

The Effects of Communicative Framework Instruction Using  
Computer-Assisted Pronunciation Training (CAPT) on English  
Pronunciation Ability of Chinese Undergraduate Students



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A Thesis Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Education in Teaching English as a Foreign  
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ผลการใช้รูปแบบการสอนตามกรอบการสื่อสารโดยใช้สื่อคอมพิวเตอร์ช่วยการฝึกการออกเสียง  
(CAPT) ที่ส่งผลต่อความสามารถด้านการออกเสียงภาษาอังกฤษของนักศึกษาชาวจีนระดับ  
ปริญญาตรี



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาครุศาสตรมหาบัณฑิต  
สาขาวิชาการสอนภาษาอังกฤษเป็นภาษาต่างประเทศ ภาควิชาหลักสูตรและการสอน  
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By	Mr. Ching-yueh Chang
Field of Study	Teaching English as a Foreign Language
Thesis Advisor	PORNPIMOL SUKAVATEE, Ph.D.

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ชิง-เยว่ ชาง : ผลการใช้รูปแบบการสอนตามกรอบการสื่อสารโดยใช้สื่อคอมพิวเตอร์ช่วยการฝึกการออกเสียง (CAPT) ที่ส่งผลต่อความสามารถด้านการออกเสียงภาษาอังกฤษของนักศึกษาชาวจีนระดับปริญญาตรี. ( The Effects of Communicative Framework Instruction Using Computer-Assisted Pronunciation Training (CAPT) on English Pronunciation Ability of Chinese Undergraduate Students) อ.ที่ปรึกษาหลัก : ดร.พรพิมล สุชะวาที

งานวิจัยนี้มีวัตถุประสงค์ 1) เพื่อศึกษาผลของการใช้รูปแบบการสอนตามกรอบการสื่อสารโดยใช้สื่อคอมพิวเตอร์ช่วยการฝึกการออกเสียง (CAPT) ในการศึกษาความสามารถการออกเสียงภาษาอังกฤษของนักศึกษาชาวจีนระดับปริญญาตรี 2) เพื่อศึกษาความคิดเห็นของนักศึกษาต่อรูปแบบการสอนตามกรอบการสื่อสารโดยใช้สื่อคอมพิวเตอร์ช่วยการฝึกการออกเสียง โดยใช้ตัวอย่าง จำนวน 17 คน เป็นนักศึกษาชาวจีนระดับปริญญาตรี มหาวิทยาลัยสยามกำลังศึกษาในภาคเรียนที่ 1 ปีการศึกษา 2561 ทั้งนี้เครื่องมือที่ใช้ในการเก็บข้อมูล ได้แก่ แบบทดสอบการออกเสียงภาษาอังกฤษก่อนและหลังการทดลอง แบบสอบถามความคิดเห็นของนักศึกษา และคำถามการสัมภาษณ์แบบกึ่งโครงสร้าง สถิติที่ใช้ในการวิเคราะห์ คือ คะแนนเฉลี่ย ค่าเบี่ยงเบนมาตรฐาน และ Wilcoxon signed ranked test รวมถึงใช้การวิเคราะห์เนื้อหา ในส่วนของข้อมูลเชิงคุณภาพที่ได้จากการสัมภาษณ์ ผลการวิจัยพบว่า 1) คะแนนเฉลี่ยความสามารถในการออกเสียงภาษาอังกฤษก่อนและหลังการใช้รูปแบบการสอนของนักศึกษา มีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติที่ระดับ .05 2) นักศึกษามีข้อเสนอแนะเชิงบวก เรื่องการเรียนรู้การออกเสียง การช่วยพัฒนาทักษะการออกเสียง ความมั่นใจ การมีส่วนร่วม การเพิ่มโอกาสการเรียนรู้ทั้งในและนอกห้องเรียน ความร่วมมือในการเรียนรู้ การเรียนรู้แบบพึ่งตนเอง อย่างไรก็ตาม นักศึกษาบางส่วนพบปัญหาด้านคุณภาพในการออกเสียง เช่นกันกับเนื้อหาบางส่วนและการจัดสรรเวลา

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# # 5983315627 : MAJOR TEACHING ENGLISH AS A FOREIGN LANGUAGE  
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Ching-yueh Chang : The Effects of Communicative Framework Instruction  
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 Pronunciation Ability of Chinese Undergraduate Students. Advisor:  
 PORNPIMOL SUKAVATEE, Ph.D.

The study aimed 1) to examine the effects of the communicative framework instruction using CAPT on the English pronunciation ability of Chinese undergraduate students; 2) to investigate the opinions of students towards the communicative framework instruction using CAPT. The participants consisted of 17 Chinese undergraduate students in at Siam University at during the first semester of the 2018 academic year in 2018. The instruments used to collect data were a pronunciation pre-test and a post-test, a student opinion questionnaire, and semi-structured interview questions. The analyzed statistics computed from the data included the mean scores, standard deviation, and Wilcoxon signed ranks test; the qualitative data obtained from the interview were analyzed using content analysis.

The findings revealed that 1) there was a significant difference in students' mean scores at a significance level of 0.05 on the English pronunciation ability before and after the students' participation in the communicative framework instruction using CAPT; 2) students had provided positive feedbacks on learning how to pronounce and improve the pronunciation skills, self-confidence, engaging learning environments, more opportunities to learn inside and outside the classroom, cooperative learning, and learner autonomy. However, students had problems regarding the recording quality, as well as the materials and time allocation. time

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Field of Study:	Teaching English as a Foreign Language	Student's Signature .....
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## Chapter One INTRODUCTION

### 1.1 Background of the study

English pronunciation in the world today is crucial, and pronunciation is an indispensable skill needed in mastering a foreign or second language (Celce-Murcia, Brinton, & Goodwin, 2000). Fangzhi (1998) stated that good pronunciation ability is a key in whether or not the message can be effectively transferred, which is in line with Jenkins (2005), not being able to produce intelligible pronunciation of words can be responsible for both frustration of communication and misunderstanding.

Researchers have identified that lack of exposure to the English-language environment and lack of phonetic coding ability will lead to pronunciation learning problems (Brown, 1992; Celce-Murcia et al., 2000; Kenworthy, 1987). Sertikul (2005) indicated that poor pronunciation learners, generally thought of as less experienced, have more language problems than those with good pronunciation, and that learners' opportunities to use English in daily life help develop pronunciation ability. In other words, pronunciation ability results from exposure to the language. On the other hand, Brown (1992) stated that phonetic ability can be called *phonetic coding ability*. With phonetic coding ability, learners may possess better listening skill to facilitate the learning of the target language (Bradlow, Pisoni, Akahane-Yamada, & Tohkura, 1997; Rochet, 1995). Therefore, they are capable of discriminating sounds more accurately and imitating sounds better than other learners. As a result, with more exposure to the English environment and better phonetic ability, learners may have fewer difficulties learning pronunciation.

Chinese students are no exception to these two problems. English pronunciation in Chinese is ignored under the educational system, where Chinese EFL students are commonly trained for reading and writing skills by the dominant Grammar-Translation method (Hu, 2002; Yu, 2001). Additionally, a number of researchers have reported linguistic varieties between English and Chinese. Jenkins (2000) proposed Mandarin Chinese features a strong preference for /CV/ syllable structure; therefore, Chinese learners are not familiar with English consonantal clusters, not to mention distinguishing or pronouncing these sounds. In addition, H. Li and Yuan (1998) indicated some common errors Chinese EFL speakers make, including the problems of substitution, deletion and insertion. Consonant sounds /l/ and /r/ are usually replaced by each other and cause misunderstanding. When Chinese speakers say “I like this world”, the sentence may be mistaken as “I like this word”, which gives rise to miscommunication.

Apart from the classroom face-to-face teacher instruction, some teachers employ Computer-Assisted Pronunciation Teaching (CAPT) to teach pronunciation. Neri, Cucchiarini, Strik & Boves (2002) proposed that when students plan to have good pronunciation ability, it is better for them to have teachers’ feedback and instruction. Besides they need to interact with native speakers. Teachers need to give intensive interaction and feedback on individual problems. However, it is very difficult to teach pronunciation in a large classroom. With the advance of modern technology, CAPT gives teachers a solution comprising a virtual native-speaker environment as well as a real-time feedback system. Many researchers have accepted the CAPT pedagogy advantages (Chun, 1989; Hismanoglu, 2006; Gilakjani & Sabouri, 2014; Pennington, 1988) since it offers students a low anxiety environment where they may access the

content without limits, receive immediate feedback from the Automatic Speech Recognition (ASR), and practice at their own pace. Neri, Cucchiarini, Strik, and Boves (2002) also indicated CAPT makes it possible to address individual problems for as much as students wish, which reduces learning anxiety and allows students learning history to be traced in log-files; consequently, CAPT facilitates pronunciation teaching and learning.

Jones (1997) mentioned that language is ideally taught on the condition that it is being used for message transmission, which echoed M. C. Pennington and Richards (1986) that isolating pronunciation from communication is artificial. Celce-Murcia et al. (2000) proposed a communicative framework on English pronunciation teaching that follows the five core tenants of communicative language teaching (Celce-Murcia et al., 2000; Richards & Rogers, 2001), which are 1) language is best learned in various communicative settings; 2) classroom tasks and materials should arouse their desire to communicate and reflect the goals and interests of the students in the L2; 3) learning English actively and independently in groups to deal with meaning negotiation is the most effective way to develop language ability; 4) preparing learners to express themselves in a variety of communicative setting is the critical job of the learning syllabus; 5) making mistakes is a common process in language learning.

The communicative framework of Celce-Murcia et al. (2000) was designed based on the above five principles and are divided into five stages:

1. Description & Analysis – explanation of how a new pronunciation feature is produced and when it is used.

2. Listening Discrimination – focused listening practice with the goal of accurate learner identification of the target feature.
3. Controlled Practice – focus on monitoring the new pronunciation feature in oral production.
4. Guided Practice – structured communication exercises with some monitoring
5. Communicative Practice – fluency-building activities through creative and communicative language exchanges

When learners have cultivated a strong foundation for the target sound features in the first four stages, authentic communicative practice can begin in the fifth stage.

In the present study, the researcher designed an English pronunciation instruction model by adopting the communicative framework (Celce-Murcia et al., 2000) integrated with CAPT. Students were guided by the teacher in all five stages; CAPT was conducted in class in the 1<sup>st</sup> stage, description and analysis, as well as the 3<sup>rd</sup> stage, controlled practice. Additionally, the target features tasks were also assigned to be completed individually outside the classroom, followed by a review of log files. In addition to the feedback from the CAPT system, the teacher's explicit feedback was given in class as well, focusing on the most common errors. The study examined the effects of communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students. Meanwhile, the opinions of the participants were also investigated.

## 1.2 Research Questions

The current study set out to investigate the effects of communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students. The research questions addressed in this study are as follows:

1. To what extent does a communicative framework instruction using CAPT affect the English pronunciation ability of Chinese undergraduate students?
2. What are the students' opinions towards the communicative framework instruction using CAPT?

## 1.3 Research Objectives

1. To examine the effects of the communicative framework instruction using CAPT on the English pronunciation ability of Chinese undergraduate students
2. To investigate the opinions of students on the communicative framework instruction using CAPT

## 1.4 Statements of the Hypothesis

Since there was not much research on the communicative framework using CAPT to teach pronunciation, the effects of the communicative framework instruction using CAPT is still unknown. The effects still need to be examined.

The statement of hypothesis is set as the following:

There is an effect of students' English pronunciation ability improvement after they receive the communicative framework instruction using CAPT.

### 1.5 Definitions of the Terms

#### Communicative Framework

Celce-Murcia et al. (2000) came up with a communicative framework for English pronunciation teaching that follows principles of the Communication Language Teaching model. In the communicative framework are five stages: 1. Description and analysis; 2. Listening discrimination; 3. Controlled practice; 4. Guided practice; 5. Communicative practice. This current study adopts the communicative framework as the base of the instructional design.

#### Computer-Assisted Pronunciation Training (CAPT)

Computer-Assisted Pronunciation Training is often abbreviated as CAPT. As the important parts of computer-assisted language learning pedagogy, CAPT programs created a new form of context with a number of practices and opportunities to learn pronunciation skills without being bounded to the time and even the presence of instructors.

