

*Full Length Research Paper*

# Improving the Thai students' ability in English pronunciation through mobile application

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**Accurate and clear pronunciation is one of the most desirable features to achieve a successful communication. However, in Thailand, the pronunciation seems to be neglected in most skills. Mostly, students were forced to learn grammar and structure only. Consequently, Thai students, especially in a remote area where English native speakers were insufficient, were found unable to pronounce English words correctly. To provide chances for students in a remote area, this paper aims to examine English pronunciation by students in a remote area and to evaluate the students' performance in English pronunciation using Google translate mobile application. The 24 university students who experience the learning incorporated mobile application were selected by a selected purposive sampling process. The pre and post-pronunciation tests were obtained, together with, semi-structured interviews. The finding indicated that all students' pronunciation was significantly improved. All students revealed that mobile application helped them improve their pronunciation ability, even the one who has limited English pronunciation ability.**

**Key words:** English pronunciation, a remote area, mobile application, Google translates.

## INTRODUCTION

It is undeniably that English has been internationally used by people from all over the world. People attempt to develop English competency for communication in daily life. English communication skills are one of the most subjects highlighted and emphasized. To enter the business, international employers need their employees to learn to understand and be able to use English fluently and effectively (Lee, 2009, p.16). In the near past, Brown (2000) found that a second learner meet some problems, because as a native language affects his foreign language, especially, in adulthood. Students, in Thailand,

mostly focus on grammar and structure rather than speaking and listening. The situation is even worse in a remote area where English native speakers are insufficient. There have less chance to learn proper and accurate pronunciation. To provide more chance for students in a remote area to learn an accurate English pronunciation produced by English native speaker, mobile application, Google Translate, is an alternative to help them achieve in learning and practicing pronunciation.

Laurea (2015) stated that pronunciation is one of the

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most abandoned features of English language learning as nearly Thai English teachers forced their students to study grammar and vocabulary, to be in productive skill activities and become knowledgeable in listening, reading, and writing. Moreover, it is reported that the mother tongue has clearly influenced learning foreign language pronunciation where native language and foreign language are in conflict, errors are expected to be assigned by foreign learners.

Nowadays, the expansive uses of mobile technologies are speedily providing numerous resources, together with interactive applications, suitable for autonomous language learning opening up to new contexts for learning (Pachler et al., 2010). Technology contributes variety options as making teaching more motivating and also making teaching more productive in terms of improvement. There has been a variety applicable to various degrees of the language learning situation. Some are useful for testing and distance learning, some for teaching writing and reading. There are a number of reasons why teachers and students are able to go towards new technology.

To facilitate the pronunciation of difficult words in English, mobile applications are used to help students read out loud and to provide even more effective. Hence, the use of the mobile applications for improving students' ability in the pronunciation of difficult words was applied in this study, especially, for those students who were in a remote area and had insufficient opportunity to communicate to the English native speakers. This research aims to help students in a remote area improve their English pronunciation through mobile application.

## LITERATURE REVIEW

### Pronunciation

Pronunciation is the act or result of sound production in speech and pronunciation, accent and intonation. This section to mention about the theories of pronunciation, factors of pronunciation, and consonants and vowels.

### Theories of pronunciation

Pronunciation is sounds are expressed by speakers to mark people in the same education, social and economic status. According to Dalton and Seidlhofer (1994), pronunciation is able to be categorized into two ways. First, the sound is important as it is used as part of a code of a particular language. Therefore, individual sounds of English, Chinese, Thai, and other languages can be discussed. In this regard, we are able to express about pronunciation as the repetition and production of sounds of utterances.

Second, the sound is important because it is used to complete meaning in the context of use. Hence, the

combined codes with other features is able to make communication achievable. Hence, we are able to discuss pronunciation with reference to acts of speaking (Dalton and Seidlhofer, 1994).

The most common features we have to associate in studying pronunciation are the theoretical context of pronunciation and the system of pronunciation. Catford and Cunnison (1992:201) characterized the contrastive function of phonemes is that there are sounds that distinguish one word to the other e.g. pin /pɪn/ differed from bin /bɪn/ by the distinctive initial consonants /p/ and /b/. The sequential function means that the phonological form of a word consists of a sequence of phonemes and that every phoneme consists of a set of (simultaneous) distinctive features (1992: 201). The minimal function of phonemes means that phonemes are the smallest units that are unable further divided (Roach, 1992). Phonemes can be divided into two main categories, vowels, which are subdivided into monophthongs and diphthongs, and consonants, which are subdivided into voiced and unvoiced (Macháčková, 2012). Figure 1 shows the English phonemes.

### Factors influencing pronunciation

In the non-native speaker's communication, the pronunciation problems may have occurred due to the sounds exists in the mother tongue but may not be in the target language.

