile learning context.

The idea of mobile learning is motivated by many different factors. Yunus [18] stated that many scholars have agreed that the use of ICT tools in English as a Second Language (ESL) writing classroom has shown that ICT makes a supportive and encouraging environment for the learners to increase their writing skills in terms of quality and quantity. Kelly [19], for instance, believed that blogging supports communication in ESL classrooms as it acts as a "real-world digital medium". It is a multi-dimensional tool that not only offers opportunity for writing but also has the possibility of multiple audiences and access points [19]. Mobile learning can also support communicative language teaching and learning where authentic learning environment and materials can be provided to the learners [20].

A study conducted by Hudson [21] on the relationship between tertiary learners and mobile phones found out that there is a desire for learners to access librarians for live assistance on their mobile devices as well as a desire to access e-books and e-magazines on their mobile devices. Lund [22], on the other hand, believed that a proper design of the teaching and learning in terms of tasks and materials is crucial in order to provide an impactful technology-rich learning environment. In designing mobile learning, Hauge [23] asserted that online learning should be based on activities or 'activity-driven' and that the design for the lessons should always focus on the task for it to be wholly beneficial towards learning.

2.3 Guided Mobile Learning

Given the extensive debate on the strengths and weaknesses of mobile learning, the discussion mainly hovers around the idea of advantages and disadvantages. However, there is a lack of discussion on how properly guided mobile learning intervention can benefit learners while Ng [4] asserted that the possible influence of mobile devices on education and their impact is still unclear and is an evolving field of study. Hence, some researchers emphasise the idea of the guided mobile learning intervention. Barrs [24], for instance, recommended that detailed guidance and explanation on how to use smartphone appropriately in classroom settings is essential if meaningful learning is to take place. With the same understanding, Ng [4], found that facilitating the usage of smartphones is crucial, and the findings recommended that future studies should focus on ways to facilitate learners' intentional use of smartphones so that they will develop the capacity to use this device

to assist their learning processes. Another research by Ng [4] highlighted that there is no significant relationship between the time spent in smartphone usage and the performance of learners as the study shows that it is not about how much time they spent on using the smartphones, but instead it is about how much guidance they received in using the devices to facilitate their learning.

On language, Samsiah et al. (2013, cited in Zaki [25]) highlighted several advantages that can be achieved through mobile learning in ESL. The first of it is blended learning where learners learn with the educator face-to-face and online; which is perfect, for learners can interact using their mobile devices or even carry out assignments after the class session. Secondly, mobile learning can lead to interactive learning, as mobile phones can act as an instrument for people to interact with. Thirdly, with the device's mobility, mobile learning is experiential where learners can connect school matters and other activities. Finally, mobile learning supports problem-based learning where learners can use their mobile devices for their mobility, accessibility and wireless network to solve given problems.

It is also interesting to note that in Lai [26] analysis of top 100 highly cited papers on mobile learning, less attention is given on the guided factor of mobile learning, as most studies focused more on comparing different mobile learning modes for finding more effective mobile learning approaches. While most mobile learning studies focused on learners' higher-order thinking performance and learning behaviours Lai [26], the one that focused on guided mobile learning is rather scarce.

Based on these situations, this particular study, therefore, would analyse teachers' opinions on the potentiality of a guided mobile learning intervention module to enhance learners' language performance. Specifically, this study answers the following question: What are the teachers' perspectives on Mobile Intervention Module (MIM) integration in English language teaching?

3. METHODOLOGY

This study adopted a qualitative approach where all four instructors teaching English for Science subject at UMK were interviewed to gauge their insights regarding mobile integrated teaching experience. These instructors taught five

different classes consisting of 150 first-year university learners. Data were collected through group interviews. The group interviews with the language instructors focused on their opinions on the application of guided mobile learning intervention in terms of its effectiveness. The instructors also shared their experience and feelings in conducting mobile integrated English classes.

At the beginning of the study, the four language instructors were given a framework (Mobile Intervention Module) as a guide for mobile usage integration with the course syllabus based on the applications that had been selected according to language skills: listening, speaking, reading and writing. This integration happened into class during each lesson, as suggested by the framework. The language instructors would implement the framework throughout the semester, and at the end of the semester, they were interviewed on their opinions of the Mobile Intervention Framework.