#### Communicative Framework Instruction using CAPT

Lots of literature (Celce-Murcia et al., 2010; Neri, Cucchiarini, Strik & Boves, 2002; Pennington, 1999) proposed the notion that integrating CAPT into language courses can contribute greatly to elevate students' pronunciation competence with the gift of new technologies. On the other hand, Celce-Murcia, Brinton, and Goodwin (2010) discussed major components of instructional technology in pronunciation, which were audio, video, pronunciation software, and Internet, to enhance the pronunciation learning process. CAPT covered all the above features. In this study,

communicative framework integrated CAPT into the pronunciation instruction, CAPT plays a significant role on each of the 5 stages of communicative framework.

#### English Pronunciation ability

English pronunciation ability refers to an individual's capacity in using English pronunciation to communicate orally. In this study, English pronunciation ability was assessed by MyET software on the respects of segmentals (consonants and vowels) and suprasegmentals (stress and pitch).

#### Chinese Undergraduate students

According to Huguet (2014), the largest number of foreign students in Thailand came from China, which is increasing gradually. Lin and Kingminghae (2014) also mentioned the close location and lower cost of studying in Thailand can be very attractive factors to less affluent Chinese families, and indeed, most of the Chinese students are from regions in southern China where the economy is underdeveloped. In this study, 17 Chinese students were the participants. They study in the 3<sup>rd</sup> year of International College BBA Program at Siam University, Bangkok, Thailand. The participants attended the class in Thailand. The teacher lectured in English.

### **1.6 Scope of the Study**

The population and the variables in the study are the followings:

#### 1. Participants

17 Chinese students consisting of 8 male students and 9 female students from different districts of China studying in the 3<sup>rd</sup> year of International College BBA Program at Siam University, Bangkok, Thailand.



## 2. Variables of the study

The independent variable is the communicative framework instruction using CAPT, and the dependent variable is the students' English pronunciation ability.

### 1.7 Significance of the Study

1. The result of the study may provide the educators with new guidelines to apply communicative framework instruction using CAPT to teach pronunciation and enhance students' English pronunciation ability. With the instructional design integrating the CAPT, the educators may also pinpoint the significant sounds or suprasegmental features to live up to the target students' needs and provide them with more opportunities to practice pronunciation after class.
2. The researchers who are interested in this area can use the results of the study for further research in different background settings such as proficiency level, or nationalities. New learning activities or strategies on communicative learning can be further explored and employed in the instructional design.
3. This study focuses on “communication” and “technology” as the core of learning and it corresponds to three skills of the 4 Cs skills on leaning and innovation skills of the framework for 21th century learning, which are communication, collaboration, and creativity.

## Chapter Two REVIEW OF THE LITERATURE

### 2.1 English Pronunciation

The sound system of English includes two categories: segmentals and suprasegmentals. Segmentals are individual phones (phonemes) such as consonants, vowels, clusters, diphthongs, while suprasegmentals (or prosody) are stress, accent, syllable structure, pauses, rhythm, linking and intonation, which serves the function on how pronunciation is really used to communication (Seferoğlu, 2005).

In the history of L2 pedagogy, the core of pronunciation instruction stresses the importance of segmentals rather than suprasegmentals. Suprasegmentals was not a focused for pronunciation learning until the 1980s (D. M. Chun, 2002). Due to its importance in effective communication, suprasegmentals took high priority position on the pronunciation teaching (Dickerson, 1989; Gilbert, 1987; Hardison, 2004; Pennington & Richards, 1986). Not asking learners to speak as accurately and fluently as English native speakers, suprasegmentals is for learners to develop mutual intelligibility (Derwing & Munro, 2005; Jenkins, 2002). M. Egbert (2004) pinpointed that language learners are not capable of speaking and listening in a second language with only phonemic correctness. Crystal (1981) pointed out that English can be more easily understood if the speaker speaks correct pitch variations in his/her own speech utterance, which accordingly gives rise to effective communication. As a result, a L2 learner with proficiency is supposed to master the suprasegmentals as well as segmentals in pronunciation.

## 2.2 Importance of Pronunciation

Pronunciation is a significant factor in effective communication. Poor pronunciation may result in misunderstanding and consequently lead to a barrier to communication. Still, pronunciation instruction has been ignored for a long time (Breitkreutz, Derwing, & Rossiter, 2001; Chun, 2012; Brown, 1991; Neri, Cucchiarini, & Strik, 2006). Goodwin (2001) mentioned that pronunciation ability reflects one's L2 proficiency. It cannot be denied that students who have efficient English communication skills and fluent pronunciation have a relatively advantage in the globalized world. G. Kelly (2000) stated that pronunciation is a significant point in effective communication. Nevertheless, the education curriculum still focuses more on all other aspects of communication. Since English is spoken by various background people around the world, English intelligibility is also another important issue.

## 2.3 English Intelligibility

According to Jenkins (2007); Mckey (2002), and Kirkpatrick (2007), English is thought of as an international lingua franca and is used by non-native speakers and native speakers in intercultural communications; consequently, there are varieties from different backgrounds. Morley (1991) claimed that the goal of pronunciation teaching can be changed from the development of perfect pronunciation to the more realistic goals and to create intelligibility, communicability, self-monitoring and strategies of modification when they are not in classroom. Brown (1991) defined comfortable intelligibility as pronunciation that can be understood with little or no conscious effort on the part of listener. Morley (1991) also stated that the overall aim is for the learners to develop spoken English that is easy to understand, serves the

learners' needs, and allows a positive image as a speaker of a foreign language. The goal of pronunciation instruction is not to ask learners to speak like native speakers. Instead, intelligible pronunciation should be the real purpose of oral communication regardless of different varieties of English.

B. Kachru (1985) proposed a special term "World Englishes", which has three broad categories of regional varieties of English. The first category, English Native Language (ENL), aka inner circle such as USA, UK, and Canada, includes the English varieties where English is the dominant language as a result of population migration. The second category, English Second Language (ESL), aka outer circle such as Singapore, India, and Malaysia, includes the English varieties where English is used as an official language. The third category, English Foreign Language (EFL), aka expanding circle such as Thailand, China, and Korea, includes the English varieties where English is used as another language for communication.

#### **2.4 English as a Foreign Language (EFL)**

EFL: English as a Foreign Language. English is widely taught and learnt in the education system, and people acquire it for varied purposes. Since internationalization inevitably involves learning of English to bridge the gap between cultures and to recognize varieties, elements in English education may have to include the concept of world Englishes (B. B. Kachru, 1992) and English as a lingua franca (Jenkins, 2007), both of which revealed the idea that communication in English does not necessarily have to involve native speakers and often takes place between nonnative speakers with different varieties.

## 2.5 English as a Lingua Franca (ELF)

ELF: English as a lingua franca (Jenkins, 2007) is sometimes known as EIL (English as an international language). Nevertheless, to avoid confusion with other uses of the word “international” (e.g. International English is sometimes equated with North American English), most researchers prefer “ELF”, which implies the existence of one single lingua franca variety of English.

A lingua franca, according to Samarin (1987), refers to “any lingual medium of communication between people of different mother tongues.” The term has been existing for centuries and was originally in use for diplomatic and business activities around the eastern Mediterranean. There are many different lingua francas in the world, and English as a lingua franca is among the most researched and discussed in the literature. According to Jenkins (2007), Mckey (2002), and Kirkpatrick (2007), English is considered an international lingua franca and is used by both non-native speakers and native speakers in intercultural communications

According to Jenkins (2007), the majority of ELF researchers take a broad view and include all English users within their definition of ELF. The key point is that as long as inner circle speakers participate in ELF communication, they don't have the linguistic agenda. Instead, whichever circle we come from, from an ELF perspective, we have to make adjustment to our local English variety to fit our interlocutors when we are in lingua franca English communication. Mutual negotiation involves efforts and adjustments from all parties.

Those adopting an ELF perspective believe that all varieties of English are acceptable and consequently should not be evaluated against English spoken by native speakers. Jenkins (2007) suggested providing a wide range of varieties in the

classroom so that learners are capable of interpreting aspects of a variety such as pronunciations of speakers different from their own. Her research also showed intelligibility is easy for most speakers to reach after a brief exposure to a variety of English.

## **2.6 Pronunciation Learning Problems of EFL Learners**

Several researchers have identified the factors resulting in the pronunciation learning problems such as native language, age, exposure, innate phonetic ability, attitude and identity, and motivation (Brown, 1992; Celce-Murcia et al., 2000; Kenworthy, 1987). Senel (2006) claimed that interference or negative transfer from the native language is responsible for errors in aspiration, intonation, rhythm, and melody in the target language. Kenworthy (1987) claimed that the native language is the most critical factor in accounting for pronunciation especially foreign accents. Chang (1987) mentioned that some English phonemes do not have Chinese counterparts such as /æ/, /θ/ and /ð/. Other phonemes resemble Chinese but not identical, and thus lead to confusion. Initial consonant clusters don't exist in Chinese. Also, Chinese diphthongs are usually pronounced with quicker and smaller tongue and lip movement due to the /CV/ syllable structure (Wei, 2003). Meanwhile, Chinese tend to stress all the English syllables. Chinese is a tonal language mainly used in the word unit; besides, Chinese sentence intonation shows very little variation. However, English has no tonal system and English use intonation patterns to perform the meaning in different contexts. Unfamiliar with these patterns, Chinese learners always find it difficult to follow (Chang, 1987).

Apart from the native language, age plays an important role in learning or improving pronunciation abilities. According to Senel (2006), if learners possess a

second language with an accent which is native-like, it is most likely that they must have learnt it in childhood since these learners began their second language learning stage in target language speaking people setting. However, another study discussing the age factor on learning pronunciation using a traditional listen-and-repeat exercise indicates that adult learners were able to differentiate the minimal pairs in the context of the sentences, conversation and role playing as well as children did (Brown, 1992). Another similar research comparing the age factor points that the adult students were faster and more efficient than younger students in the early stage of pronunciation learning. In this regard, adult students and adolescents developed their second language skills continuously, but later they would diminish after the first year (Collier, 2003). Besides age, Lacking of exposure to the English environment is another prominent factor. Serttikul (2005) pointed that language experience has an effect on pronunciation ability. Elson (1992) urged that learners should be encouraged to immerse themselves in the target language environment and to persist despite the difficulties that are part of the language-learning process. According to Brown (1992), phonetic ability is also the phonetic coding ability. It is common that some people have a better listening skill than others. Therefore, they are capable of discriminating between the two sounds more accurately than other learners and be able to imitate sounds better. Attitude towards speakers of the target language is another consideration. As pointed out by Brown (1992), students with a positive attitude towards the people speaking target language are more likely to learn pronunciation more successfully. They are not afraid of the second identity that may have been emerging within them. Meanwhile, a similar caution was sounded by Celce-Murcia et al. (2000), they noted that attitude towards the target language, culture, personal

identity issues for learning could all help or impede pronunciation skills development. Last but not least, the learners' motivation can be seen as a strong factor contributing to the success or failure of learning foreign languages. Motivation is a driving force leading a learner to be in pursuit of a course of action, initiating the learning, and eventually sustaining the learning process (Dörnyei & Ushioda, 2001). The previous research studies mentioned above illustrate the key problems that affect the pronunciation learning: roles of native language, age, experience of studying English, phonetic ability, identity an attitude, and motivation.

## **2.7 Problems of Learning Pronunciation to Chinese Learners**

Jenkins (2000) proposed Mandarin Chinese features /CV/ syllable structure; therefore, Chinese learners have difficulties on pronouncing English with many consonantal clusters. H. Li and Yuan (1998) also indicated some common errors Chinese EFL speakers make, concluding the problems of substitution, deletion and insertion. The voiceless digraph sound /θ/ is usually replaced by /s/ (think → sink); voiced digraph sound /ð/ turns to /d/ (weather → weader). In the two cases, /θ/, /ð/ are substituted by /s/ and /d/ respectively. On the other hand, the final consonant is Chinese EFL learners are found to add a schwa to word-final consonants, because words in many Chinese dialects take the form of monosyllabic /cv/ structure and do not allow consonants in the word-final position. For example: card /kɑrd/ → carda /kɑrdə/. Some studies also have other findings. Through examining Chinese students' videotaped oral presentations, Ho (2003) pinpointed /r/, /l/, /θ/, /ð/, /ng/, /sh/, /ch/ as the most difficult consonants for the Chinese students in general.