Several factors influenced the pronunciation of Thailand learners of English. First, the sound of Thai language may not exist in English pronunciation. Thai students may have employed the first syllable which may not exist in English language. Finally, the Thailand learners have not differentiated between the spoken and written form as in Thailand the spoken and written forms resemble and this goes hand in hand with the word salmon is usually pronounced as /sælmən/ instead of /sæmən/ by Thailand learners (Macháčková, 2012).

### Consonants

According to Ariyapitipun (2003), Thai consonant sound has been classified with regard to (1) manner of articulation; the method that consonant is articulated (2) place of articulation; where the vocal tract the obstruction of the consonant occurs, and which speech organs are involved and (3) voicing; the vibration of the vocal cords (Ariyapitipun, 2003). Hence, consonants are different from one another at least in these ways. There are 21 consonant letters in English with 24 consonant sounds and 2 semivowels. On the other hand, there are 44 Thai consonants which produce 21 initial consonant sounds and 6 final consonant sounds. Furthermore, Thai consonants are classified into 3 classes; low, middle, and high. There are 24 low-class consonants, 9 middle-class

ɪ READ	ɪ SIT	ʊ BOOK	u: TOO	ɪə HERE	eɪ DAY	John & Sarah Free Materials 1936	
e MEN	ə AMERICA	ɜ: WORD	ɔ: SORT	ʊə TOUR	ɔɪ BOY	əʊ GO	
æ CAT	ʌ BUT	ɑ: PART	ɒ NOT	eə WEAR	aɪ MY	aʊ HOW	
p PIG	b BED	t TIME	d DO	tʃ CHURCH	dʒ JUDGE	k KILO	g GO
f FIVE	v VERY	θ THINK	ð THE	s SIX	z ZOO	ʃ SHORT	ʒ CASUAL
m MILK	n NO	ŋ SING	h HELLO	l LIVE	r READ	w WINDOW	j YES

Figure 1. English phonemic chart.

consonants and 11 high-class consonants that determine vowel sounds (Narksompong, 2007).

Ariyapitipun (2003) states that the initial consonant cluster, the clusters in English are the combined sound at the beginning of the words. English initial clusters mostly begin of 2 consonants. A small number of initial clusters of 3 consonants start with /s/ and followed by /p/, /t/, or /k/. Then followed in turn by /r/, /l/ or /w/ while the Thai language initial consonant is structured with only 2 consonants.

The combination of sound found at the end of the English word is called final consonant clusters. There is no 3 consonant combination like /spr/ at the end of a syllable. In English, grammatical endings create many final clusters, for example, the past tense ending /t/ when added to „glimpse“ creates the four-consonant cluster /mpst/ and plural ending /s/ when added to „text“ creates the four-consonant cluster /ksts/ (Avery and Ehrlich, 1992; Narksompong, 2007). Conversely, there are no final consonant clusters in the Thai language.

## Vowels

A vowel is a sound which produced with no closure of throat or mouth at any point where a unit of the sound system occurs. In English language, a vowel is a letter (sound) of the English alphabet that is not a consonant. The Thai vowel system is consisted of 18 monophthongs and 16 diphthongs. The long and short length of vowels plays a significant role in the meaning of words. There are many more vowel sounds in Thai than the English language. It is very necessary to pronounce vowels unmistakably. (Ariyapitipun, 2003).

In the English language, the vowel sounds are articulated with the vibration of the vocal cords but there is no difference in the manner of articulation, so it is about where the airflow is obstructed. Vowels in English

are mostly monophthongs and diphthongs (Narksompong, 2007; Ariyapitipun, 2003).

Monophthongs: English monophthongs are /i/ as in „peel“, /ɪ/ as in „pill“, /e/ as in „pail“, /ɛ/ as in „pet“, /æ/ as in „pat“, /a/ as in „pot“, /ə/ as in „putt“, /ɔ/ as in „Paul“, /o/ as in „pole“, /ʊ/ as in „pull“, and /u/ as in „pool“ (Narksompong, 2007). Monophthongs in Thai also have a short and long length in vowel sounds. The dash(-) indicates the position of the initial consonant after which the vowel is pronounced (Ariyapitipun, 2003).

Diphthongs: Ariyapitipun (2003) reveals that only three genuine diphthongs exist in English language. The first two diphthongs have been articulated by gliding the tongue towards /i/ to create /aɪ/ as in „cite“ and /ɔɪ/ as in „boy“, and another one is produced by gliding the tongue towards /aʊ/ as in „how“. On the other hand, Thai diphthongs in vowel system are called “falling diphthongs” because they have been produced by gliding down from high vowel positions to the low vowel position.

## Stress

Stress is where muscular energy is given to some syllables about others. To stress syllable, a syllable is articulated by forcing air out of the lungs relative to others. Hence, a greater amount of energy has occurred on stressed syllables than the unstressed syllables (Narksompong, 2007; Ladefoged, 1982).