In this study, content analysis (CA) was used to analyse the interview data. CA is one of the best methods to be used in reflecting on the study objective [27]. The CA approach adopted is inductive where coding and theme development of the data were directed by the contents. The interview was recorded and the verbal data gathered were first transcribed to be analysed. The transcription of the interview was then read and re-read for contents familiarisation. The next step was condensation, where texts were shortened while preserving the core meaning. This was followed by coding where accurate but short labels were assigned to the condensed text. Categorising was done to ensure that all important sections of the data that might be relevant to answering the research question were organised to be meaningful [27].

To ensure data validity, intra-rater procedure was applied. As explained by Mackey and Gass [28], firstly, the researcher codes all the data. Then, after some lapse of time he or she would need to re-code the data. The scores achieved by the same researcher but at different points of time can be compared through standard inter-rater reliability check procedures. In this research, the data was re-coded after two months the first coding was done. On the other hand, the validity of this coding process was ensured by the external audit procedure which involves peer checking [29]. The feedback received from an external party assisted the researcher to validate the coding. The data were then collected and

combined according to the themes. Finally, the meaningful data extracts were weaved together with the analytic narrative in order to comprehend the language instructors' views on mobile learning in the teaching and learning of English language [27].

The Mobile Intervention Module (MIM) functions as a comprehensive guide that matches the course contents to the most appropriate web learning tools. The module indicates the lesson content for a particular week along with the relevant unit of the textbook. The time proposed for each session is also provided in the module. Instruction is provided for the use of any web tools needed to complement the in-class lesson.

The subject in wherein this study was conducted is English for Science. Hence the MIM (Table 1) is intended to complement the course contents of English for Science. In developing the MIM, the English for Science course objectives have been taken into consideration, and the module has been tailored to complement the course contents. The MIM integration in the English classroom aims to enhance the classroom experience to be more interactive and at the same time, develop media literate learners. In achieving this objective, the module combines several web tools to connect learners and to link them to relevant online resources.

In English for Science, stress is put on developing the learners' spoken and written communication skills. In addition, for these science major learners, the instructional materials used focus on scientific issues. These materials included the main textbook and the reference articles, as well as the audio recordings for listening activities.

The English for Science course content consists of skills development in four areas, namely writing, speaking, reading and listening. Under writing, learners are exposed to academic writing that includes writing a thesis statement, writing a summary, comparative essay writing, researching, explaining the significance of evidence, evaluating arguments and referencing. The writing assessment for the course requires the learners to review a scientific article, including a summary and evaluation of the article contents. The writing component of the final examination asks them to demonstrate their learning by summarising and evaluating an article provided in the reading section of the exam. In order to polish the learners' spoken skills, the course includes activities that allow

them to discuss the pros and cons of a particular issue, paraphrase, express point of views, hopes and feelings, provide recommendations and finally to persuade. In the course, learners are also guided to use graphics to assist in their presentation. The primary reference for speaking at the time the study was conducted was Pathways 4: Listening, Speaking, and Critical Thinking. The assessments for speaking are an individual research presentation and conducting a forum in groups.

Learners' reading skills are tackled through familiarising them with academic journal articles

and science-related reading articles as provided in Pathways 4: Reading, Writing, & Critical Thinking, the chosen course textbook at the time the study was conducted. Among the skills covered under reading are previewing and predicting, skimming and scanning, identifying main ideas and key details, determining meaning from context, identifying writers' tone. It also includes elements of critical thinking, for example evaluating contents and sources and making inferences. In the course, learners' reading skills are assessed through the final examination, which contains one section on reading.