Li, W., Siniscalchi, S. M., Chen, N. F., & Lee, C. H. (2016) pointed out five significant Chinese segmental pronunciation problems:



1. Consonants /ð/, /θ/ and /v/
2. Long Vowels
3. Diphthongs
4. Consonant Ending
5. Retroflex Sound /r/

### ***1. Consonants: /ð/, /θ/ and /v/***

As to the sounds that Chinese have and are similar to counterparts in English, Chinese L1 students can learn them easier, such as /b/, /p/, /d/, /t/, /g/ and /k/. However, the sounds /ð/, /θ/ and /v/ don't exist in Chinese, and Chinese L1 students find it quite difficult to produce them. Take /ð/ and /θ/ for examples, generally Chinese speakers have trouble with dental fricatives θ/ and /ð/ in English as there are no dental fricatives in Mandarin Chinese. In most situations, the two dental fricatives /θ/ and /ð/ are replaced by two similar alveolar fricatives, /s/ and /z/. To deal with these problems, experienced teachers should always highlight the differences between dental fricatives /θ/ and /ð/ and alveolar fricatives /s/ and /z/ (Ho, L. 2003; Deterding, D., 2006; Zhang, F., & Yin, P., 2009; Siqi, L., & Sewell, A., 2012; Han, F., 2013; Liang Enli, 2014). The two sounds are used in English pronunciation frequently, such as I think, this, that etc. If students don't practice these sounds, they will tend to pronounce /s/ and /z/. So, it is very not unusual to hear Chinese L1 students say "I sink" instead of "I think" in an English conversation. Since the sounds /θ/ and /ð/ are a basic sound in English, and often precede in the initial position, wrong pronunciation often makes it easier to be misunderstood. As a result, to train Chinese speakers to place their tongue between their lower and upper teeth and blow out air

between the created gap in the upper teeth and tongue can be the solution to this problem (M. Wang & Koda, 2005).

As to the /v/ sound, Han, F. (2013) indicated sometimes Chinese learners produce two English consonants interchangeably because the two consonants, which form a minimal pair, have only one similar consonant in Chinese. For example, in Chinese, the consonant /v/ only appears as an allophone of /w/; therefore, altering the two does not create a difference in meaning. In English pronunciation, Chinese students often mix up the English /v/ and /w/ and consequently articulate “village”, as /'vɪlɪdʒ/ or pronounce “window” as /'vɪndəʊ/.

## **2. Long Vowels**

English has short and long vowels. The long vowel in /lɪv/ (leave) has a different meaning than the short one in /lɪv/ (live). We eat the fruit of a /pɪtʃ/ (peach) instead of a /pɪtʃ/ (pitch). Short vowels and long vowels create not identical meaning for English words. For example: A: What did you buy in the mountain? B: A ship (\*sheep). However, even though its syllable may consist of consonant(s) and vowel(s), each Chinese character is articulated at a similar length or rate, that is, no matter how long the syllable is, it only has one articulated sound (Deterding, D., 2006; Zhang, F., & Yin, P., 2009; Han F., 2013).

## **3. Diphthongs**

Siqi and Sewell (2012) mentioned there are almost no such sounds in Chinese as diphthongs. For Chinese L1 students, /eɪ/, /aʊ/ are invariably found to be the most difficult diphthongs to pronounce. According to Liang (2014) study on 50 non-

English major undergraduate students in Shanxi Normal University, in terms of diphthongs, major problems to students appeared in confusion on /eɪ/, /aʊ/. Han, F. (2013) indicated the English diphthong /aʊ/ tends to be mixed with /ɔ/ and /o/. Therefore, it can be hard to distinguish Chinese learners' pronunciation of "house" and "horse".

#### **4. Consonant Ending with schwa /ə/ insertion**

Many words in English are pronounced at the consonant ending, even with consonant clusters, such as "horse", "desk", and "prompt". However, Chinese speakers are not familiar with pronunciations with consonant endings and have problems pronouncing them. Chinese speakers are used to adjusting their pronunciations to a more Chinese way in /CV/ syllable structure. Take "pig" and "book" for example, Chinese L1 students tend to pronounce them as /pɪgə/ and /bukə/. The noticeable feature of consonant ending is the use of vowel epenthesis or the insertion of an "extra final vowel" (Deterding, 2006, p. 179). This occurs after final plosives and usually involves a schwa; therefore, "**and**" becomes /ændə/. Also, because of epenthetic schwa, *mist* may sound like *mister* (or *mista*), which may reduce intelligibility (Deterding, 2006, p. 180; Ho, 2003). Chinese speakers add the schwa /ə/ to a word with consonant(s) ending because otherwise they would fear they don't make themselves heard and understood (Zhang & Yin, 2009). In reality, such pronunciation with Chinese characteristics may often lead to confusion or communication failure. According to the research of Deterding (2006), occurrences of the word "**and**" were analyzed for the presence of an extra final vowel. The majority of the speakers (58.3%) added an extra final vowel, namely schwa. The most likely

explanation for the phenomenon is that in Mandarin, plosives like /d/ do not appear in coda position; only nasals such as /n/ and /ŋ/ occur in this position. Some accounts of Mandarin syllable structure (e.g., Wang, 1993) even analyzed such final consonants as approximants, suggesting a strong preference for the /CV/ syllable structure. Mandarin speakers may thus find it easier to add an extra vowel in order to create a “valid” syllable.

### 5. *Retroflex Sound /r/*

It is easy for Arabic or Indian speakers to pronounce retroflex sound /r/ in English pronunciation, because they can twist their tongues. Still, for Chinese L1 students, the retroflex sound is just a punishment to their tongues. Ho (2003) indicated without sufficient practice, Chinese speakers will produce a non-full sound of /r/, or just drop it. For example: floor → flow; order → odor; guard → god; shark → shock. However, when /r/ is not followed by a vowel, Chinese speakers can produce it correctly, such as “rice”, “rose”, “grow” and “fright”. As to /l/, the minimal pair of /r/, another researcher Cruttenden (2013) proposed Chinese students have problems pronouncing sound /l/ at the end of a syllable position, as such words like “pill”, “will” or “feel” often end up being pronounced as ‘piw’ ‘wiw’ and ‘feew’.

Ho (2003) observed the rank in descending order starting with the most difficult consonant for Chinese:

1. /l/
2. /r/
3. /θ/
4. /ŋ/
5. /sh/
6. /ch/

He discovered that /l/, /r/ are the most two difficult sounds for Chinese to pronounce.

Besides above segmental problems, Chinese learners of English have problems in suprasegmental aspects. As opposed to Chinese, English uses intonations for diverse types of feeling expression, which brings about the difference from Chinese language. Intonation patterns in English sentences indicate the degree of certainty. Most questions are in rising intonation; however, Wh- questions (who, what, where, when, why, and how) end with falling intonation. To avoid sounding rude or indecisive, it is important for students to learn these patterns (Zhang, F., & Yin, P. 2009).

While almost every syllable in Chinese has a distinct tone, there is no in English, Chinese speakers' intonation performs up and down inappropriately when speaking English (Cruttenden, 2014). On the other hand, Ho (2003) discovered that Chinese students were not aware of the difference between the rhythm of the syllable-timed Chinese language and the stress-timed English language. Li, Wei. et al. (2016) also pointed out the Chinese suprasegmental pronunciation problems: stress. Every Chinese character has a one-syllabic sound, and it is short and easy to produce. Nonetheless, English words are mostly with multiple syllables. When stress placement shifts from one syllable to another, the same word may experience class changes or even meaning changes

In addition, Zhang, F., & Yin, P., (2009) claimed Chinese is a syllable-timed language. However, English is a stress-timed language with a great deal of differences in stress and rhythmic patterns. The production of every Chinese syllable takes the same amount of time, while the basis for English rhythm is that of stresses and the stressed syllable takes more time to pronounce. Not knowing this significant feature, Chinese learners of English often clearly articulate every English syllable

exaggeratively. This results in a foreign-sounding accent, and possibly misunderstanding. Burri (2015) mentioned Chinese speakers are inclined to speak English the same way as speaking Chinese. All the syllables are with equal emphasis, thus the way of speaking making it difficult for the English users to understand. Based on the above reviewed features for Chinese English pronunciation, the study selected some key features as the research material in the instruction which are /l/, /r/, /v/, /w/, /θ/, /ð/, /eɪ/ -- /ɛ/ and /æ/, /aʊ/ -- /ɔ/ and /o/, and suprasegmental features: stress and pitch.


## **2.8 How to Teach Pronunciation**

Three approaches to pronunciation instruction are generally mentioned, intuitive-imitative approach, the analytic-linguistic approach and the integrative approach (Celce-Murcia, 1996; Chen, 2007). In the intuitive-imitative approach, with no explicit instruction, learners imitate the sounds and rhythms of the target language after listening the target language. In the analytic-linguistic approach, explicit instructions on pronunciation such as the articulatory descriptions, the phonetic alphabet, and vocal charts are provided. In the integrative approach, pronunciation is considered an integral element of communication, instead of an isolated drill. Pronunciation is practiced within meaningful task-based activities. Learners use pronunciation-focused listening activities to facilitate the learning of pronunciation. Morley (1994) mentioned there is a dual-focus oral communication program. The micro level instruction is aimed at linguistic competence through drills of segmentals and the suprasegmentals, while the macro level focuses on more universal elements of communicability, with the goal of cultivating sociolinguistics, discourse, and strategic competence by using language for communication. In this approach the primary goals

of pronunciation teaching are to develop intelligible speech and be able to effectively communicate in the target language. Morley (1991) further discussed the 4 basic pronunciation goals of increased self-confidence, functional communicability, functional intelligibility, speech monitoring ability and speech modification strategies.

Celce-Murcia et al. (2000) illustrated some teaching approaches on pronunciation since the teaching of language started, which are presented in Table 2.1 (based on Celce-Murcia, M., Brinton, D.M., & Goodwin, J. M., 1996).

***Table 2.1 Pronunciation Teaching Approaches***



Years	Approach	Definition
The late 1800s and early 1900s	Direct method	Teachers provided students with a model for native like speech. By listening and then imitating the modeler, students improved their pronunciation.
(1940s – 1950s)	Audio lingual method in USA, oral approach in Britain.	Pronunciation was taught explicitly from the start. Learners imitated or repeated after their teacher or a recording model. Teachers used a visual transcription system or articulation chart. Technique: minimal pair drill

(1960s)	Cognitive approach	This de-emphasized pronunciation in favor of grammar and vocabulary because (a) it was assumed that native like pronunciation was an unrealistic objective and could not be achieved and (b) time would be better spent on teaching more learnable items, such as grammatical structures and words.	
(1970s)	Silent way	The learners focused on the sound system without having to learn a phonetic alphabet or explicit linguistic information. Attention was on the accuracy of sounds and structure of the target language from the very beginning. Tools: sound-color chart, the Fidel charts, word charts, and color rods.	
	Community language learning	The pronunciation syllabus was primarily student initiated and designed. Students decided what they wanted to practice and used the teacher as a resource. The approach was intuitive and imitative.	
Mid-late 1970s - 1990s	Communicative approach	The ultimate goal was communication. Teaching pronunciation was urgent and intelligible pronunciation was seen as necessary in oral communication. The techniques used to teach pronunciation were: listening and imitating, phonetic training, minimal pair drills, contextualized minimal pairs, visual aids, tongue twister, developmental approximation drills, practice of vowel shifts and stress shifts related by affixation, reading aloud/recitation, recordings of learners' production.	
Twentieth century More recent	Grammar translation and reading-based approaches	Oral communication was not the primary goal of language instruction. Therefore, little attention was given to speaking, and almost none to pronunciation.	
	Naturalistic methods	Total physical response	Students would begin to speak when they were ready. They were expected to make errors in the initial stage and teachers were tolerant of them.
		Natural approach	The initial focus on listening without pressure to speak gave the learners the



			opportunity to internalize the target sound system.
Today-	New directions	New thoughts from other fields, such as drama, psychology, and speech pathology. Techniques: the use of fluency-building activities, accuracy-oriented exercises, appeals to multisensory modes of learning, adaptation of authentic materials, and use of instructional technology in the teaching of pronunciation.	