Ohata (2004) established that the stress syllables are primarily making the vowels louder and longer which is referred to as “stressed accent”. Likewise, the loudness and length, in case of a word or a syllable are articulated with a high pitch, it will be recognized as stressed. Stress occurred when a syllable is pronounced with a high emphasis in order to give it more prominent than the other syllables surrounding. The Thai language pattern is absolutely different from English pattern. Thai syllables are produced in a certain fixed tone which is equal weight

and timing in each syllable. Moreover, the tonal pitch is located on a single syllable. The high and low pitch in the Thai language is irrelevant on tone, not stress. There is no evidence to refer to have a stress pattern in Thai language (Narksompong, 2007; Smyth, 2001).

### Intonation

English intonation refers to the rising and falling voice in a speech that can be used to convey the meaning of sentences. The intonation can be addressed in order to change the function of a sentence, changing into a simple statement into an interrogative, a question, or into an exclamation. Intonation in English language is a form of rising and falling tone of voice at the sentence level containing feelings, attitudes, and emotions of the speakers (Ariyapitipun, 2003). Contrarily, there is no intonation in Thai language patterns. There seems to be tonal but not intonation. Each word contain its tone but it will never change syntactically because if the tone changes, the meaning will be changed as well. Thus, in Thai, the tone will not be changeable wherever they occur in a sentence (Narksompong, 2007).

### Technologies

Recently, technologies, computer, internet, blog, podcast, have been emerged in our daily life, especially, in teaching and learning. There are varieties of technologies that can be used in learning. Shyamlee and Phil (2012) indicated that technology has played a prominent role in English language learning. Hence, the development of information technology may have been able to provide an innovative pattern to explore the new teaching model.

Graddol (1997) states that technology plays a significant role in the globalization-era. It involves in culture, work, and education. English language has rapidly increased using since 1960. Recently, the role and status of the English language are the prominent features involved in all sectors; business sectors, culture sectors, education sectors and so forth. English language has been used in order to achieve communication. To helps students to get involved and learn according to their interests, it has been tested effectively and is widely accepted for teaching English in the modern world by adopting technology in English language learning.

### Mobile applications in language learning

The expansive using mobile technologies have established a magnificent possibility in the development of language learning. Mobile-assisted language learning (MALL) has been implemented since 2001 and contributes to the feedbacks from many MALL developments. Uther et al. (2007) have established the platform to move beyond simple text drills. Mobile

applications have been used in many ways in order to improve language learning. This paper aims to employ a mobile application to improve Thai students' ability in English pronunciation, especially, the ones who are in the remote area.

## METHODOLOGY

### Research design

Qualitative and quantitative methods were adopted in this research in order to gather in-depth information.

### Population and participants

The population in this study was English students at Rajamangala University of Technology Isan, SakonNakhon campus. The participants were 24 second-year students in English for International Communication program. The participants were selected by purposive sampling. Each participant took a pre-pronunciation test in order to examine their pronunciation before using the Mobile application. Their pronunciation tests were recorded by using the Smart Voice Recorder application.

### Instruments

There were 5 instruments in this study as follows:

#### Pronunciation test

The pronunciation test was a set of vocabulary that was found mistakably and inaccurately pronounced by many of Thai people. The researcher used this set of 25 words for the pronunciation test of the participants as shown in Table 1.

The participants have been examined their pronunciation by reading out loud and the pre-test and post-test would have been recorded by using Smart Voice Recorder application. The pre-test would have been done before the participants using mobile applications: Google Translate.

#### Mobile application

The Google Translate application has been selected as an instrument to improve students' abilities in the pronunciation of difficult words. Google Translate is a free multilingual machine translation service developed by Google, to translate text, speech, image, sites, or real-time video from one language to another (Figure 2). It offers a web interface, mobile apps for Android and iOS, and an API that helps developers build browser extensions and software applications. Google Translate supports over 100 languages at various levels and as of May 2013, serves over 200 million people daily (Wikipedia, 2006).

#### Audio record

Smart Voice Recorder (version 1.8.0) application was selected as an instrument to record pronunciations of the participants, when they will test their pronunciation. We have used this application to record pronunciation tests of the participants and save files into our computer to analyze participants' abilities in the pronunciation of