Table 1. The mobile intervention module (MIM) for English for science at UMK

Week	Skills	Intervention
3 Unit 4	Reading (Google definition/online dictionary/MyELT)	Contextual clues (40 min – 1 hour) 1. Get learners to access MyELT learning website and answer vocab questions in Vocab 1 practice. 2. Get learners to turn to page (76-82) of Unit 4 reading passage and get them to read the article for 15 minutes. Learners should be able to read better with the vocab knowledge from MyELT. 3. Encourage learners to use Merriam-Webster application (download) to check for other word meanings. 4. Get learners to do Vocab 2 as well as Reading Comprehension from MyELT and the textbook for follow up activities.
4 Unit 5	Speaking (Coggle)	Using Graphic Organiser in Oral Presentation (1 hour). 1. Refer to Page 91 of the textbook for the graphic organiser activity. 2. Get learners to use the 'Coggle' mind-mapping application (download) using their smartphones to create a graphic organiser. 3. Give learners some possible topics to brainstorm in a group of 3-4. 4. Give them 10-15 minutes to create a mind map on that topic. 5. Learners present the topic based on the graphic organiser created to the class.
5 Unit 3	Speaking (Padlet)	Thoughts Sharing through Padlet (throughout in-class Research Presentation Assessment) 1. As Week 5 is for Individual Presentation, learners will use their smartphones to access 'Padlet' (an online sharing board) to comment on their classmates' individual presentation. 2. Create a 'Padlet' link and let learners access the website. 3. Get learners to comment the main idea of their classmates' presentation in one sentence. 4. Get them to record their presentation using their smartphones or tablets so that they can use the recording to reflect their presentation.
6 Unit 7	Reading (Kahoot!)	Kahoot! Vocabulary Quiz (15 minutes) 1. For vocabulary activity, learners are to use the 'Kahoot!' quiz application for vocabulary practice/quiz. 2. Teachers are to create a word list from Unit 7 for the activity.

Week	Skills	Intervention
7 Unit 8	Writing (Online search)	Resource Searching: Evidence (20 minutes) 1. Find an interesting paragraph, ask learners to find evidence online to support or dispose the main claim. 2. Do proper citation (in text and end text) in supporting claim. 3. Refer to page 184 of the textbook.
8 Unit 6	Speaking (Google search/Padlet)	Resource Searching: Forum Videos and Thoughts Sharing through Padlet (1 hour) 1. Search for two videos on forum presentation; a good and a bad one. 2. Get learners to watch and compare the videos by focusing on the introduction, turn-taking, transition, contents etc. 3. Then get them to use their smartphones to search online for tips of a good forum speaker (e.g. Google search) 4. Then, let them share the tips on 'padlet' (an online sharing board) that is projected on the screen for all to read and comment.
9 Unit 9	Reading (MyELT)	Making Inferences through Reading (30 minutes) 1. Reading skills – making inferences. 2. For this lesson, learners will use their smartphones to access Lesson A Reading Skill activity from MyELT site.
10 Unit 10	Reading (MyELT)	Contextual Clues through Reading (30 minutes) 1. Reading skills – contextual clues. 2. For this lesson, learners will use their smartphones to access Vocab 1 and Vocab 2 from Unit 10 of the MyELT site.

4. FINDINGS AND DISCUSSION

Based on the content analysis conducted, the condensations and coding of the data sets have led to the establishment of five major themes that will be the pillars of the study discussion namely: 1) Facilitating Teaching Approach Shift, 2) Enabling Integration of Interactive Activities in Learning, 3) Specific Skills Development, 4) Mobile Learning as an Exciting New Method for Learners' Engagement and 5) Adaptation Barriers Affect Learning.

Table 2 displays the findings of the content analysis where the condensations derived from interview transcription were tabulated in order to bridge the interview data in answering the research question: What are the teachers' perspectives on Mobile Intervention Module (MIM) integration in English language teaching?

From the content analysis of the interview data, it was found that the instructors of English for Science perspective on Mobile Intervention Module (MIM) was considered positive. The module has been viewed as a guide that was able to sync the mobile learning activities with the lessons that they were teaching in every class, hence, led to the analysis Overarching Theme: Mobile Intervention Module (MIM)

Integration in English Language Teaching through Instructors' Eyes – Facilitating and Integrative.