Although Celce-Murcia gave an explanation of the teaching English pronunciation history, Chen (2007) also made a list on a general historical perspective of the role of pronunciation in language acquisition, which is shown in Table 2.2

**Table 2.2 A historical perspective of the role of pronunciation in language acquisition**

1940s - 1960s	1970s - 1980s	late 1980s - present
- the teaching of pronunciation was greatly stressed - behavioristic audio- lingual methods; used imitation drills, pattern practice, and dialog memorization	- the teaching of pronunciation was largely ignored - communicative approaches; focused more on fluency than form	- pronunciation was a key ingredient in the development of communicative competence - a more balanced approach that valued both accuracy and fluency

Lots of educators were convinced that teaching pronunciation was pointless because accent-free pronunciation of the second language (L2) was considered a myth (Scovel, 1988) and because training would either have no impact or, even worse, would hinder the natural, unconscious process needed for the acquisition of pronunciation (Krashen, 1981; Krashen & Terrell, 1983). This idea gave rise to a

tendency to neglect pronunciation in favor of grammar and vocabulary on second language acquisition field. Therefore, little information is available on how pronunciation can best be taught.

### **2.8.1 Frameworks to Teach Pronunciation**

#### **Morley's Teacher-as-Coach model:**

Morley (1991) stated the Teacher-as-Coach model is an optimal means to approach a pronunciation course, in which a partnership between teacher and student arises, and the instructor is thought of as a facilitator similar to “a debate coach, a drama coach, a voice coach, a music coach, or even a sports coach” (Morley, 1991, p. 507). Based on this coaching outlook, the following responsibilities are for the pronunciation instructors:

1. Use pronunciation diagnoses to analyze the needs of learners, and prioritize the features affecting comprehensibility and speech intelligibility.
2. Counsel students to set realistic pronunciation goals in terms of short and long-term.
3. Create a syllabus for groups of learners, and design customized programs for individual learners.
4. Design a variety of instructional tasks to provide authentic communicative activities based on real-world contexts.
5. Organize fieldtrips out-of-class for spontaneous speaking and associated follow-up activities.
6. Provide native and nonnative English-speaking models from different backgrounds for listening and speaking tasks.

7. Give constructive suggestion with suggested modifications as feedback for improvement.
8. Observe students' production and monitor their progress
9. Develop the ability of self-monitoring inside and outside of the classroom.
10. Promote all learners in their efforts in spite of their proficiency of pronunciation.

### **The Covert Rehearsal Model (CRM)**

W. B. Dickerson (1984) proposed The Covert Rehearsal Model (CRM) to concentrate on and orally practice particular parts of their pronunciation with no self-consciousness and distractions. There are six steps of CRM

1. Start in a private space and do the practice
2. Speak out loud.
3. Observe the performance.
4. Compare models with the real performance.
5. Improve the performance to match the models.
6. Practice until getting fluency.

It is the role of the instructor to guide students in the use of an orthographically motivated sound-system and provide the regulations of suprasegmental English pronunciation. The success of CRM is in its nature and its incorporation of various language learning strategies (Veronica Gabriela Sardegna, 2009), and it is through these “processes that task achievement can be converted into more permanent learning” (Macaro, 2004, as cited by Sardegna, 2009, p. 47). Therefore, CRM leads learners to take part in and benefit from the controlled and genuine communicative

tasks on the pronunciation target that will occur in the language classroom. Sardegna (2009) stated that word stress, construction stress and phrase stress significantly made progress in a one-semester university-level ESL pronunciation course. Besides, these advances were kept over time. Meanwhile, individual learner differences such as language background, gender, or length of residency in the U.S. could not promise pronunciation improvement, but that the lower achievers tended to get higher percentages of improvement, as they wanted to integrate the new language learning strategies, and that they continued to use CRM even after the course.

### **2.8.2 Communicative Framework**

Since the 1980s, Communicative Language Teaching (CLT) has dominated the teaching since the primary purpose of language is communication. Using language to communicate should be the central in language teaching. The active use of authentic L2 language in the classroom has been the significant methodology in language courses. This focus on language as communication brought a new horizon to the teaching of pronunciation (Celce-Murcia et al., 2000). Celce-Murcia et al. (2000) stated teachers should effectively address the pronunciation needs of their students only through comprehensive knowledge of the English sound system and through familiarity with a variety of pedagogical techniques, many of which should be communicatively oriented.

Traditional pronunciation teaching focusing on segmentals cannot actually improve a learner's pronunciation in spontaneous conversation such as listen and imitate, minimal pair drills, phonetic training, visual aids, contextualized minimal pairs, tongue twister, reading aloud, developmental approximation drills, vowel shifts and stress shifts related by affixation, and recordings of learners' production.

McNerney and Mendelsohn (1992) mentioned discourse context is the optimal way to teach suprasegmental features. However, CLT practitioners wondered how to integrate pronunciation instruction into a communication-focused classroom. The subsequent materials took care more on suprasegmental features at the expense of segmental features (Jones, 1997). In addition, the majority of these materials simply repeated the behaviorist strategies of the past into “more elaborate forms of drilling, which learners are able to engage in without attending to meaning or communication at all” (Jones, 1997, p. 109), and accordingly failed to achieve the communicative goals.

With the coming of communicative approaches to language teaching, pronunciation began to be viewed as integral to communicative competence. Based on the principles of communicative language teaching, Celce-Murcia et al. (2000) came up with a communicative framework for teaching English pronunciation following the principles of the CLT model (Richards & Rodgers, 1986).

The communicative framework consists of 5 stages, description and analysis, listening discrimination, controlled practice, guided practice, and communicative practice.

This communicative framework is grounded in the principles of communicative language teaching (CLT):

\* CF means “communicative framework”

1. Language is best learned within a larger framework of communication. The ultimate goal of the language classroom is for learners to be able to use the target language effectively for communicative purposes (CF stage 5).

2. Classroom materials and the associated tasks reflect the interests and needs of the learners and create a desire in them to communicate in the target language (CF stage 4,5).
3. Learners acquire language most efficiently when they are active participants. They are encouraged to ask questions, both of the teacher and each other (CF stage 1,2,3,4,5). They are also encouraged to work independently in pairs or small groups (CF stage 1,4,5). In these groups, they make decisions and negotiate ideas (CF stage 5).
4. The language syllabus focuses on enabling learners to express their notions in a variety of social interactions (CF stage 5).
5. Errors are viewed as a natural performance of the communicative process. Students are required to take linguistic risks and receive additional exposure and teacher feedback (CF stage 1,2,3,4,5).

Since the communicative framework is based on CLT, each of the five stages is the element of communicative framework. Each stage completes the subsequent stages as a whole, and cannot be separated or rearranged in different sequence.

The communicative framework suggests a division of the pronunciation lesson into five stages moving from analysis and consciousness raising to listening discrimination and finally production:

- 1 Description and Analysis--oral and written illustrations of how the feature is produced and when it occurs within spoken discourse
- 2 Listening Discrimination--focused listening practice with feedback on learners' ability to correctly discriminate the feature

3 Controlled Practice--oral reading of minimal-pair sentences, short dialogues, etc., with special attention paid to the highlighted feature in order to raise learner consciousness

4 Guided Practice--structured communication exercises, such as information-gap activities or cued dialogues that enable the learner to monitor for the specified feature

5 Communicative Practice--less structured, fluency-building activities (e.g., role play, problem solving) that require the learner to attend to both form and content of utterances

According to Celce-Murcia et al. (2000), teaching pronunciation is unlike teaching grammar or vocabulary. Besides teaching rule-based features of language, pronunciation teachers must also be faced with the fact that pronunciation is a motor activity. Pronunciation poses sensory and physiological challenges to the learner, not just cognitive challenges, and requires that teachers not only provide rule-based explanations but also teach how to work the shape of the mouth. Ellis (1990) mentioned that successful language acquisition starts from consciously “noticing” or “attending” to language features. In stage one, description and analysis, the teacher illustrates the articulatory features of the target sounds through tables, diagrams and chart. In stage two, listening description, students are asked to either identify the target features or distinguish it from other similar features through minimal pairs. Listening discrimination practice has been proved as a positive effect on not only learners’ abilities of perception but also their production capabilities of the target features (Rochet, 1995; Wang & Munro, 2004).

The subsequent stages are three practices, controlled practice, guided practice, and communicative practice, which will focus on form and accuracy, accuracy and limited meaning, and communicative activities to exchange information respectively. In stage three, controlled practice, activities including minimal-pairs, short dialogue, tongue twister, short poems or rhymes are conducted in a way of drilling focusing on accuracy. The controlled practice is from the Information Processing Theory. The theory discussed all types of learning occur in the short-term memory with controlled processing. With adequate time and practice, this processing turns into the long-term memory, allowing the learner to unconsciously perform the target task and focus their short-term memory on other processing needs (McLaughlin, 1987; McLaughlin & Heredia, 1996). Breikreutz, Derwing, and Rossiter (2001) stated that learners were able to automatize a new pronunciation feature into their spoken language when they had the time and practice.

In stage 4, guided practice, instruction will be forced on accuracy and fluency as well as more specific information exchange activities such as information gap, strip storied. These “focused tasks” promote learners to upgrade their accuracy while starting the process of automatizing the target features (Doughty & Williams, 1998). In stage five, the communicative practice stage activities are open-ended and requires students to negotiate meaning in some ways, highlighting the target features simultaneously. Students are provided with a context or keywords that contain the target sounds in the activities such as interview, storytelling, role-playing or problem-solving. This is where the real language acquisition occurs when learners doing meaning-focused activities develop control over the target feature in genuine communication (Celce-Murcia et al., 2010).



Celce-Murcia et al.'s framework provided teachers with guidelines for integrating pronunciation instruction into the classroom; however, it didn't reveal learning strategies for learner improvement beyond the scope of a pronunciation classroom. The importance of empowering students to maintain their language learning without the guidance of an instructor or course is to be cared, as "no students will have their teachers accompany them throughout life" (Littlewood, 1999, as cited by Cotterall, 2000, p. 109). As a result, instructors are supposed to provide opportunities to train students in pronunciation prediction strategies which they may use in the future.

### **2.8.3 Principles for Teaching Pronunciation**

According to Nunan (2003, p. 115-117), in the teaching of pronunciation, there are five principles as the follows:

1. Develop intelligibility during spontaneous speech: Teachers have to keep developing the students' intelligibility to get them concentrate to pronounce words while doing the spontaneous speech.
2. Keep affective considerations firmly in mind: Teachers need to give affective support to their students so as not to make them fear to form new pronunciation habits.
3. Avoid teaching individual sounds in isolation: Students are given chances to communicate meaningfully with their friends in more interesting, enjoyable, and memorable activities.
4. Give feedback on learner progress: Teachers should support students' efforts, and guide them. Unless, students would be unaware which parts they have to pay more attention to.

5. Realize that ultimately it is the learner who is in control of changes in pronunciation: According to Morley (1994, p.89), teacher is only as a “language coach” who “supplies information; gives models from time to time; sets high stand; provides various practice opportunities; and encourages the learner.”

## **2.9 Pronunciation Teaching Under the Communicative Approach**

It is acknowledged that the Communicative Approach has neither adequately specified what the role of pronunciation teaching is in a communicative classroom nor “an agreed-upon set of strategies” for pronunciation teaching (Silveira, 2002; Celce-Murcia et al., 1996). However, attempts for pronunciation teaching based on Communicative Approach have been made by Acton (1984), Scarcella and Oxford (1994), Jenkins (2000, 2002, 2004), and Celce-Murcia et al. (2000).

Acton (1984) proposed a method to help advanced, quite fluent but inaccurate ESL learners alter their fossilized pronunciation. He stated that this can be achieved through group conversations and monitored activities, dictionary use, oral reading and informant use in relation to the students’ needs, attitudes and work environment. However, this approach fitted highly fluent motivated adult learners; it cannot adequately reflect reality in language teaching classrooms and cannot easily be applied to younger or beginner learners.

Scarcella and Oxford (1994) proposed a research-based approach for pronunciation teaching. The main features of this framework are: intelligibility is a more realistic objective than native-like pronunciation, a shift of focus to stress and pitch from the sounds of the language, emphasis on communicative activities instead of pronunciation drills. They provide detailed information on a number of techniques

that can be employed for pronunciation teaching, such as self-monitoring, tutorial sessions and self-study, modeling and individual correction, communication activities, written versions of oral presentations, computer-assisted language learning, utilization of known sounds, incorporation of novel elements, communication strategies and affective strategies.

Jenkins (2000, 2002, 2004) proposed the Lingua Franca Core (LFC) as a model for pronunciation teaching. In this model, students' identity and mutual intelligibility among non-native speakers of English is crucial. Although this model is considered to be a useful tool for designing a syllabus and pronunciation goals achieved in the teaching of English as an International language, it does not provide specific details regarding the content of each stage and the types of activities.