**Table 1.** Vocabulary pronunciation tests.

<b>Vocab</b>	<b>Phonetics of UK</b>	<b>Phonetics of US</b>
Almond	/ˈɑː.mənd/	/ˈɑːl.mənd/
Busy	/ˈbɪz.i/	/ˈbɪz.i/
Cover	/ˈkʌv.ər/	/ˈkʌv.ə/
Chaos	/ˈkeɪ.ɒs/	/ˈkeɪ.ɑːs/
Error	/ɛrə/	/ɛrə/
Genuine	/ˈdʒen.ju.ɪn/	/ˈdʒen.ju.ɪn/
History	/ˈhɪs.tər.i/	/ˈhɪs.tə.i/
Island	/ˈaɪ.lənd/	/ˈaɪ.lənd/
Juice	/dʒuːs/	/dʒuːs/
Leopard	/ˈlep.əd/	/ˈlep.əd/
Owl	/aʊl/	/aʊl/
Psycho	/ˈsaɪ.kəʊ/	/ˈsaɪ.koʊ/
Purpose	/ˈpɜː.pəs/	/ˈpɜː.pəs/
Salmon	/ˈsæm.ən/	/ˈsæm.ən/
Schedule	/ˈʃedʒ.uːl/	/ˈskedʒ.uːl/
Suite	/suːt/,/sjuːt/	/suːt/
Temperature	/ˈtem.prə.tʃər/	/ˈtem.pə.ə.tʃə/
Value	/ˈvæl.juː/	/ˈvæl.juː/
Vegetable	/ˈvedʒ.tə.bəl/	/ˈvedʒ.tə.bəl/
Dessert	/dɪˈzɜːt/	/dɪˈzɜːt/
Singer	/ˈsɪŋ.ər/	/ˈsɪŋ.ə/
Chocolate	/ˈtʃɒk.lət/	/ˈtʃɑːk.lət/
Effect	/ɪˈfekt/	/əˈfekt/
Isle	/aɪl/	/aɪl/
Desert	/ˈdez.ət/	/ˈdez.ət/

difficult words (Figure 3).

### **Semi-structured interview**

To achieve students' attitudes towards learning how to pronounce the difficult words through the Google Translate application, a semi-interview had proceeded the last post-test. Then, the participants all 24 were interviewed in order to find out about their pronunciation reactions. Afterward, Smart Record was used to confirm that all the information was collected.

### **Grading criteria for English pronouncing test**

#### **Rubric of pronunciation test**

**Research questions:** This study was guided by the following research questions (Table 2):

Question 1: Can mobile applications help students improve their pronunciation of difficult words?

Question 2: What are the students' attitudes towards using Google Translate for improving their pronunciation of difficult words problems?

### **Procedures of study**

To improve participants' abilities in pronunciation, the procedures used in the study will be as follows:

Step 1: (Week 1) in the first week, All participants were asked to download Google Translate application. All participants were trained to use Google Translate application in order to listen to the accurate pronunciation. Participants were examined by using pronunciation tests. Audio-record was used to obtain their pronunciation abilities. Each participant took about 5 minutes to record their pronunciation. All recorded file was transcribed to investigate the pronunciation abilities.

Step 2: (Week 2-5 constitutively) from this week onwards, participants were practiced by using Google Translate application. They have to put the vocabulary given into Google translate. Then press icon speaker to listen to the word pronunciation. Then, then have to imitate the sound from Google Translate application. They were asked to practice 3-4 times a week. During this period, all participants were assigned to keep the diary. They had to report the time duration and the frequency of using Google Translate.

Step 3: (Week 6 Post-Test) this week, all participants were asked to examine their pronunciation abilities. The audio-record was used to collect data. All post-tested recorded file was transcribed. Both pre-post pronunciation transcripts were analyzed by comparing them with the pronunciation from Google Translate. Diaries were collected the participants who gather the outstanding or interesting data were interviewed by using semi-structured.

### **Data collection**

In pronunciation tests of the participants, they had to tests 25 words of the difficult words. Afterwards, the researcher checked the

