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Mobile Augmented Reality Activities in EFL Classrooms at a Vietnamese University from the Students' Perspective

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Introduction

English language teaching and learning has been of great concern more than ever before in Vietnam in the last decade. In 2008, the Prime Minister of Vietnam issued Decision number 1400/QD-TTg on the approval of the project "Teaching and Learning Foreign Languages in the National Education System, Period 2008-2020" (Government of Vietnam, 2008) (hereafter referred to as Project 2020). The overall ambition of the project is to reform the tasks of teaching and learning foreign languages within the national education system. However, the English language competence of about 80,000 teachers and more than 20 million students has not been raised dramatically despite the big budget investment for innovation (Le, 2015; The Guardian, 2011). The main reasons for this can be seen in the fact that students have limited contact with technology during their K-12 education and are often grouped in large classes with mixed levels (Le, 2015). Students' limited motivation and autonomy in such big classes are also other possible causes (Nguyen, Fehrin, & Warren, 2015). The Project 2020 has now been extended for 5 more years until 2025 to fulfill its mission (Le, 2017).

Under the demanding circumstance of the national policy regarding foreign language educational reform, the School of Foreign Languages (SFL), under Thainguyen University in Vietnam is not an exception in struggling to reach the goals of Project 2020. In order to be eligible to graduate, SFL undergraduates need to have a recognized certificate in English proficiency at the C1 level according to the Common European Framework of Reference (CEFR), as required by Project 2020.

Among the solutions to increase the quality of English language teaching and learning, recently SFL has generously invested in learning facilities. Currently, there are 8 media-computer labs, a small video-recording studio, wi-fi networking on campus, projectors and speakers for all classrooms. However, cramming computers into classrooms to maintain and improve the way people already teach and operate the schools would not allow innovation and transformation because computers were used to sustain the existing practices rather than to displace them (Christensen, Horn & Johnson, 2008). More importantly, computers do not allow students to learn in the way that their brains are wired to learn and do not support the customization of individuals' abilities (Christensen, Horn, & Johnson, 2008, p. 84). How to

effectively exploit such technical facilities to improve teaching and learning quality is still a big question to the SFL administration board and educators.

In the Vietnamese educational context, ICT in education in general and in EFL education in particular has received much interest and investment in both policy and practice (Peeraer & Van Petegem, 2012; Tri & Nguyen, 2014). However, there are a number of factors that limit the popular use of ICT in teaching and learning including facility availability, technical support, school culture, and teachers' personal beliefs (Le & Vo, 2014). Particularly with regards to mobile learning, mobile technology application in education is still "in the infancy phase of development" in Vietnam (Nguyen & Dang, 2012). Insightful research reports in this area are still few and far between. In the meanwhile, among worldwide emerging technologies for education reform, mobile learning technology offers a distinct difference. It offers a wide range of features to "break the educational system wide open", a novel approach to reach digital natives, and the flexibility for personalized learning to take place (McQuiggan, Kosturko, McQuiggan, & Sabourin, 2015, p. 1 & 8). Some major outstanding benefits of mobile learning include the ability to learn on the go, reaching underserved children and schools, improving higher-order thinking skills, and supporting alternative learning environments (McQuiggan et al., 2015, p. 10).

With the potentials of mobile technology in language learning and its limited research in EFL teaching and learning in Vietnam as previously discussed, we conducted research to examine students' readiness and their attitudes towards using mobile technologies in learning practice at the School of Foreign Languages at Thainguyen University in Vietnam. To achieve the aims of the research, the following research questions guided the study:

1. To what extent are students ready to use mobile devices in EFL classrooms in a Vietnamese tertiary level institution?
2. What are the students' attitudes toward the integration of mobile devices in English teaching and learning in a Vietnamese tertiary level institution?

Literature Review

Mobile-learning or m-learning is now not only a popular term used to distinguish between the use of "fixed" and "mobile" tools (Hwang & Tsai, 2011) but also refers to any form of learning when learners are not at a fixed location or when they make use of the learning opportunities brought about by mobile technologies (O'Malley et al., 2005). With regard to language learning with mobile technologies, mobile-assisted language learning (MALL) "is a fuzzy concept, referring to language learning scenarios in which varying degrees of mobility pertain to the devices, the learners and the learning experience itself" (Pegrum, 2014, p. 16). Crompton (2013) compares traditional learning with m-learning and reveals many outstanding differences that traditional learning cannot achieve as compared to m-learning. Such significant differences are listed in Table 1:

TABLE 1
Comparison of Traditional Learning and M-learning

	Traditional learning	M-learning
Time	Often constrained by school hours	No time constraints. Learning can take place anytime and anywhere
Personalised	Limited in all aspects of differentiation and concepts taught	Personalisation through applications, concepts, the ownership of the devices are often modified for the user
Private learning	Not private	Private
Context	Highly limited to a set of locations and framework	Learning can take place in numerous environmental and social settings, where wireless access can be obtained
Formal/Informal	Formal	Informal and can also be formal
Socio-connectivity	Connections made to those in direct environments	Connections made to those in the direct and networked environments
Spontaneity	Not spontaneous	Highly spontaneous

Note. Crompton (2013, p. 50)

Among the wide variety of mobile technology affordances, augmented reality appears to receive much interest from researchers as well as educators. Augmented reality is defined as "a real-time direct or indirect view of a physical real-world environment that has been augmented by adding virtual computer-generated information to it" (Furht, 2011, p. 3). Augmented reality mobile systems include mobile phone applications as well as wireless systems which involve the use of wearable mobile interfaces in natural and socially acceptable ways (Furht, 2011, p. 20). Apart from common features of ICT in education, AR has other benefits that other technologies do not fully offer. These distinct benefits are illustrated in Figure 1:

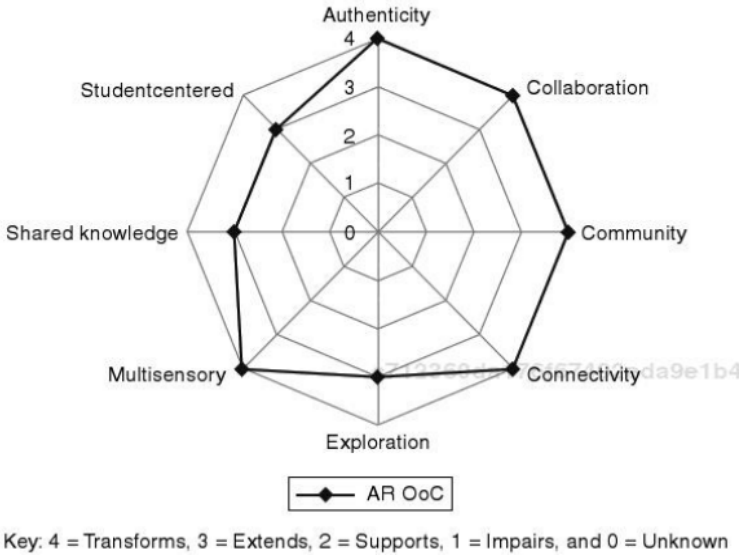

Figure 1. Affordances of augmented-reality systems and applications in education (Sheehy, Ferguson, & Clough, 2014, p. 44).

So far there have been a number of educational research studies applying mobile technologies in general and augmented reality mobile apps in particular. For example, Bressler and Bodzin (2013) examined factors related to student engagement and flow in a collaborative augmented reality mobile science game. Looi and Wong (2014) aimed at implementing a science curriculum for primary school science using mobile technologies. However, despite the ubiquitous and situated nature of mobile learning, the use of mobile technologies in education seems to be limited or less satisfactory (Newhouse, Cooper, & Pagram, 2015; Park, 2011).

In the particular area of English language teaching and learning, the role of technology is also equally important. As the nature of second language acquisition, second language learners need to focus on meaningful and purposeful interaction in the target language and be exposed to authentic and real-world language materials (Zainuddin et. Al., 2011, p. 79). Meaningful learning is defined as intentional, active, constructive, cooperative, and authentic learning (Howland, Jonassen, & Marra, 2012, p. 3). With such characteristics of learning, technology is considered as a perfect tool to foster meaningful learning for language learners (Howland, Jonassen, & Marra, 2012, p. 7). Zainuddin et al. (2011) also confirm that the use of technology provides a source of authentic input and incorporates oral language development.

Methodology

Research Design

The study followed a mixed-methods design composed of a survey and focus group interviews. To answer Research Question 1, a survey was designed to evaluate the current use of mobile learning by students in Thainguyen University. Respondents included 220 students from Thainguyen University on a volunteer basis. To seek the answer to Research Question 2, an intervention with mobile augmented reality activities was designed and implemented for a group of 29 final year English-majors at the School of Foreign Languages at Thainguyen University in Vietnam. After the intervention, a focus group interview was conducted with randomly selected participants (n = 8). Open-ended questions were used to encourage participants to freely express their feelings, opinions, and attitudes toward their personal experience from the intervention.

