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Integrating Mobile Devices with an English Listening Comprehension Class

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Abstract

The purposes of this study were to investigate how technical students improved their English listening comprehension and their attitudes toward the use of mobile devices. The participants were 21 technical students majoring in Printing at Minburi Technical College. The participants took an English listening comprehension test as a pretest and posttest. A questionnaire was used to investigate the students' attitude toward the use of mobile devices inside and outside the classroom. The students responded to the questionnaire after the course, and four participants (two males and two females) were selected for a semi-structured interview. A paired sample *t*-test was used to compare the scores of the pretest and posttest results. The findings revealed that there was a significant difference in the scores of the pretest and posttest. The results indicated that technical students improved their English listening comprehension. The findings from the questionnaire also revealed that the technical students' mean score concerning the use of their mobile devices was 3.47 out of 5, a result which represented a high use as well as utility of mobile devices. In addition, students reported that they used mobile devices because of convenience and usefulness.

Keywords: *mobile devices, English listening comprehension, technical students*

1. Introduction

Information Technology (IT), particularly mobile devices (e.g. mobile phones, laptop computers, or tablets) has become a part of people's lives (Ababneh, 2017; Ally, Mc Greal, Schafer, Tin, & Cheung, 2007). As mobile devices are available to access the internet, to send and receive emails or text messages, and to run software and multimedia programs; people can obtain the benefits of mobile devices for their daily lives (Kim, 2003; Hwang, Huang, Shadiev, Wu, & Chen, 2014). For instance, people use mobile phones or laptop computers to communicate with each other, to organize their online meetings, and to integrate the devices into the classroom.

Language learning also takes advantage of mobile devices (Kim, 2003). Due to portability and accessibility, when teachers integrate devices with their language classes, students are able to access and practice with learning materials at any place and any time (Artyushina & Sheypak, 2018; Azar & Nasiri, 2014; Darmi & Albion, 2014; Kim, 2013; Nalliveettil & Alenazi, 2016; Zhang, 2016). They can utilize mobile devices to explore and interact with surrounding authentic environments either inside or outside of school walls (Hwang, et.al., 2014). The teachers are able to integrate mobile devices with their teaching materials to support their teaching. As Gay, Stefanone, Grace-Martin, and Hembrooke (2001) state mobile devices are not used as a substitute for existing learning tools, but they are an extension tool for learning devices in a new environment which shows new capabilities. The devices can activate students' motivation, since the students are able to access easily through availability of free language learning websites or applications, while

portability, speed, audio input and output, and visual features, all of which were unavailable or less accessible in the past have become readily available (Ababneh, 2017; Nalliveettil & Alenazi, 2016). Furthermore, the devices enable them to extend far beyond their classroom and transform the learners to become autonomous because such devices are more convenient while allowing for more freedom and time (Ababneh, 2017). These can promote a positive classroom environment (Ababneh, 2017; Nalliveettil & Alenazi, 2016).

As mentioned above, teachers who teach English as a Foreign Language (EFL) can apply the mobile devices as supplementary teaching tools. This can, in some cases, reduce the problem of inadequate practice in the authentic language learning of EFL students (Hwang, et.al., 2014). When students are able to exercise listening and speaking skills with content related to their daily lives (Azia, Hassan, Dzakiria, & Mahmood, 2018; Kim, 2013; Nalliveettil & Alenazi, 2016).

English listening comprehension is one of the four skills including reading, writing, and speaking which is practiced less than other skills in an EFL context (Artyushina & Sheypak, 2018). This skill, besides, is passive where students sit quietly and listen to dialogues in class. Accordingly, this study was conducted to investigate the use of mobile devices to improve technical students' English listening comprehension and their attitude toward the use of mobile devices (Ababneh, 2017; Azar &Nasiri, 2014; Gay, et. al., 2001; Hwang, et.al., 2014; Nalliveettil & Alenazi, 2016). The participants were technical students majoring in Printing at Minburi Technical College, Bangkok, Thailand.

2. Research Objectives

1) To investigate whether technical students improve their English listening comprehension after they practice English listening through the use of mobile devices
2) To investigate the students' attitude toward the use of mobile devices inside and outside the classroom

3) Research Methodology

This research was a mixed method, aiming to investigate technical students' improvement of English listening comprehension and their attitude toward the use of mobile devices. The method was a combination of qualitative and quantitative methods. This combination provides a better understanding of research problems and complex phenomena than either approach alone (Creswell, 2014).

The research methodology and research instruments were as follows:

3.1 Participants

The participants were 21 technical students majoring in Printing at Minburi Technical College, Bangkok, Thailand. They were 14 females and 7 males, and their ages were 17 and 18.

3.2 Research instruments

The research instruments consisted of an English listening comprehension test, a questionnaire, and a semi-structured interview.