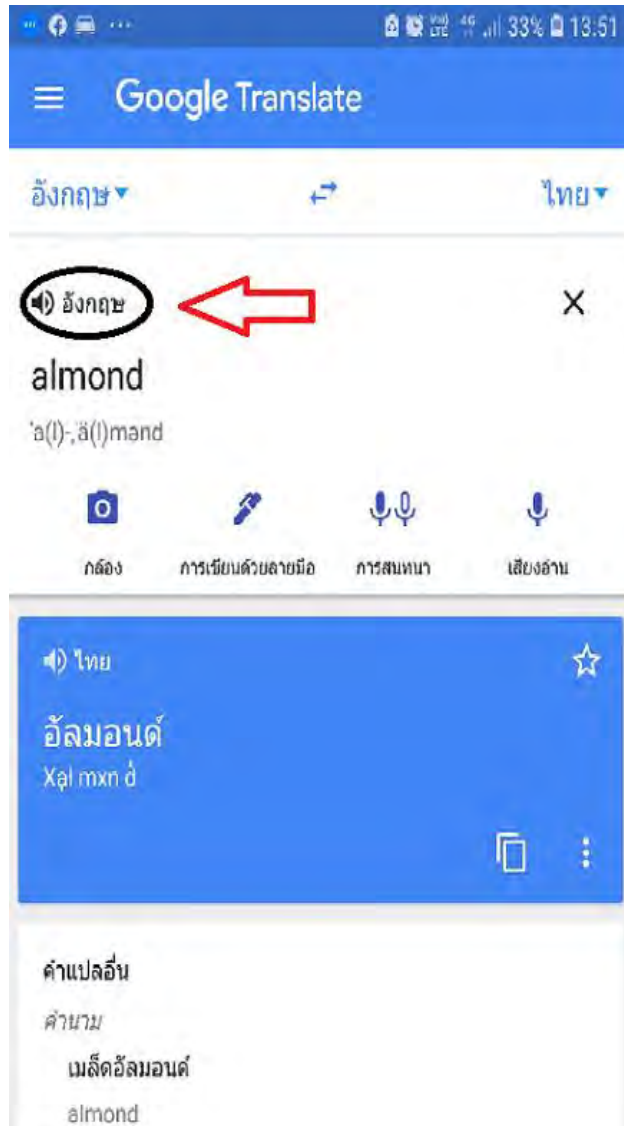


Figure 2. Google Translate application.

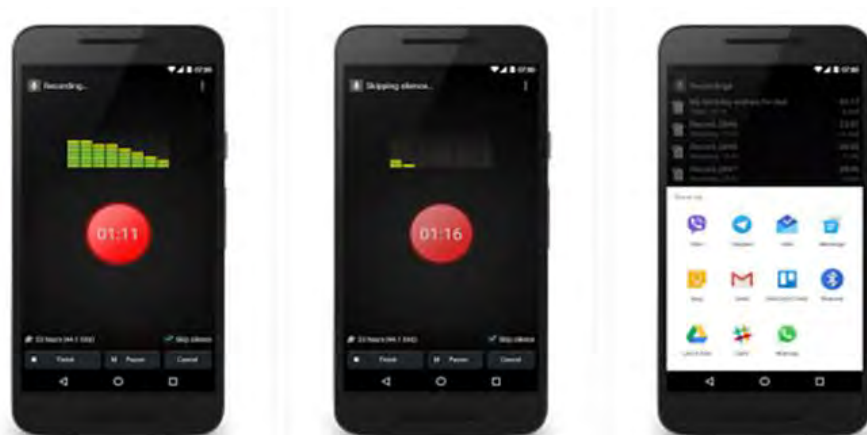


Figure 3. Audio record application.

**Table 2.** Rubric of pronunciation tests.

Category	Pronunciation
Very poor (1.00-1.50)	Students cannot pronounce, unable to understand.
Poor (1.51-2.50)	Pronunciation was difficult to understand, unclear pronunciation.
Medium(2.51-3.50)	Students rarely pronounced some characters, but generally it is fair.
Good (3.51-4.50)	Pronunciation was good and Pronunciation was clear
Excellent (4.51-5.00)	The pronunciation was very clear and accurate, easy to understand

**Table 3.** The pre and post vocabulary pronunciation tests.

Vocabulary			S.D.	Level	ID
Pre-Test	Maximum	57.40	0.06	Medium	S13
	Minimum	21.40	0.08	Poor	S21
	Average (All participants)	33.01	0.40	Poor	
Vocabulary			S.D.	Level	ID
Post-Test	Maximum	91.40	0.19	Excellent	S13
	Minimum	34.40	0.52	Poor	S3
	Average (All participants)	59.75	0.63	Medium	

participants' audio record before-after use the mobile application and the students' pronunciations were analyzed to improve their pronunciation.

#### Data analysis

The data obtained from different instruments were analyzed and interpreted qualitatively and quantitatively. T-Test was employed to analyze that data.

## RESULTS

Table 3 shows that the mean (X) score of the participants on pre- vocabulary pronunciation tests was 33.01. (S.D.0.40), which was at the poor level. The maximum score was 57.40 (S.D.0.06) which was number S13 at medium level. On the other hand, the lowest score was at 21.40, which was 21 at a poor level. The mean (X) score of the participants on post- vocabulary pronunciation tests was 59.75 (S.D.0.63). There was only one who can get an excellent level with score 91.40 at an excellent level was S13. Contrarily, there were two students who got a poor level, which was number S3 and S21.

Figure 4 presented the result of the pre-test score rated by 3 rates. The maximum score was at 2.87: rater1 was 2.80, rater2 was 2.88, and rater3 was 2.92 which was at a medium level. The second high score was S12 at 2.03:rater1 was 2.80, rater2 was 2.88, and rater3 was 2.92 at a medium level. The third high score in the pre-

test was S19. His score was at 1.99 which was rated rater1 was 1.80, rater2 was 2.36, and rater3 was 1.80 at the poor level.