Intervention Design

The intervention was conducted during the TV Show project, a course for EFL students to improve their English competence. This course lasted for 15 weeks. The main task of this project was to produce English videos as a way of integrating language skills in a project with technology. The students were supposed to practice all four language skills in combination with other 21st century skills via project-based learning.

In this project, participants worked in groups of five and chose a theme for their video channels. They were supposed to complete a channel of 5 videos, 6-8 minutes each, in that time span and air them for their peers, friends, and teachers for feedback and assessment. The whole process to produce a video included selecting a topic for the video, writing scripts, rehearsal, video recording, editing, publishing, and evaluating. Usually, students often produce their videos with some free and popular video making tools like Moviemaker or iMovie and share them on YouTube to get the shareable or embedded links.

The intervention of this research was to apply a mobile application to change the way they traditionally shared the videos. Aurasmas (now called HP Reveal), an augmented reality app, was selected for the intervention. Students were trained to use Auramas during the first week of the semester. Two of the five required video products were supposed to be shared via this mobile app. After finishing the videos for the augmented reality experience, each group attached the trigger images on the wall of the classroom. The groups exchanged their channel hashtags and followed one another in the HP Reveal app. Then, individuals went around, projected their mobile cameras to the trigger images and watched the secret videos behind the related images. Finally, they gave feedback to their peers in group discussion.

Findings

Students' Readiness for Using Mobile Technology in EFL Classrooms at Thainguyen University

With regard to smartphone ownership, the results of the survey conducted among 220 students showed that 100% of the respondents reported owning smart phones. With regards to the types of smartphones, as shown in Figure 2, 44.4% of them owned iPhones, 22.2% owned Samsung phones, 11.1% possessed HTC phones, another 11.1% used Oppo, the rest owned phones with Chinese brands like Xiaomi, and Wiko Pulp.

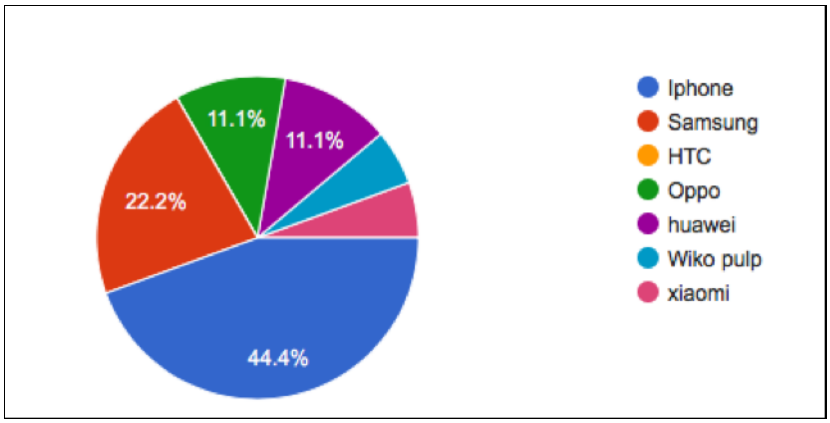

Figure 2. Types of smartphones used by the students.

For the use of smart phones for self-study purposes, all of the respondents reported that they used their mobile devices to look up new words with dictionary apps, 66.7% used the devices for searching for information, and nearly 40% used the phones to practice pronunciation and listening. All of the respondents reported using their devices for study purposes to differing extents. None of them excluded self-study activities with the phones. However, none of them reported using smartphones as an official requirement to complete any technology-mediated tasks by the teachers as a part of the in-class activities.

When asked about the most common applications that students installed on their devices, 100% of them listed a dictionary app like the Oxford Dictionary or the LacViet dictionary (a Vietnamese-English dictionary application). Some others listed Elsa Speak, Google Translate, VoA, and BBC news. These responses matched with the students' answers for the previous questions about the most common purposes of using smartphones for self-study, which is looking up new vocabulary. In general, they are all common applications with dictionary functions (e.g., Tflat, LacViet, Oxford, Google Translate), pronunciation practice (e.g., Elsa), or listening practice (e.g., BBC). When asked about Aurasma (now HP Reveal), an augmented reality application, more than 80% of the students confirmed that they had not used it before. For the last question regarding their personal preferences about using mobile devices for learning if mobile learning was implemented at the school, answers were found and are presented in Figure 2:

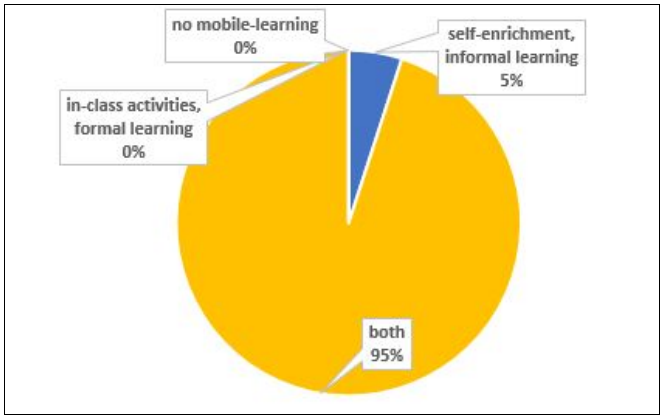

Figure 3. Students' preferences about mobile learning integration.

Ninety-five percent of the students expressed their desire to integrate smartphones in both formal and informal learning environments, for class activities and for self-enrichment. Only the remaining 5% wanted to use smartphones to study after school and/or outside the classroom. None of them objected to the use of mobile devices for learning purposes.

Students' Attitudes toward the Integration of Mobile Devices in English Teaching and Learning

After the intervention with the augmented reality integrated in an EFL project, the interview with a focus group of 8 participants revealed noticeable results. All students expressed that they found the project more engaging and motivating with the AR app. Instead of viewing the TV show video from a computer screen or the YouTube phone app, by just projecting their phone camera to an image, the videos played. They liked the moment when everyone went around the classroom and enjoyed other groups' video products with the app. They were amazed with the creative work from their peers.

Additionally, they found themselves more self-regulated and responsible for their own studies. Though the usage of the app was not familiar at first, they could finally technically handle it and were free to work on their projects at home or outside the classroom. They felt more responsible as "something was waiting for me to explore and complete at home", one student said. Most importantly, they were happy because they felt ownership of their products. For students, it seemed like a victory conquering a new task. However, a few students expressed their opinions about their technical difficulties in using the apps and designing high quality videos.

Discussion and Conclusion

The findings of the study revealed that the possession of smartphones is very common and popular now at the tertiary level in Vietnam. Though all surveyed students owned smartphones and used them to learn English, they used them for informal learning as a kind of self-enrichment. The scope of using smartphones for self-study purposes was also at the simple and basic level like through the use of dictionaries, pronunciation and listening practice. No students used the devices as tools to complete learning tasks assigned by their teachers. From these results, it can be inferred that mobile learning technology has not been used a lot in the classrooms by teachers. However, the majority of the students expressed their desire to integrate smartphones in both formal and informal learning. It can be said that they are really ready for mobile-learning to be a crucial part of their blended learning program.

The intervention helped to confirm students' enthusiasm in using a new mobile function, augmented reality, which they had never used before. Students showed their engagement and motivation in

completing the project. They self-regulated their own tasks and integrated technology skills in solving the problem.

The findings of this study suggest that the students are ready and positive for mobile-learning. However, currently, mobile learning is not officially recognized and institutionally implemented at the School of Foreign Languages at Thainguyen University in Vietnam. It is similar to what Kolb (2008) discovered, in that students' use of smart phones in their daily lives contrasts with their use inside the classroom. Therefore, it is advisable that teachers need to integrate more technology-mediated activities to motivate students and make the best use of the available resources and affordances that mobile technology brings. Another suggestion from the research results is for university administrators to create appropriate regulations and policies in encouraging the application of technology in general and mobile learning in particular in teaching practice. It is believed that, the widespread adoption of mobile devices by young people would make it more difficult for higher education to resist (Pence, 2010). However, the study could not measure whether mobile learning technology could improve language competence among learners or not. It would be worthwhile for future research to further investigate this limitation of the study.

In conclusion, it should be noted that most students at Thainguyen University come from rural areas and ethnic minority groups. They have had limited contact with technology during their K-12 education and are often grouped in large classes with mixed levels (Le, 2015). Therefore, if they are introduced to technological integration in both formal and informal learning at the tertiary level of education, there will be a domino effect to increasingly reach the underserved students via technology. All students should have equal opportunities for individualized learning in order to improve their language learning as well as enhance their 21st century skills before they start working in the real world.

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