3.2.1 An English listening test

A multiple-choice test was used as a pretest and posttest to examine the students' English listening comprehension. The contents of the test such as giving information about yourself and friends, describing people, spending on your free time etc. were based on technical students' English subject, 2000-1204 English for Daily Life, in the first semester

of the 2019 academic year. The test consisted of 40 questions divided into 2 parts, picture descriptions (10 questions), and questions and responses (30 questions). Following are examples of the English listening test.

Example:

Part I: Picture Descriptions

Directions: You will hear a question and four choices. Choose the answer to match with a picture.

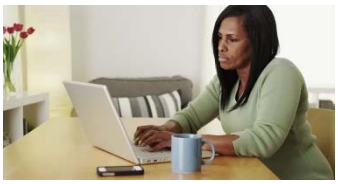
คำสั่ง นักเรียนจะได้ยินคำถาม 1 คำถามพร้อมกับตัวเลือก 4 ตัวเลือก เลือกคำตอบที่ตรงกับคำถามและรูปภาพที่กำหนดให้

Picture 1:

Test takers hear: What is the woman doing?

Test takers hear:

a. The woman is wearing glasses.
b. There is a note on the table.
c. The woman is typing a computer.
d. There is a lamp on the table.



From: https://elements.envato.com/business-woman-typing-on-computer-keyboard

Part II: Questions and Responses

Directions: You will hear a short conversation between a man and a woman. After the conversation, you will answer five questions about the dialogue.

คำสั่ง นักเรียนจะได้ยินบทสนทนาสั้นๆ ระหว่างผู้ชายและผู้หญิง หลังจากจบบทสนทนาให้นักเรียนตอบคำถามทั้งหมด 5 คำถาม

Conversation I: Ordering food in a café

Test takers hear: (conversation transcript)

Café worker:	Next, please! What would you like?
Andi:	Can I have a burger, please?
Café worker:	A cheese burger or double cheese burger?
Andi:	Double cheese burger, please.
Café worker:	Anything else?
Andi:	Yeah, I'd like some banana cake.
Café worker:	Would you like a drink?
Andi:	Yes, can I have an apple juice, please?
Café worker:	OK, so that's one double cheese burger, one banana cake and an apple juice. What's your table number?
Andi:	Table 3. How much is that?
Café worker:	That's £8.37, please.
Andi:	Here you are.
Café worker:	Thank you ... that's £10.00 ... and £1.63 change. Next, please ...

From: British Council (n.d.)

Test takers read:

1. For his main course, Andi chooses a normal cheese burger / a double cheese burger / a burger with chips.
2. For dessert, Andi chooses ice cream / chocolate cake / banana cake.
3. To drink, Andi chooses apple juice / fizzy water / still water.
4. Andi's table is no. 3/ 7 / 9.
5. Andi pays £1.63/ £8.37/ £10.00 for his meal.

Adapted from: From: British Council (n.d.)

3.2.2 A questionnaire

The five-point Likert scale questionnaire, asking students to respond from strongly agree (5) to strongly disagree (1), was designed based on the analysis and synthesis of attitudes toward the use of mobile devices from theoretical framework and literature review (e.g. Azia, Hassan, Dzakiria, & Mahmood, 2018; Ababneh, 2017). The statements in the questionnaire were validated by 3 experts who were in the areas of language teaching with experience in teaching technical students and doing the research studies on the attitudes. The index of item objective congruence (IOC), -1, 0, 1, was used to validate the statements. Regarding the experts' validation, the value of IOC was >.50, so the statements in the questionnaire were acceptable (Turnner & Carlson, 2003). The questionnaire was translated into Thai before it was distributed to the students in order to reduce the effect of language difficulties and misunderstandings. The students answered the questionnaire at the end of the course.

3.2.3 A semi-structured interview

A semi-structured interview, which was a method of verbal report, was used to determine the students' attitudes toward mobile devices. There were four students (two males and two females) selected. The students were asked about their attitudes concerning the use of mobile devices both inside and outside of the class. The interview was conducted in Thai to reduce the effect of language difficulties and misunderstandings.

3.3 Data collection

The processes of data collection were as follows:

3.3.1 The researcher explained to the students about research objectives, teaching methods, learning activities, and assessments.

3.3.2 A pretest on an English listening comprehension was employed before students studied. The scores of students were collected.

3.3.3 The study was conducted through the use of five lesson plans, comprised of 10 activities.

3.3.4 At the end of the course, students were asked to respond to the questionnaire and retook the English listening comprehension test.

3.3.5 The scores from the pretest and posttest were compared in order to figure out whether students improved their listening comprehension.

3.3.6 Four students were selected for a semi-structured interview.

3.4 Data Analysis

To investigate how technical students improve their listening comprehension, an inferential statistic, a paired sample *t*-test, was utilized to determine whether there was a significant difference between the pretest and posttest. Mean scores (M) and standard deviations (SD) were used to analyze the data from the questionnaire.