Celce-Murcia et al. (2000) proposed the communicative framework, providing teachers with guidelines on how to develop activities so as to teach pronunciation. Although Acton's (1984) and Scarcella and Oxford's (1994) methods were proposed for the teaching of pronunciation using communicative approach, Celce-Murcia et al.'s (2000) approach seems to have three major advantages. Firstly, it is quite flexible and can be applied to any group of learners, from beginners to advanced ones. Secondly, it can be adapted for the teaching of both segmental and suprasegmental features. Thirdly, it is a well-structured framework upon which teachers can design thorough and comprehensive pronunciation classes.

In this section, it has been explained how to teach pronunciation in terms of frameworks and principles. The chapter that follows moves on to discuss CALL (Computer-assisted Language Learning).

## **2.10 Computer-assisted Language Learning (CALL)**

CALL, the acronym for computer-assisted language learning, is briefly defined in a seminal work by Levy (1997) as the search for and study of applications of the computer in language teaching and learning. The term CALI (computer-assisted language instruction) was in use before CALL, reflecting its origins as a subset of the general term CAI (computer-assisted instruction). CALL began to replace CALI in the early 1980s (Davies & Higgins 1982).

Nowadays, CALL can be applied to a broad sense to connect with any endeavor involving the computers and associated technologies of all types: desktops, laptops, tablets, smart phones, portable devices, and interactive whiteboards, etc.

At present, one of the technologies in computer software is speech spectrographic devices, or ASR (automatic speech recognition), which includes voice recognition (Anderson-Hsieh, 1992; Chun, 1989). The device digitally measures the sound waves against model pronunciation in a graphic way. Shilling (1997) mentioned that speech-synthesized feedback was the most supportive for children exhibiting metalinguistic awareness or cognitive clarity. Celce-Murcia (2010) also pointed that the speech spectrographic devices integrated with traditional classroom instruction may help learners with severe fossilized pronunciation.

However, CALL has not been a mature field and lacks a theoretical framework. A lack of theoretical framework on CALL makes it hard for researchers to compare and evaluate findings from CALL studies. It means that practitioners have no universally accepted theoretical basis to provide direction for development and implementation of CALL materials (McCarthy, 1999). It means that mistakes are repeated and wheels reinvented. Garrett (1982) stated that CALL suffers problems in the research area. She reported that some language teachers say that the use of

technology is inevitable and therefore research is not required as CALL is going to happen anyway. Another issue is that CALL research tends to try to show that CALL is effective. A more institutional problem is the fact that CALL research is often not valued by the institutional powers in terms of promotion in the academic world. CALL workers are often a minority within university academic environments and there is sometimes little recognition for their work. Garrett (1982) argued that CALL needs a research agenda, not only to gain more respect for CALL workers but also to justify current practice and open up new approaches.

On pronunciation teaching on CALL, CAPT (Computer-assisted Pronunciation Training) plays a significant role. The next section will discuss CAPT.

### **2.11 Computer-assisted Pronunciation Training (CAPT)**

With the advance of technology, Computer-assisted Pronunciation Training (CAPT) with automatic speech recognition (ASR)-based systems has facilitated English learning and teaching, because it can provide individualized instruction and immediate feedback on the correctness of a learner's response to computerized tasks (Nagata, 1993). The progress made in ASR has provided new opportunities to promote the training and testing on English pronunciation teaching. In addition, CAPT with ASR-based systems can offer extra learning time and materials, feedback on individual errors and the possibility for self-paced practice in a private and stress-free environment where no face problems exist (Cucchiarini, Neri, & Strik, 2009; Levis, 2007). With CAPT, students can interact with computers and receive feedback to practice and improve their pronunciation; moreover, learner's pronunciation is given digital corrective feedback by scoring and analyzing segmental features,

rhythm, intonation, and intensity implicitly (Cincarek, Gruhn, Hacker, Noth, & Nakamura, 2009; Neumeyer, Franco, Digalakis & Weintraub, 2000).

However, some researchers claimed that the effects of feedback from CAPT need further improvement. Engwall and Balter (2007) mentioned that students often do not get any indication on how to change their pronunciation from such software. Tsai (2006) claimed that implicit feedback such as spectrograms, waveforms, scoring system and animation characters provides limited information to make students understand their problems. Chiu, Liou, and Yeh (2007) also proposed the same result that implicit feedback is insufficient; the learners still need to recognize their pronunciation errors and expect specific feedback on their utterances to identify how they make the wrong pronunciation. The researchers also find that explicit comments and instruction by teachers to indicate students' errors may further improve their learning more than merely the feedback from the program itself.

In an EFL setting it is often difficult to provide individual oral language training because of limited human resources (Chen, H. H. J., 2006). CAPT systems may present a number of advantages. First, they may identify individual problems. Second, students may train themselves as long as they want and they can do it on their own tempo. Third, due to the feature of individual training, these systems may reduce the classroom anxiety and accordingly indirectly favor learning process (Levis, 2007; Pennington, 1999). Finally, they store students' log history in order that both the teacher and the student can trace problems (Neri et al., 2002, p.43-44). Neri et al. (2002) also mentioned that learning must occur in a stress-free environment where students are exposed to meaningful and considerable input and they are stimulated to practice speaking actively.

### 2.11.1 Comparison of CAPT Software

Lee, S. T. (2008) made a comparison on four CAPT software and listed their individual features. The criteria were based on Neri et al. (2002).

Since this research mainly discusses and trains student's pronunciation on some specific features, as well as the evaluation results, MyET is the most qualified candidate selected as the CAPT to be integrated in this study.

*Table 2.3 Comparison of four software*

		<u>MyET</u>	Just Talk	Issues in English	<u>TeLL me More</u>
Language & Grammar	Reading level	Suitable	Suitable	Suitable	Suitable
	Technical Terms and jargon	Clearly explained	Clearly explained	Clearly explained	Clearly explained
Surface features	Navigation	Concise, logical, <b>Connect to online learning</b>	Concise, logical, <b>Connect to online learning</b>	Concise, logical, package	Concise, logical, Package
	Audio	Suitable	Suitable	Suitable	Suitable
	Graphic	Suitable	Suitable	Suitable	Suitable
	Text quality	Simple and clear	Simple and clear	Simple and clear	Simple and clear

	On completion	<b>Students are given Suitable credit</b>	Student is not given credit	Student is not given credit	<b>Students are given credit</b>
	Management	logical	logical	logical	logical
Questions	Feedback	<b>Feedback is given. clearly identify errors, demonstrate graphics and give comments</b>	No feedback	No feedback but students can hear their own production and the model's	No feedback but students can see their own sound wave form and scores only
	Testing	<b>With tests</b>	No tests	No tests	<b>With tests</b>
Other issue of Pedagogy	Motivation	Curiosity, confident satisfaction maintained	Curiosity, confident satisfaction maintained	Curiosity, confident satisfaction maintained	Curiosity, confident satisfaction maintained
	Interaction	Role Play Play back comparison <b>competition</b>	Role play	Play back comparison	Comparison role play
	Student control	Self-access	Self-access	Self-access	Self-access
Subject matter	Goals and objective	Pronunciation conversation reading	Basic pronunciation grammar reading	Grammar listening pronunciation reading	Pronunciation conversation grammar listening
	Content emphasis	<b>Pronunciation topics oriented</b>	Extended to pronunciation , reading, listening and grammar topics oriented	Extended to speaking, reading, listening and grammar topics oriented	Extended to pronunciation, reading, listening and grammar topics oriented
Invisible function	Records and data	Students sound file is recordable	Students sound file is not recordable	Students sound file is recordable	Students sound file is recordable
	Accessibility	Students can access their records	Students can access their records	Students can access their records	Students can access their records



Cost	Price level	USD 16.99 for one course/package in one month	Not available in the market	USD 138.76 for one perpetual license	USD 499 for year membership
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Among the four software, all the technical terms and jargon are relevant and explained; other surface features are in identical standard on audio, graphic, text quality and management. However, in the navigation part, only MyET and Just Talk may connect to online learning to explore more information and be updated. Besides, Students are given credit by MyET and TeLL me More. As to the feedback, only MyET provides feedback and clearly identifies the errors with wave form, graphic and comments. Besides MyET's support on tests, TeLL me More also serves this function. Regarding pedagogy, all the four software, are motivating, interactive, and self-accessed. However, only MyET supports pronunciation contests with people around the world. MyET and TeLL me More primarily focus only on pronunciation and conversation, while Tell me More also trains student's grammar. However, Just Talk and Issues in English deal with grammar, basic pronunciation without conversation, listening, and reading. As to the content emphasis, MyET is the only software that do the pronunciation topic oriented instead of spreading over on speaking, reading, listening and grammar. All the software allows students to retrieve their sounds and the records can be accessed.

### 2.11.2 My English Tutor (MyET)

According to the official website of MyET ([www.myet.com](http://www.myet.com)), MyET is an online educational software with ASAS (Automatic Speech Analysis System) to help learners improve their English-speaking ability. It analyzes learners' pronunciation and gives them detailed analyses on their vowel, consonant, pitch, timing and

emphasis. Students not only receive scores, but also specific feedback such as suggestions on how to improve the pronunciation of individual sounds illustrated through description, pictures and video clips. Founded in 2002, MyET is now being used by over 2,000,000 learners in Taiwan, Japan, China, Korea, India, Vietnam, Hong Kong and Thailand. It has been adopted by hundreds of universities and schools as a core speaking teaching platform. Moreover, online pronunciation contests held by different institutes and organizations on the platform motivate students to sharpen their pronunciation skills.

In the research, suprasegmentals were assessed in terms of pitch and stress on MyET, on which pitch is a component of intonation appearing in sentence. Since the samples in the sentence or dialogue context are recorded authentically, the analysis refers to the recorded samples as the criteria to recognize the recording of the users and do the scoring on the computing system.

### **2.11.3 Computer-Assisted Pronunciation Pedagogy**

The computer has been thought of as merely an instructional tool, and consequently the studies are few on pedagogical design. Pennington (1999; p.432-438) provided ten suggestions for improving CAP pedagogy,

1. The CAP developer have to begin with a well-articulated theoretical base associated with the mechanics of articulation to communicative goals.
2. Build a foundation for pronunciation with one or more reference accents.
3. Design criteria for pronunciation production, which should be set as learner-oriented such as language proficiency and needs.

4. Create specific targets for performance: the developer need to well consider what skills, structures, items will be good indicators for the learner's progress or achievement.
5. Cultivate skills in stages: from easier to more difficult tasks and connect pre-production with in-production and post-production training.
6. Associate pronunciation to other communicative goals: vocabulary, grammar, discourse and pragmatics.
7. Based on a principled curriculum: the design of CAP pedagogy should be based on a curriculum linked to creative use of the properties of the computer medium such as a communicative or task-based syllabus.
8. Increase the awareness of contrast with L1 and range of targets for L2: CAP should raise learners' awareness of the contrast of the L2 and the native language in terms of social significance and other varieties.
9. Support exploration of database: Exploratory CALL should be a feature of CAP because CAP is one of the most significant potentials of computer access for promoting learner control and independence of learning.