Contrarily, the minimum score was S21 who was at a poor score at 1.07. The raters evaluated his score as follows; rater1 was 1.04, rater2 was 1.16, and rater3 was 1.00. The second minimum score was S 10 with a score of 1.12 at a poor level. The raters evaluate his score as follow rater1 was 1.44, rater2 was 1.16, and rater3 was 0.92.

Figure 5 illustrated the result of the post-test rated by 3 raters. In this session, all students seem to have improved their ability in pronunciation. The maximum score was S13 at 4.57. He was at an excellent level. The raters scored him as followed: rater1 was 4.48, rater2 was 4.44, and rater3 was 4.80. The second high score was S19 at 3.71 at a good level. The scores given by three raters were: rater1 was 3.68, rater2 was 3.40, and rater3 was 4.04. The third high score was S7 at 3.68. He was classified as a good level of improvement. The score rated by raters were rater1 was 3.04, rater2 was 3.64, and rater3 was 4.36.

On the other hand, Figure 5 showed that the minimum score of the post-test was S3 at 1.72 at a poor level. His score was evaluated by 3 raters as follows: rater1 was 1.24, rater2 was 1.64, and rater3 was 2.28. The second minimum score was S21. His ability in post-test pronunciation was at 1.91 which was at a poor level. The 3 raters scored him as follows: rater1 was 1.52, rater2 was 2.12, and rater3 was 2.08. The third minimum score

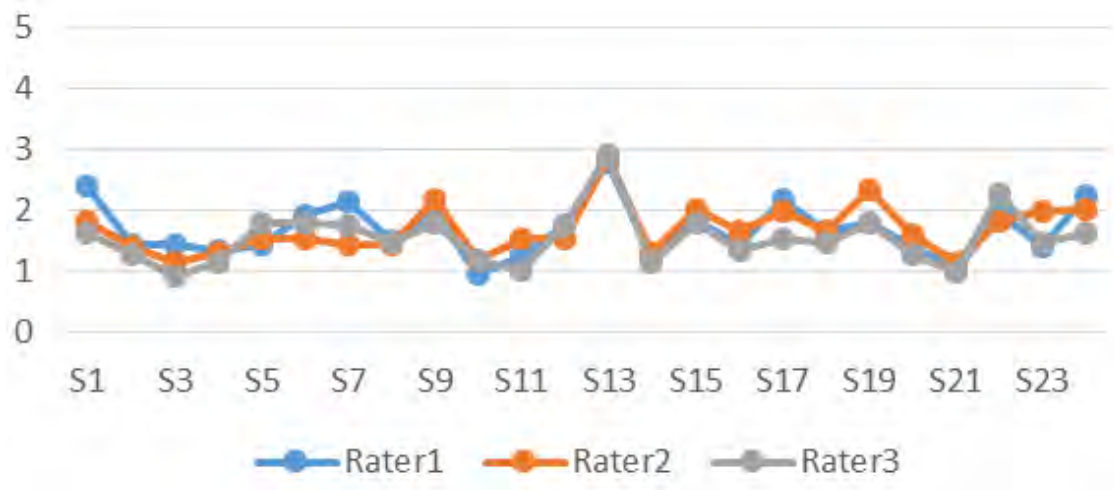


Figure 4. Pre-vocabulary test by three raters.

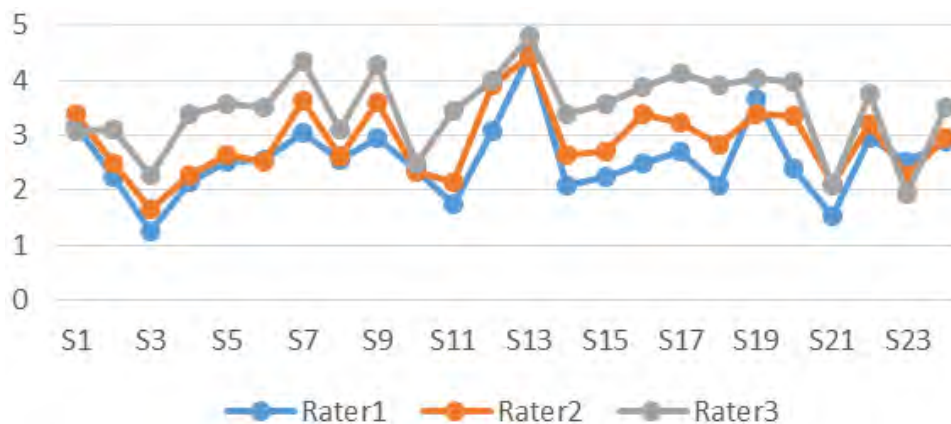


Figure 5. Post vocabulary test by three raters.

Table 4. T-Test of the pronunciation tests.