The data from the interview were transcribed, coded and analyzed by a researcher and an English teacher who had an experience in doing research in verbal reports. The researcher coded the entire set of protocols, while the English teacher coded 20%. The coding schemes were developed based on the questionnaire. The coding schemes consisted of the attitudes towards the use of mobile devices when the students used mobile devices inside and outside the class.

4) Results and Discussion

4.1 Results

A paired sample *t*-test was conducted to compare the scores of a pretest and posttest. The results are shown as follows:

Table 1: A paired sample *t*-test with results comparing the pretest and posttest

Scores	N	Mean	SD	*t*	df	P
Pretest	21	13.85	6.77	13.52	19.00	.00*
Posttest	21	18.85	10.56			

*The significant value at .05

According to Table 1, there was a significant difference in the scores for the pretest (M= 13.85, SD = 6.77) and posttest (M=18.85, SD 10.56) conditions; t (19.00) = 13.52, p = 0.00, which is less than .05. The results indicated that there were significant differences in the improvement of technical students' English listening comprehension.

Mean scores (M) and standard deviations (SD) from the questionnaire related to the students' attitude toward mobile devices are as follows:

Table 2: Students' attitudes towards mobile devices

No.	**Questionnaire statement**	**M**	**SD**	**Interpretation**
1	I think that having mobile devices such as mobile phones, tablets, or laptop computers is essential to my English study.	3.47	.51	High
2	I use my mobile phone to listen to English songs.	3.76	.43	High
3	I use my mobile phone to watch English movies.	3.57	.50	High
4	I use my mobile devices to improve my English listening skill.	4.04	.49	High
5	Social media on my mobile phone help me practice English listening.	4.42	.50	Highest
6	Mobile devices are convenient and useful for me to practice my English listening comprehension.	4.61	.49	Highest
7	Mobile devices can contribute to my self-development.	4.00	.44	High
8	Social media on my mobile phone help me improve my English listening.	3.95	.21	High
9	I prefer using mobile phones to check correct pronunciation, spelling, and/or meaning of new English vocabulary rather than using a dictionary.	4.28	.46	Highest
10	I think that I can learn English well by using mobile applications.	4.14	.47	High
	Overall mean score	3.47	.51	High

Data obtained from Table 2 indicated that students used their mobile phones quite frequently in learning English. The overall mean score of using their mobile phones in learning English (M = 3.47) represented a high use. Statistics also showed that the highest mean scores (M = 4.61, M = 4.42, M = 4.28) went to "Mobile devices are convenient and useful for me to practice my English listening comprehension,", "Social media on my mobile phone help me practice English listening,", and "I prefer using mobile phones to

check correct pronunciation, spelling, and/or meaning of new English vocabulary rather than using a dictionary," respectively.

In addition, the results from the verbal reports were categorized into 1) convenience and usefulness, 2) autonomous learners, and 3) environmental concerns. The students' identification was assigned the letters MP and FP and number 1 and 2. MP refers to male participants, while FP refers to female participants. The examples of verbal reports are as follows:

Example:

Students reported that using mobile devices was convenient and useful. The devices helped them practice English listening comprehension at any time.

MP 1: "I think mobile devices help me to improve my English listening comprehension **outside the classroom**. For example, if the teacher cannot use the audio in the class, I can use my phone to practice my English listening with the websites that my teacher has guided."

In addition, there were other participants who reported that mobile devices encourage them to study more by themselves, either inside or outside of the class.

FP 1: "I think mobile devices help me know how to recognize the correct pronunciation of each sentence in English listening. When I have listened to authentic English listening exercises from guided websites, I know how each word is pronounced. **Then, if I want to check how each word is pronounced, I look them up in an online dictionary**."

MP 2: "I think that using mobile applications **makes me more interested in English listening because the guided applications and websites have various interesting information**."

Another thing that the participants reported was about an environmental concern.

FP 2: "**Using mobile devices can save the world**. **Mobile devices reduce waste. We use a lot of paper, and there must be lots of paper leftover from the final test**."

4.2 Discussion

This study aimed to investigate whether technical students improved their English listening comprehension through the use of mobile devices. The results from a paired sample *t*-test showed that there was a significant difference between the pretest scores ($M = 13.85$, $SD = 6.77$) and posttest scores ($M = 18.85$, $SD = 10.56$) condition; $t(19.00) = 13.52$, $p = 0.00$, which was less than .05. The results suggested that mobile devices enabled students to improve their English listening comprehension. These findings are consistent with prior investigations (e.g. Amer, 2014; Artyushin & Sheypak, 2018; Nalliveettill & Alenazi, 2016; Zhang, 2016) which determined that students could improve their English listening comprehension after they employed mobile devices.