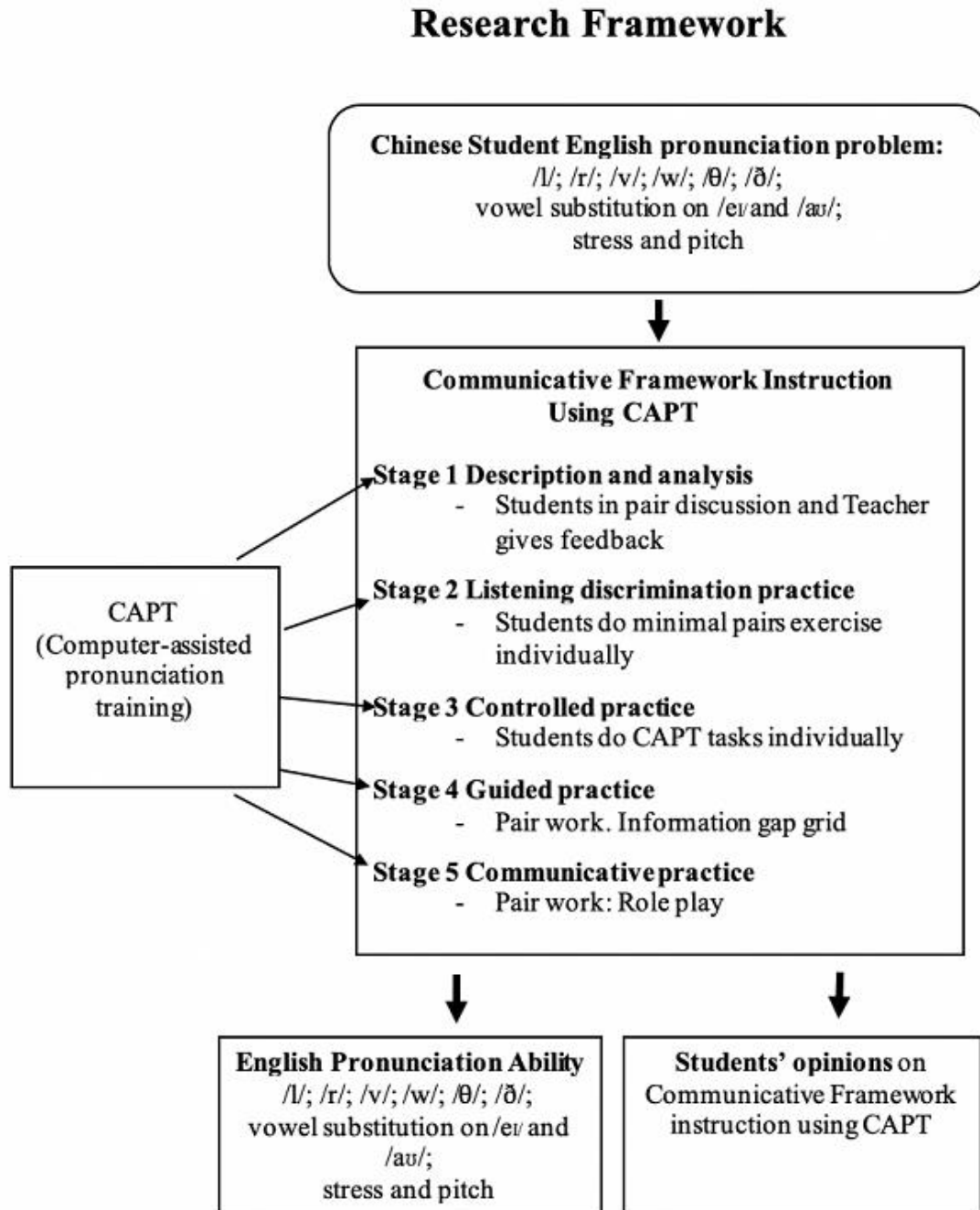
## **2.12 Related Research**

There were some studies focusing on the CAPT programs, and the relationship of the technology and the teachers. Lee (2008) compared 4 CAPT software features and investigates how teachers integrate software on teaching. Some other studies investigated the effects of the CAPT and the attitude of students before and after the treatment. Wang (2014) explored the design and implementation of the ASR-based iCASL System with corrective feedback to facilitate English learning. Lee (2008), Lu

(2010) and Pi-hua T. (2015) utilized existing published package on MyET database to do the experimental research on the effects of the software to university students, which provides empirical evidences on the value of using CAPT software for teaching English pronunciation. Khoshima, Saed and Moradi (2017) examined the effects of Clear Pronunciation 2 software on teaching English suprasegmental features, mainly focusing on stress, rhythm and intonation. Another researcher examined the consistency of evaluations on three Automatic Sounds Recognition software in CAPT, Microsoft, MyET, and TeLLmeMore (Chen, H. H. J. (2006). He found there were strong correlations among these different scores. These results showed that different automatic speech recognition technologies can indeed assign rather consistent scores to students at different proficiency levels. Although these ASR systems might not be suitable for high-stake tests like TOEFL or entrance examinations, these tools can be used for low-stake tests like placement tests or diagnostic tests.

There was, however, little research discussing the integration of instructional framework with CAPT on pronunciation teaching. In the field that demands communicative competence and oral skills, pronunciation is sometimes thought of as the “step child” of second language learning and teaching (Arteaga, 2000, p. 340; Hodges, 2006). The majority of research has focused on the contrastive analysis of the phonetic systems of a variety of languages, but only a few have given possible pedagogical implications for the second language field (Lord, 2005).

## 2.13 Research Framework



Adaped from Communicative Framework  
 Celce Murcia  
 et al. (2010)

## Chapter Three: METHODOLOGY

### 3.1 Introduction

The study aimed at examining the effects of communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students, and their opinions after receiving the instruction. Three research instruments were conducted in the study. The communicative framework instruction using CAPT was developed, and the three research instruments were pronunciation test, questionnaire and semi-structured interview questions respectively.

### 3.2 Research Design

The communicative framework instruction using CAPT to teach English pronunciation would be used as the treatment in this study. The following figure illustrates the diagram of the research design for exploring students' English pronunciation ability.

*Figure 3.1 Research Design for Exploring Students' English Pronunciation Ability*



O1 means before receiving the instruction of communicative framework using CAPT

X means the instruction of communicative framework using CAPT

O2 means after receiving the instruction of communicative framework using CAPT

### **One-group pretest-posttest research design**

According to Allen (2017), the one-group pre-test and post-test can be beneficial and valid if the researchers can avoid the threats to internal validity.

Respecting participant mortality, the number of students was 17, all of whom studied in the semester and completed the post-test without withdrawing from the class. Meanwhile, since the experimental design is for pronunciation oral production, even students were likely to know what the teacher was to test, without appropriate training and drilling, they could hardly make better oral production on the post-test. As a result, there was no instrumentation effect. The above two significant threats were controlled for the internal validity in this study.

### **Population and Participants**

The participants in this study were the third-year Chinese undergraduate students majoring in the International BBA (Bachelor of Business Administration) program in Siam University, Bangkok, at the first semester of the academic year 2018. Although the university is located in Thailand, the 17 participants composed of 9 males and 8 females were from 5 provinces and 1 autonomous region around mainland China. Consequently, the participant body reflects geographic diversities in China. As to the dialect, 70 % of the participants, 8 male students and 9 female Chinese students, speak Mandarin Chinese; the remaining 30% speak not only official Mandarin Chinese but also other native dialects. The English courses in the BBA program were designed to strengthen students' English ability on four language skills. In this study,

communicative framework pronunciation instruction using CAPT was implemented to promote their English pronunciation ability in speaking skills.

Since the university is located in Thailand, some students might have learned Thai language. However, only one student has learned Thai language over one year, others had less than one year or no learning experience in Thai language.

While the participants are Chinese undergraduate students studying in English lecturing classroom in Thailand, the local and social Thai context didn't seem to connect much with their English pronunciation learning. According to the demographic data and the interview, only 1 out of 17 students ever lived abroad for over one year or learn Thai over one year. Meanwhile, students don't really have a lot of interaction with Thai people and don't have high motivation to use Thai in daily life, just living in a closed circle of Chinese peers. Therefore, except English as a medium of instruction in the classroom, the students' EFL learning context in Thailand is nearly the same as that of China.

### 3.3 Research Procedure

The diagram of the research procedure is presented below in figure 3.2:

*Figure 3.2 Research Procedure*

<b>Phase 1 : The preparation of the communicative framework instruction using CAPT</b>	
Stage 1.1	Explore and study the basic concept and related documents
Stage 1.2	1.2.1 Lesson Plans construction 1.2.2 Research Instruments 1.2.2.1 Pronunciation Test 1.2.2.2 Student Opinion Questionnaire 1.2.2.3 Student interview questions
Stage 1.3	Pilot the lesson plans, research instruments and revise
<b>Phase 2: The Implementation of the communicative framework instruction using CAPT</b>	
Stage 2.1	Conduct the instruction in 12 weeks - Week 1 : Pre-test the Pronunciation Test - Week 2-11: the five units instrument (W2-3, W4-5, W6-7,



	W8-9, W10-11) - Week 12: students do the Post-test, Questionnaire and Interview
Stage 2.2	2.2.1 Post-test the Pronunciation Test 2.2.2 Conduct questionnaire to students 2.2.3 Interview students
Stage 3.1	Data analysis - Calculate the mean scores and SD of the questionnaire - Compare mean scores of pre-test and post-test by using Wilcoxon signed rank test to calculate the effect size - Analyze the interview data by using content coding to triangulate the data

To explore students' English pronunciation ability, the pronunciation assessments were obtained from pre-test and post-test (week 1 and week 12). The sample of the pronunciation test was illustrated in Appendix B.

After 10 weeks of the instruction of communicative framework using CAPT, the students' opinions were investigated by the questionnaire along with the semi-structured interview questions so as to cross check the results of the students' opinion towards the use of the instruction of communicative framework using CAPT. All the interviews were conducted in the same week (week 12). The selected participants were interviewed in Chinese by the researcher one by one, and the interviews were audio recorded. Later, the interviews were translated into English. Then the researcher tallied the frequency of key words in the interviews, categorized the results and made the report in the summary table.

### **3.3.1 Phase 1: The Preparation of the Communicative Framework Instruction**

#### **Using CAPT**

##### **Explore and study the basic concept and related documents**

The researcher studied the theories and research from various sources such as textbooks, journals and websites relevant to English pronunciation, Chinese EFL

pronunciation problems, pronunciation teaching, communicative framework, CALL and CAPT to gain information about the components of the topic. Then the researcher analyzed, synthesized these materials, and used them to develop an instructional design on communicative framework using CAPT.

### **3.3.1.1 Lesson plans**

In this study, a communicative framework instruction using MyET was developed to enhance the English pronunciation ability to Chinese undergraduate students. The instruction was conducted in Siam University at the first semester of 2018. The course (English III 117-242) was a 3-hour class taught by an English native speaker every Wednesday afternoon. The researcher was not the course lecturer. The researcher used 1.5 hour (90 minutes) each week in the classroom to collect data. The lesson plans were designed to teach in 12 weeks, including one pre-test in the 1<sup>st</sup> week, 5 designed units from 2<sup>nd</sup> to 11<sup>th</sup> week, and a post-test in the 12<sup>th</sup> week. The class session was 90 minutes once every week. Each designed unit comprises 2 sessions, total 180 minutes for each individual designed unit. There are 16 weeks in one semester. Considering the national holidays, final exam and some other school activities as well as the class lecturer's class arrangement, the researcher designed a 12-week course to fit the real context and assure the experiment can be successfully conducted.

Short as the total 18-hour intensive course was, the following three components made the communicative framework instruction using CAPT work.

First, the course design highlighted merely the limited segmentals and suprasegmentals instead of all English pronunciation features. Second, with the long language exposure from the stage 1 to stage 5 as well as the practices after class time

such as MyET assignment and creating role play script and doing the video clips, the students were constantly connected with the course not only in the classroom. Last but not least, students got feedbacks on each of the 5 stages of the instruction from both CAPT and the teacher.

The 5 designed units were based on the previous research on Chinese EFL pronunciation problems (Burri, 2015; Cruttenden, 2014; Deterding, 2006; Han, 2013; Ho, 2003; Li & Yuan, 1998; Li, Siniscalchi, Chen & Lee, 2016; Liang, 2014; Siqui & Sewell, 2012; Zhang & Yin, 2009). In this study, the researcher selected the most significant features of Chinese EFL common pronunciation problems from their studies as the core contents, covering /l/- /r/; /v/-/w/; /θ/ -/ð/; /eɪ/; /aʊ/, and suprasegmental features: stress and pitch respectively. Unit One discussed consonant substitution on /l/- /r/ and /v/-/w/. Unit Two was also for consonant substitution, /θ/ - /ð/. Both Unit Three and Unit Four explored diphthongs on, /eɪ/ and /aʊ/. Unit Five probed word stress and sentence stress as well as pitch.

To design the lesson plan (See Appendix A), the communicative framework from Celce-Murcia et al. (2000) was adopted for the instructional design. CAPT was integrated into the instruction.

The pronunciation sound samples on MyET App were selected by different background English speakers. According to Jenkins (2007), she suggested the classroom with a wide range of English varieties may raise the learners' ability on aspects of a variety such as pronunciations of speakers different from their own. Her research also showed intelligibility is easy for most speakers to reach when they receive a brief exposure to a variety of English. Accordingly, in this research, the samples recorded on MyET were made by various background English speakers,

American, Chinese, European, Austrian, and African, which means this material provided varieties of speakers, not favoring certain type of English.