Vocabulary		S.D.	df	t	Sig.
Pre-test	33.01	8.01			
Post-test	59.75	12.67	23	17.52	0.000**
Paired sample	26.74	7.48			

\*\*Significant at p<0.01.

was S23 at 2.24. He was classified as a good level of improvement. The scores from 3 raters were as follows: rater1 was 2.52, rater2 was 2.28, and rater3 was 1.92. Table 4 present the consequence of the experiment conducted to find out the effect of using the Google Translate application for students with on improving their pronunciation of difficult words at the vocabulary test. The scores of the pre and post pronunciation tests were compared. The t-test was used to measure the significant

difference. The result revealed that the students had improved their ability in pronunciation of difficult words significantly vocabulary. The results of students pronunciation abilities of their pre and post pronunciation tests were 33.01<59.75 (S.D. = 08.91) Figure 6 shows that the t-test analysis of the differences between means yielded at 22.11. That was significant at the p<0.01 level. This suggested that the student's pronunciation significantly improved their



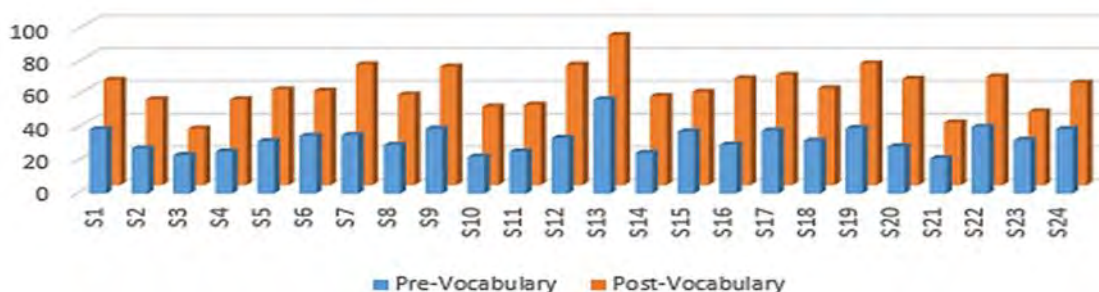


Figure 6. T-test of the vocabulary pronunciation tests.

pronunciation of difficult words significantly at the vocabulary level after using the Google Translate application. In other words, the Google Translate application can help students improve pronunciation ability.

### Transcript of pre and post pronunciations

#### Transcripts of pre and post vocabulary pronunciation tests

This section displayed the transcript of vocabulary pronunciation before and after using Mobile applications rated by three raters.

The most unclear and mispronunciation vocabulary in the pre-test, three vocabularies were "Psycho", "Isle", and "Schedule" respectively were as follows:

1) "Psycho" was usually pronounced as /'paɪ.sɪ.koʊ/ instead of /'saɪ.koʊ/ and the total score in pre-test was 25.00, 2) "Isle" was usually pronounced as /'aɪ.səl/ instead of /aɪ/ and the total score in pre-test was 27.00, and 3) "Schedule" was usually pronounced as /'sked.du.əl/ instead of /'skedʒ.u:l/ and the total score in post-test was 27.33.

The most unclear and mispronunciation vocabulary in the post-test, three vocabularies were "Temperature", "Schedule", and "Error" respectively were as follows: 1) "Temperature" was usually pronounced as /'tem.pər.rə.tər/ instead of /'tem.prə.tʃər/ and the total score in post-test was 51.67, 2) "Schedule" was usually pronounced as /'sked.du.əl/ instead of /'skedʒ.u:l/ and the total score in post-test was 59.67, and 3) "Error" was usually pronounced as /'ər.rər/ instead of /'erər/ and the total score in post-test was 61.00.

The most accurate pronunciation vocabulary in the pre-test, three vocabularies were "Problem", "Juice", and "History" respectively were as follows: 1) "Problem", they were able to pronounce it correctly with the score was 61.00, 2) "Juice", they were able to pronounce it correctly with the score was 54.67, and 3) "History", they were able

to pronounce it correctly with the score was 54.00. The most accurate pronunciation vocabulary in the post-test were as follows; "Busy", "Chocolate", and "Effect" respectively were as follows: (1) "Busy", they were able to pronounce it correctly with the score was 100.33, (2) "Chocolate", they were able to pronounce it correctly with the score was 87.67, and (3) "Effect", they were able to pronounce it correctly with the score was 85.00.

### Semi-structured interview

Question 2: What are the students' attitudes towards using Google Translate for enhancing their pronunciation of difficult words problem?