The first theme identified from data condensation was Facilitating Teaching Approach Shift. For any language instructors, moving from conventional method teaching to technology-assisted teaching would require some guidance and MIM was able to provide that. When the instructor knew which mobile app is the most suitable to teach specific language skills and which online quiz should he or she use to complement a particular lesson, it would increase the instructor's motivation to teach. In addition to that, one of the remarks made by the instructor was MIM makes teaching easier because the module suggested allows more time to do communication and collaborative activities. Learning does not rely entirely on the instructor, but it depends on learners experience with mobile interactive activities too. Hence, the shift occurs, from teacher-centred to learner centered learning. This is in line with the objective of education in the 21st century that is to prepare learners to become active, successful, and contributing members of society learner-centred learning [10].

The second theme identified from data condensation was Enabling Integration of

Interactive Activities in Learning. A proper design of tasks and materials in teaching and learning is indeed crucial in order to provide an impactful technology-rich learning environment, as suggested by Lund [22]. From the generated codes of instructors' opinions of MIM, it was found that MIM functioned as a vital tool to sync the lesson contents with mobile activities or apps. The module provided was said to establish direct integration rather than just for fun with the mobile quizzes testing on the lessons taught to the learners earlier. The MIM enabled technology usage to be helpful in the learning process, as the suggested activities were in line with the weekly lesson. This is also supported by researches conducted by Barrs [24] and Lund [22] who recommended that detailed guidance and explanation should be 'activity-driven', and that the design for the lessons should always focus on the task for it to be fully beneficial towards learning. It should also be noted that while the MIM facilitated the teaching, the teachers still viewed their presence in the classroom as necessary to guide their learners. Instructors intervention and explanation pre and post mobile learning activities are significant in

ensuring that the lesson's learning objective is achieved.

The third theme identified from data condensation was Specific Skills Development. Instructors favoured the idea of how designated apps supported learners' skills development. Some of the activities, for example, had enabled to lower affective filter of the learners, especially when they were encouraged to be brave to speak through the stress-free mobile activities prepared in support of the lesson. Matching the apps to specific skills development is one of the features of MIM where the four primary skills are speaking, listening, reading and writing. In order for the learners to be a good ESL learner, Yunus [18] stated that many scholars have agreed that the use of technological tools in ESL classroom has paved for a supportive and encouraging environment for the learners to increase skills in terms of quality and quantity. Mobile learning can also support communicative language teaching and learning where authentic learning environment and materials can be provided to the learners [20].

Table 2. The organisation of coded meaning units into categories and themes

Overarching Theme: Mobile Intervention Module (MIM) Integration in English Language Teaching through Instructors' Eyes – Facilitating and Integrative		
Theme: Facilitating Teaching Approach Shift	Codes	Categories
Condensations		
Increase motivation to teach	Motivation	Emotional response
I discovered many new useful apps	Guidance	Facilitate in teaching
Makes teaching easier because it gives more time for communication and collaboration in class	Guidance	
Change from teacher-centred learning to learner-centred learning	Guidance	
This framework is effective for language teachers.	Guidance	
It seems to be easy when you know which and how a specific app can be applied in your lesson.	Guidance	
Theme: Enabling Integration of Interactive Activities in Learning	Codes	Categories
Condensations		
Direct integration with lessons rather than just for fun	Synced	
The activities actually tested what we taught	Synced	Integrative
Sync with the syllabus	Synced	
Using the technology really helped as the activities were in line with what I am teaching	Synced	
I don't think the framework could be effective without me guiding.	Teacher's roles	
Learners learn to pronounce some new words through dictation but I still think having teachers is important to guide	Teacher's roles	