## Instructional Manual

### WEEK 1

#### Session 1 (1<sup>st</sup> stage & 2<sup>nd</sup> stage)

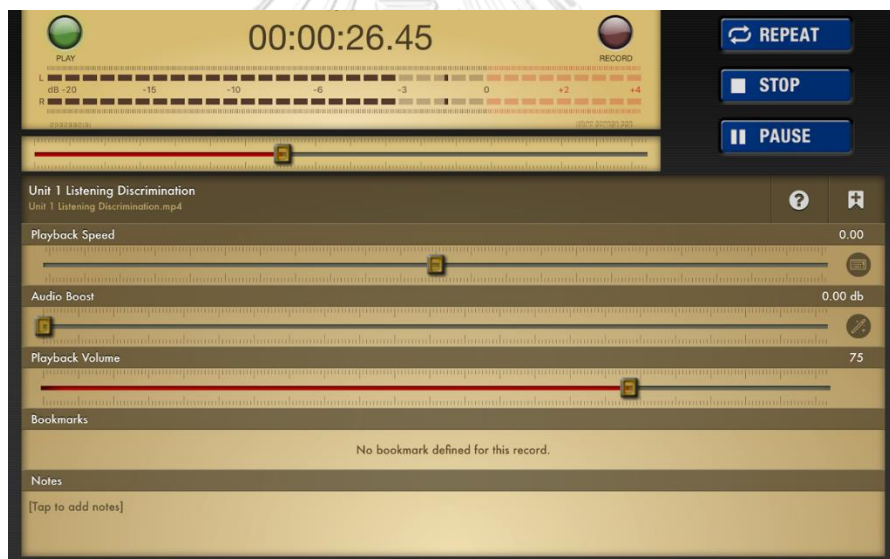
On the 1<sup>st</sup> stage, description and analyses, the teacher first showed students the target sounds pronunciation by means of the charts, animations and video clips on Sounds of Speech website (<https://soundsofspeech.uiowa.edu/home>).

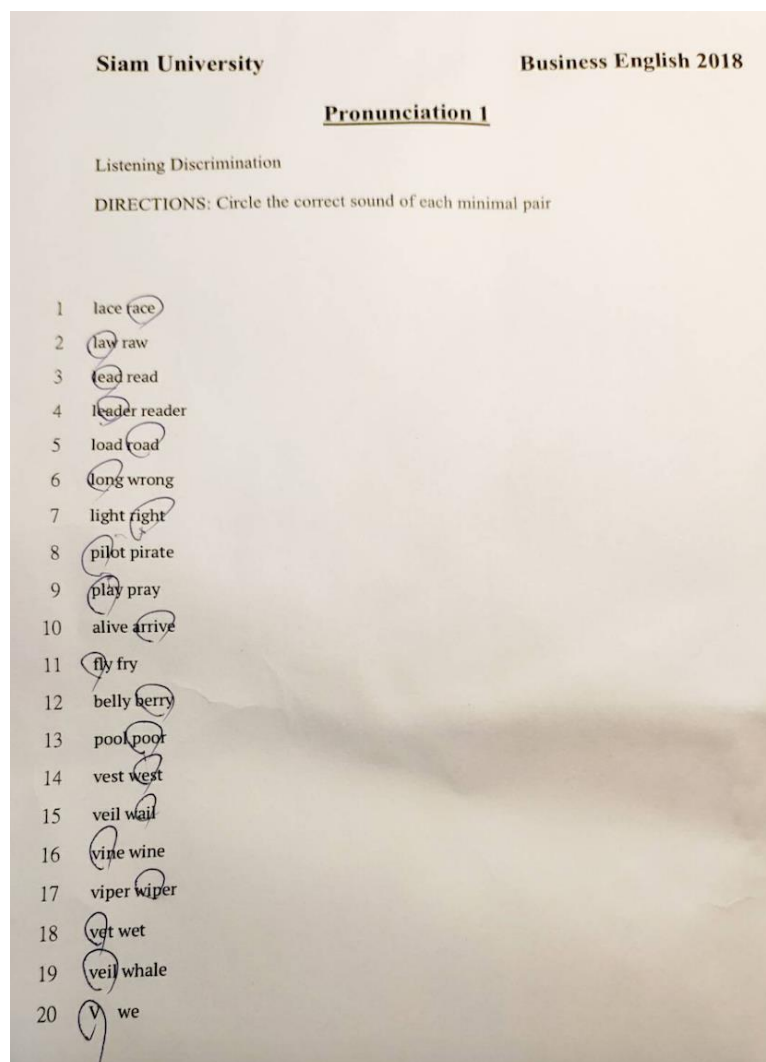
The screenshot displays the 'Sounds of Speech' website interface for the 'Liquids' section. The main title is 'Phonetics: The Sounds of American English'. Below the title, there are navigation tabs for 'consonants' (manner, place, voice) and 'vowels' (monophthongs, diphthongs). Under 'consonants', there are sub-tabs for 'stop', 'fricative', 'affricate', 'nasal', 'liquid', and 'glide'. The 'liquid' tab is selected. The 'Liquids' section is divided into 'Voiceless' and 'Voiced'. Under 'Voiced', the /l/ sound is highlighted. A diagram shows the tongue tip and blade contacting the alveolar ridge in the midline. Below the diagram, the text reads: '/l/ The tongue tip and a portion of the tongue blade contact the alveolar ridge in the midline.' To the right, there is a video player showing a woman pronouncing /l/. Below the video player, there are three audio clips: 'late', 'balloon', and 'fall'. At the bottom of the interface, there are buttons for 'english', 'german', and 'spanish'.

After the website demonstration, the teacher once again illustrated the components of the sounds and analyzed the sounds to further the understanding of students. For example: move the tongue forward or back when pronouncing /l/ sound in initial position, medial position, or final position. The teacher then asked students

in pairs to do the practice, open the mouth and start to imitate the sounds. The teacher walked around the classroom, observed the students' articulation in class, gave students feedbacks and collected the common errors as highlighted parts to teach.

On the 2<sup>nd</sup> stage, listening discrimination, a software named Voice Record on the computer was a tool to play the sample audio of listening comprehension in the classroom. Students did the minimal pair discrimination exercises to familiarize themselves with the target sounds. There were 20 minimal pairs on the worksheet. Either word in the pair was pronounced. Students needed to identify the spoken word after listening to the speaker. Later, the teacher corrected the students' answers and strengthened the instruction of error sounds.





The teacher assigned students MyET homework and would check the diagnosis reports of students from MyET on teacher's MyET account before next session.

## WEEK 2

### Session 2 (3<sup>rd</sup> stage, 4<sup>th</sup> stage, and 5<sup>th</sup> stage)

The teacher generalized common problems and gave the feedbacks based on the students' diagnosis reports on MyET at the beginning of the class.

On the 3<sup>rd</sup> stage, controlled practice, after the teacher's feedback, students in class were required to do the same pronunciation practice as the homework one more time. When students did the practice, they orally repeated the words, phrases, and

sentences after hearing the voice samples. Their sounds were automatically recorded and uploaded to the system. MyET would analyze students' oral production in terms of pronunciation, pitch, timing as well as stress, and give scores. After the practice in class, the teacher received the diagnosis report immediately and gave another feedback to students.

Words	Comparison	Score	Remark
The	ð	86	
	ə	79	Your pronunciation of the sound is rough.
laugh	l	88	
	æ	95	
of	f	100	
	v	100	
the	ð	18	You are saying this sound wrong
	e	39	Your pronunciation is not good.
labor	l	100	
	eɪ	10	You are saying this sound wrong
	b	100	
	ə	100	
leader	l	0	This is the wrong

Total	Pronun.	Pitch	Timing	Emphasis
56	52	92	20	74

In the online community, the teacher's MyET account may check not only the practice results but also diagnosis reports of all students as well as the log-in history.

### English Diagnostic Report

[aɪ]	<24%	19%
[aʊ]	<25%	45%
[ɔɪ]	<23%	50%
[u]	<26%	5%
[iə]	<29%	0%
[eə]	<27%	0%
[ɑ:r]	<18%	46%
[ɔ:r]	<27%	31%
[əʊr]	<27%	0%
[u]	<29%	0%
[ue]	<27%	0%
[ei]	<25%	35%
[əu]	<39%	21%

Consonant		
Phonics	Standard Value	Your Error Rate
[p]	<32%	7%
[b]	<14%	49%
[t]	<24%	13%
[d]	<22%	5%
[k]	<24%	11%
[g]	<25%	6%
[m]	<17%	12%
[n]	<23%	15%
[ŋ]	<22%	24%

### English Diagnostic Report

[w] <18% 23%

**Suggestions:**

- For vowels, you frequently have problems with [i:] [e] [ɑ:] [ɒ] [ʌ] [ə] [aʊ] [ɔɪ] [ɑ:r] [ɔ:r] [ei]. We recommend you practice more to better improve your overall spoken English ability.
- For consonants, you are having problems with [b] [ŋ] [l] [f] [v] [θ] [w]. We suggest that you focus on these sounds when practicing.

\* For phonemes that appear less frequently, MyET may not be able to gather enough information to accurately assess your pronunciation. Statistical data for those phonemes is based on the limited data available to MyET.

**+ Pitch**

Item	Standard Value	Your Score
Error Rate for Sentence Intonation	<20%	16.3%
Average Score for Ending Pitch	>75.00	90.446
Pitch Contrast Level	>0.37	0.275

**Suggestions:**

- Your pitch inflection is much lower than the average. Others will have trouble grasping what you are emphasizing. We recommend you should watch how to raise and lower your pitch within a sentence to emphasize the points you are trying to make.

### English 3 in Siam University

- Bulletin Board >
- All-Stars >
- Setting & Management
- Basic Info >
- Assign Assistant >
- Members >
- Approve class Members >
- Announcements >
- Subscribe Progress Report >
- Time Spent on MyET >
- Homework Scores >
- Lesson Scores >
- Dissolve this Group >

### English 3 in Siam University

Members

Primary language being studied: English ▾

txy843215	xinyu tian	Delete
Report	English Diagnostic Report	
124768089	QIANRUI WANG	Delete
Report	English Diagnostic Report	
Liumy	MingYu Liu	Delete
Report	English Diagnostic Report	
luguangmao		Delete
Report	English Diagnostic Report	
ZiGuorui	guorui zi	Delete
Report	English Diagnostic Report	
xiaoyuxu585	xu xiaoyu	Delete
Report	English Diagnostic Report	
wuruicheng		Delete



On the 4<sup>th</sup> stage, guided practice, students would increasingly develop communication skills by doing information gap grid exercise instead of completely focusing on the pronunciation itself. On this stage, MyET was also employed for training for students in need. Students were in pairs to do the information gap grid exercise. There were two distributed worksheets. Student A and B individually got a monthly schedule worksheet with some messages written on some dates; however, some messages on the student A were missing, and appeared on student B's sheet, and vice versa. Each message included one target sound. The two students asked each other to fill out all the missing messages in order to get a complete monthly schedule. Meanwhile, the teacher also made observations on students in class to detect some common error sounds. After the exercise, the teacher not only checked the answers of the worksheets and illustrated the most common error, but also gave the feedbacks from what the teacher had noticed from the observation.

## Worksheet (A)

Sunday	Monday	Tuesday	Wednesd.	Thursday	Friday	Saturday
						1
2	3 ? collect Stewart's lesson plans	4 Take van to the beach	5	6 ? Practice a song - West story	7	8
9	10	11 ? Write a story about pirate of caribbean	12	13	14	15 Read a novel: The Road of the King
16	17 ? Find Stewart's long sentences	18	19 Fix the wiper	20	21	22
23	24	25 Meet Royal friends	26	27 ? Find information about WIP.	28	29
30 Clean The vine garden						

September 2018

Please fill in the missing information by asking each other questions about the blank (the "?" dates) of the calendar.  
Sample questions may be:

1. What is the teacher's plan on September 11th?

**Worksheet (B)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3	4	5	6	7	8
	Correct students' lesson plans	? Take van to beach		Practice a song: My Vest Story		
9	10	11	12	13	14	15
		Write a story about: Pilot of the Caribbean				? read a novel the lord of the King
16	17	18	19	20	21	22
	Find students' long sentences in their writing		? fix the wiper			
23	24	25	26	27	28	29
		meet loyal friend		Find information about wine		
30						
Clean the vain garden						

September 2018

Worksheet (B)

Please fill in the missing information by asking each other questions about the blank (the "?" dates) of the calendar.  
Sample questions may be:

1. What is the teacher's plan on September 11th?
2. Is he busy on September 15th? What will he do on this day?

Based on the results of the worksheets and the observation, some lower achievers are required to come back to MyET practices after class and the score as well as the log-in history were also recorded for further assessment.