With regard to the results on the pretest and posttest, Amer (2014), Nalliveettil and Alenazi (2016), and Zhang (2016) stated that students could improve their listening comprehension because they had an opportunity to practice English listening exercises and activities both inside and outside the classroom. When students could manage their own learning and time, they might develop positive attitudes in their language learning and appreciate learning the language longer than they used to (Amer, 2014; Nalliveettil &

Alenazi, 2016). This can explain why significant differences were found in the pretest and posttest.

Furthermore, the results from the questionnaire and verbal reports indicated that students had a positive attitude toward practicing English listening from guided applications and websites through their mobile devices. The results obtained were due to the following reasons:

Using a mobile device was convenient for students to practice English listening comprehension at their own time and place. Students practiced authentic English listening comprehension whenever they wanted. According to the students' verbal reports, they mentioned that although comprehending authentic listening materials was difficult, they preferred learning the language through mobile devices. This was because the devices were easy to access. Furthermore, the applications and the websites were modern and useful. The findings were in accordance with prior studies (e.g. Azar & Nasiri, 2014; Aziz, et.al. 2018; Darmi & Albion, 2014; Nalliveettil & Alenazi, 2016; Zhang, 2016), showing that using mobile devices was convenient and useful to the English language classroom. Additionally, Nalliveettil and Alenazi (2016), and Zhang (2016) pointed out that the applications or websites allowed students to practice English listening comprehension at any time and any place without a time limit.

Another possible explanation why students improved their listening comprehension was their positive attitudes toward the use of mobile devices. Regarding the results from the questionnaire, students had a positive attitude toward the use of mobile devices. As a result, when students had a positive attitude, they had positive motivation that enabled them to practice and improve their English listening comprehension. These findings were consistent with prior researchers' (e. g. Amer, 2014; Artyushina & Sheypak, 2018; Nalliveettil & Alenazi, 2016; Zhang, 2016), who found that when students had positive motivation, they were successful in second language acquisition. Moreover, Amer (2014) stated that students who had positive motivation spent more time in their language learning processes. Hence, when they spent more time practicing the target language, they were able to improve their language proficiency.

In addition, mobile devices motivated students to study by themselves. When students had a positive attitude and motivation, they might feel that online English listening exercises challenge them to practice. Thus, the students might search for some knowledge and information that they would like to know. Regarding the results from the verbal reports, students reported that when they wanted to know how each word was pronounced in English, they preferred checking from an online dictionary. These findings were also the same as students' questionnaires. Statistics from the questionnaires showed that students used mobile devices at a high use ($M = 4.28$) to check their pronunciation, spelling, or meaning in English. The findings were consistent with prior investigations (e.g. Ababneh, 2017; Aziz, et.al., 2018; Darmi & Albion, 2014) which found that learning was able to take place either in formal or informal settings, allowing learners to learn at any time and any place.

5. Conclusion and Recommendations for Further Study

The findings of this study revealed that there were significant differences in the improvement in the technical students' English listening comprehension. The results suggested that students were able to improve their English listening comprehension when the teacher integrated mobile devices into the English language classroom. Furthermore, students had a positive attitude toward the use of mobile devices. They employed mobile devices quite frequently. The results might imply that the technical students thought mobile

devices were convenient and useful because they could use them regardless times or places. This could encourage them to become autonomous learners (Ababneh, 2017).

The results also showed that mobile devices might be used as supplementary teaching tools to be integrated into the English listening classroom. The devices might create a better classroom environment for language learning. Ababneh (2017), Amer (2014), and Nalliveettil and Alenazi (2016) stated that mobile devices not only were good teaching materials for teachers to use in the language class, but they also provided a good classroom environment.

Limitations of this study:

1) The focus of this study was limited to using mobile devices to improve the technical students' English listening comprehension. Thus, further studies may be extended to other language skills. For example, the teachers may apply mobile devices to English speaking classroom. Before students practice speaking, students may watch online videos which are related to their English conversation. Then teachers could ask students to engage in a role-play.
2) The number of participants in this study was a small group of students, so the findings may not be generalized to the broader community. In the future, the focus of this study should be extended to other grade levels. For instance, the mobile devices may apply to secondary schools to examine how mobile devices improve students' English listening comprehension and how mobile devices activate students to develop positive attitudes toward language learning.

Recommendations for further study:

1) Further study should investigate the length of time students practice English listening comprehension between inside and outside the classroom to determine the effectiveness between practicing English listening comprehension inside and outside the class.
2) Further study should also investigate how this group of students maintain their positive attitudes toward the use of mobile devices when they practice English listening comprehension in a longitudinal study.
3) Moreover, further study should integrate mobile devices with an English listening comprehension in other educational levels such as in primary schools, secondary schools, and universities.

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