Theme: Specific Skills Development	Codes	Categories
Condensations		
Learners were encouraged to speak more	Upskilling	Skills enhancement
I love how learners skills development was supported by designated apps	Upskilling	
I love how the dictation software can be used to practice pronunciation.	Upskilling	
Theme: Mobile Learning as an Exciting New Method for Learners' Engagement		
Condensations		
My classroom was more lively	Mobile learning is fun	Mobile learning is exciting and engaging
Mobile learning is different from the conventional method in a fun way	Mobile learning is fun	
Gamifying the lesson increased excitement in the learners	Mobile learning is fun	
The class is more enjoyable and interactive	Mobile learning is fun	
Each language skill can be gamified to engage learners.	Mobile learning is fun	
The usage of kahoot in reading activity has made learning vocab fun.	Mobile learning is fun	
Even the shy learners contributed to solve the task	Mobile learning is collaborative	
Learners enjoyed sharing and seeing each others' opinions in Padlet	Mobile learning is collaborative	
Activities suggested strengthen learners teamwork	Mobile learning is collaborative	
Mind map task in coggle require learners to collaborate	Mobile learning is collaborative	
Playing Kahoot! quiz got all my learners involved	Mobile learning is engaging	
Learners are more attentive	Mobile learning is engaging	
Enhanced participation led to increased effectiveness in the lesson	Mobile learning is engaging	
My learners seemed more engaged because they had something new to do in class	Mobile learning is engaging	
Using apps prevents them from being sleepy in class	Mobile learning is engaging	
Learners get immediate feedbacks	Mobile learning is engaging	
Theme: Adaptation Barriers Affect Learning		
Internet instability affects learning	Adaptation barriers	Mobile learning limitations
Learners who didn't have access to gadgets felt left behind	Adaptation barriers	
Familiarisation took time	Adaptation barriers	
I need to make extra effort for application familiarisation	Adaptation barriers	

The fourth theme identified from data condensation was Mobile Learning as an Exciting New Method for Learners' Engagement. Although this theme does not relate directly to the instructors' perspective on the effectiveness of MIM usage in their classroom, the theme focuses at one vital element of MIM that is learners and lecturers' reception on mobile

learning. Through the condensations, it was found that mobile learning was engaging and exciting when it was integrated with the assistance of MIM as a guide. This is obvious through instructors positive remarks saying that gamifying their lesson increased learners excitement to learn, learners were more engaged in the lessons because they look forward to

mobile centred activities that would be conducted in class and this enhanced participation consequently led to increasing teaching and learning effectiveness. All of these comments are in support of Yu [8] who believed that smartphones have a huge potential to be used as a learning tool in higher education as they can be used to access a vast range of materials as well as a wide variety of inexpensive but useful learning applications. As opposed to traditional teaching, mobile learning can benefit learners in many ways, as suggested by Goh [17].

However, it should also be noted that some limitations exist in mobile learning which were coded under the fifth theme, Adaptation Barriers Affect Learning. These barriers may be caused by external and internal factors. External factors include internet connection instability and unavailability of mobile devices when the battery power depleted while internal factors are limitations that come from the instructors' constraints. These constraints faced were the increase in preparation time and effort at the beginning of MIM implementation as familiarisation of the app took time.

5. CONCLUSION

From the five themes generated from the interview data, it can be seen that all instructors of English for Science have a positive perspective on the integration of Mobile Intervention Module (MIM) in teaching the subject. MIM can now be considered as a useful mobile learning framework in language teaching approach as it can facilitate the shift from conventional to technologically integrated learning. In addition to that, it enables the integration of interactive activities in learning so that the mobile activities complement the lesson directly. MIM also matches appropriate apps with relevant skills so that specific skills development can be targeted. Finally, as mobile learning is a central mechanism of MIM, mobile learning is viewed by the instructors as an exciting new method for learners' engagement. Thus, through the establishment of these five themes, it is undeniable that MIM functions as an effective mobile learning framework in English language learning.

As mobile usage continues to grow worldwide, the degree to which these devices should be adopted in the classroom remains a matter of debate. Many studies on the matter have confidently pointed to the benefits of learner-centred learning rather than the more traditional

teacher-based approach. In line with these findings, the MIM developed for this study is explicitly designed to enable and enhance learner-based learning. This proposed study, therefore, hopes to enlighten language instructors and researchers in this particular field of study about the possibility of integrating guided mobile intervention effectively. The overall aim is to enhance classroom activities and learner engagement, leading to improved course outcomes in the form of higher language performance. In the end, it is all about achieving the intended course objectives using the right medium.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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