24 participants were participated in a semi-structured interview. 3 students were excellent in pronunciation of difficult words and 3 students were poor pronunciation. Each student was interviewed for about 5-10 min. Tape recording and note-taking were used while interviewing. The interview questions and report the time duration and the frequency of using mobile applications aimed at finding the students' reactions to the use of Google Translate application to improve their pronunciation problem. The findings from the semi-structured interview were presented as follows:

The students with good pronunciation were asked how they felt about the Google Translate application, and if they enjoyed using the program to improve their pronunciation of difficult words problem. For examples:

*"...I feel like this app because there are ways to use the convenient, easy-to-use. It can help us to practice pronunciation, accent and can mimic the sound of a native English speaker."* (S7)

*"...This application not only English, there are many languages that make us learn more. Also, improve the listener to accent tongues, and know the meaning of the words too."* (S12)

*"...I like it because it is easy to use and carry convenient, anytime, anywhere, we can search any vocabulary all the time. It allows us to develop very well."* (S16)

However, the students with poor pronunciation ability were asked whether they feel their pronunciation had been improved and how Google Translate application help them improve their pronunciation.

## DISCUSSION

Overall, the findings participants who complete the testing indicated that Google Translate application improve their pronunciation. The discussion began with the improvement of difficult words pronunciation of the participants after using the application and comparison of the improvement of participants' pronunciation between pre- and post-tests.

### The improvement of difficult words pronunciation of the participants after using google translate application

According to the results of the study, it can be seen that the participants' pronunciation has significantly improved their pronunciation after they used the Google Translate application. This result confirmed the hypothesis that the Google Translate can help students improve their pronunciation of difficult words. In addition, this result seems to correspond with other studies about the effects of Google Translate application in language classroom which was found that Google Translate application brought positive effects to language improving.

Nevertheless, there were some vocabulary students still incorrectly pronounced after using Google Translate application. There was, for example, "Genuine", "Chaos", "Isle", "Psycho", "Temperature", "schedule", and "Error". From linguistic points of view, the results of pronunciation tests and the students' score showed that most of the participant's pronunciation was incorrect. a) The pronunciation sticks with dual vowel pronunciation, as the same words e.g. "Genuine" /'jen.yu:.in/ as /'je.yu:n / and "Chaos" /'keɪ.ɑ:s/ as /ʃaus/, b) the pronunciation was incorrect because of these vocabularies No vote, some consonant (silent sound) e.g. "Isle" /'aɪl/ as /'aɪ.səl/ and "Psycho" /'saɪ.koʊ/ as /'paɪ.sɪ.koʊ/, and c) the pronunciation was incorrect that pronounced exactly the consonants and vowels, which were influenced of the mother tongue e.g. "Temperature" /'tem.prə.ʃər/ as /'tem.pər.rə.tər/, "schedule" /'skedʒ.u:l/ as /'sked.du.əl/, and "Error" /'erər/ as /'ər.rər/ were also pronounced incorrectly but were accepted in Thai daily communication. Therefore, this result leads to a conclusion that the pronunciation of difficult words the students commonly used in daily life was more difficult to change. In other words, their habit of pronunciation was formed and influenced of the mother tongue.

Based on the results of this study, there were 3 possible barriers of students' difficult pronunciation as follows; (1) the pronunciation sticks with dual vowel

pronunciation, as the same words, (2) vocabulary No vote, some consonant (silent sound), and (3) pronounced exactly the consonants and vowels, which were influenced of the mother tongue. Therefore, the students could improve their pronunciation abilities, if they have more time to practice, and their awareness in the fore mentioned three aspects is properly raised.

## Conclusion

The Google Translate application was employed for enhancing the pronunciation of difficult words. The pronunciation tests were tried out and checked by three experts. The correctness of English pronunciation tests was checked by two native speakers and 1 Thai teacher from Rajamangala University of Technology Isan. The pronunciation tests were finally revised according to comments made by all concerned parties.

After being rectified, the pronunciation tests were used to examine the participants' pronunciation. Before starting the experimental research, each participant must practice using Google Translate application and ask questions how to use the application. Then, each participant had to take pre-pronunciation tests. And then, they had to practice to pronounce vocabulary and sentences of difficult words correctly by using Google Translate application. The duration of using Google Translate application was 4 weeks excluding pre and post-session: practice 3-4 times a week. After using the Google Translate application, the participant's pronunciations were recorded in pre and post session. Three experts scored their pronunciations. Finally, the scores of their pre-test were compared with those of post-tests after using the Google Translate application.

The use of their mobile applications devices capabilities can help language learners have more learning experiences, situating learning without their cultural and mother tongue. Hence, the correct pronunciation and perception are essential for developing successful oral/aural language proficiency. While this does not require explicit use of the mobile context, the convenient micro-learning opportunities provided by the mobile platform are a considerable advantage (Joseph, 2009).

In relation to their attitudes towards the use of Google Translate application for enhancing their pronunciation, almost all of the students had positive reactions. The participants stated that they were motivated to practice pronouncing vocabularies and sentences with difficult words and more confident after using the application.

Moreover, it was more convenient to study with the Google Translate application. However, some suggestions were provided for improvement.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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