Lastly, on the 5<sup>th</sup> stage, communicative practice, the teacher implemented role play activities to boost students' ability on not only pronunciation but also communication. Social media website was the tool to enhance students' learning. Students in pairs were required to write the role play scripts using some words based on the target sounds as much as they could. Role play activities were conducted in pairs; two role play cards (See Appendix F) were distributed to each pair. Students needed to make up their dialogue lines and upload to the Facebook for further checkup and comments from the teacher and peers.



### **Lesson Plan Validation**

The content validity was examined by three experts of English teaching. The suggested comments were revised and edited accordingly. In order to verify the effectiveness of lesson plans, evaluation forms for lesson plans were constructed. The results of the lesson plans evaluation forms were calculated on Item-Objective Congruence (See Appendix I).

#### *Verification of the Lesson Plan*

The lesson plan was validated by three experts in teaching English as a foreign language and linguistics fields (See Appendix J). From the overall unit plan evaluation, the experts from both teaching English as foreign language and linguistics fields agreed that the unit plan was appropriate. In addition, they had given constructive comments and suggestions as follows:

All the three experts mentioned there were not enough details on how the teacher and MyET give feedback on the lesson plan. Expert A suggested the content should be systematically arranged such as starting from easy sounds prior to difficult ones. As to the teaching stage 3, controlled practice stage, expert A and C considered Tongue Twisters too hard; expert A further suggested sequencing this part at the end of the control practice stage. Besides, it was recommended by expert B and C to rewrite the terminal objective and enabling objectives into learning outcomes.

In addition to feedback and objectives mentioned above, expert A also pinpointed the quality of the sample voice, the operation of the app, and that the time allocation of some stages needed rearranging.

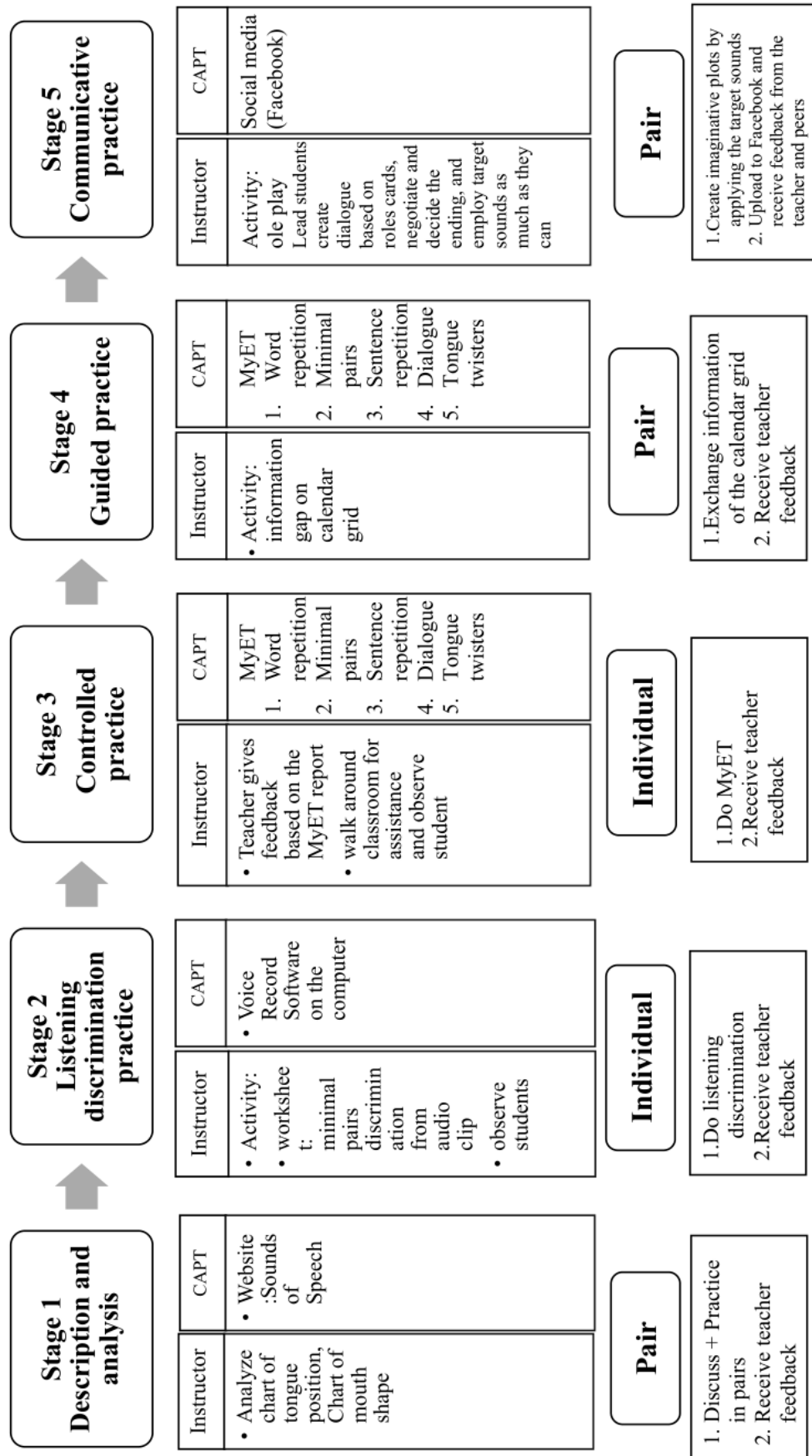
## Scope and Sequence

Summary of the Units, Topics, and Learning Outcomes in this Study

English III 117-242			
Units	Topics	Learning Outcomes	CAPT
<b>Unit 1 (W2-W3)</b> [See Appendix A]	<b>Consonant substitution</b>  /l/ - /r/ /v/ - /w/	1. Students will be able to properly identify and enunciate the minimal pairs of /l/-/r/ and /v/-/w/ with increasing intelligibility. 2. Students will be able to apply words with /l/-/r/ and /v/-/w/ in role play activities.	1. Website: Sounds of Speech 2. Audio player: Voice Record 3. MyET 4. MyET 5. Social media (Facebook)
<b>Unit 2 (W4-W5)</b>	<b>Consonant substitution</b>  /θ/-/ð/	1. Students will be able to properly identify and enunciate /θ/-/ð/ with increasing intelligibility. 2. Students will be able to apply words with /θ/-/ð/ sounds in role play activities.	1. Website: Sounds of Speech 2. Audio player: Voice Record 3. MyET 4. MyET 5. Social media (Facebook)
<b>Unit 3 (W6-W7)</b>	<b>Vowel substitution</b>  /eɪ/ -- /ɛ/ and /æ/	1. Students will be able to properly enunciate /eɪ/ with increasing intelligibility. 2. Students will be able to apply words with /eɪ/ sounds in role play activities.	1. Website: Sounds of Speech 2. Audio player: Voice Record 3. MyET 4. MyET 5. Social media (Facebook)
<b>Unit 4 (W8-W9)</b>	<b>Vowel substitution</b>  /aɪ/ -- /ɔ/ and /o/	1. Students will be able to properly enunciate /aɪ/ with increasing intelligibility. 2. Students will be able to apply words with /aɪ/ sounds in role play activities.	1. Website: Sounds of Speech 2. Audio player: Voice Record 3. MyET 4. MyET 5. Social media (Facebook)
<b>Unit 5 (W10- W11)</b>	<b>Suprasegmentals: stress, pitch</b>  Ex: I like ae'robic dance. I like 'Arabic dance.	1. Students will be able to properly use stress and pitch in the words and sentences in different language contexts. 2. Students will be able to naturally apply stress and pitch in role play activities.	1. Website: Sounds of Speech 2. Audio player: Voice Record 3. MyET 4. MyET 5. Social media (Facebook)

Figure 3.3 is the summary of the procedure all the 5 teaching stages in each unit.

Figure 3.4 Instructional Procedure in Each Stage of the Unit



### 3.3.1.2 Research Instruments

In addition to the instructional instrument, three research instruments were used to collect the data, which were English pronunciation tests, a questionnaire, and a semi-structured interview (As shown in Figure 3.4). The content of the pronunciation test was mainly based on the 5 designed units with a view to examining the effects of the instruction before and after. The two pronunciation tests of pre-test and post-test were identical. As to the questionnaire, the modified questionnaire (adapted from Prasarntong, N., & Dennis, N. K., 2016) consisted of two sections: Section I was for demographic information; Section II was to investigate student's opinions with 15 items. For the qualitative data, A semi-structured interview was used to explore students' opinions towards the instruction. Four interview questions were to explore the student's opinions on pronunciation improvement, MyET App, and the 5 stages in the communicative framework.

*Figure 3.5 Research Instruments of the Study*

<b>Research Instruments</b>	<b>Variable</b>	<b>Time of Assessment</b>
<b>English Pronunciation Test</b>	English Pronunciation ability	Before and after implementing the instruction (Week 1 and Week 12)
<b>Student Opinion Questionnaire</b>	Opinions towards an English instruction using CAPT	After implementing the instruction (Week 12)
<b>Semi-structured interview</b>	Opinions towards an English instruction using CAPT	After implementing the instruction (Week 12)

#### 3.3.1.2.1 Pronunciation Test

The content of the pronunciation test was mainly based on the 5 designed units with a view to examining the effects of the instruction before and after. The two



pronunciation tests of pre-test and post-test are identical. The sample of Pronunciation Test is illustrated in Appendix B.

The researcher studied and reviewed various types of pronunciation tests in relevant study, adopted appropriate types of tests, and adapt them to assess the pronunciation ability of the participants. The test was designed to measure the ability of pronouncing on the target sounds /l/- /r/; /v/-/w/; /θ/- /ð/, vowel substitution includes /eɪ/ as well as /aʊ/. Suprasegmental features: stress and pitch were also checked on MyET scoring system

Part I: There were 15 items of minimal pairs.

Part II: 5 pairs of suprasegmentals for checking stress ability were listed.

Part III: 5 items of dialogue (10 sentence) were listed.

Part IV: There are four paragraphs in this part. Each paragraph was composed of four to six sentences to measure the participant's target sounds /l/-/r/ as well as /v/-/w/; /θ/, /ð/, vowel substitution includes /eɪ/ as well as /aʊ/.

Suprasegmental features were also checked on MyET scoring and assessment system. The paragraphs contained taught key features in the 5 units. In addition, the material mainly consisted of phrases and short sentences instead of isolated words to elicit the test taker's natural pronunciation without feeling being tested. The vocabulary in the passage was frequently used in daily life to make sure the test takers read the passage easily and naturally (Liang Enli, 2014).

Part III: This part was inclusive of 2 dialogue patterns.

It was for measuring the participant's target sounds /l/-/r/ and /v/-/w/

as well as /θ/, /ð/, /eɪ/ as well as /aʊ/. Suprasegmental features were also checked on MyET scoring and assessment system.

After the validation and pilot tests, the revised version of this pronunciation test items were uploaded by the researcher to the My ET platform. Later, the researcher tested whether all the contents on the MyET are ready to work well.

It took students 30 minutes to complete the test on each individual's smartphone. When implementing the test, the teacher stayed in the classroom to provide necessary assistance when students had any problem during the test period.

After conducting the pronunciation test, not only did the teacher get each participant's scores, but the report will indicate the error sounds and compare the score with the mean score of the big data to locate the student's proficiency on higher or lower the average level.

#### *Verification of the Pronunciation Test*

The appropriateness of the pronunciation test was checked by using index of Item Objective Congruence (IOC). The content validity of the test items was evaluated by three experts in the fields of English language teaching and linguistics (See Appendix J). Three experts were asked to rate each item for whether the item was congruent with the objective stated (See Appendix K).

The IOC index ranges from -1 to 1 as follows:

Congruent = 1

Questionable = 0

Incongruent = -1

The Item-Objective Congruence (IOC) index is calculated. Items with index lower than 0.5 should be improved.

### Verification of the Pronunciation Test

Experts A and B suggested systematically reorganizing the item sequence from easy to more difficult. In addition, segmental and suprasegmentals should be categorized independently instead of mixing them in one part; for example, sounds to test stress of suprasegmental features could be separated from the Part I, and be redesigned as a new Part. Also, expert A recommended omitting cluster sounds from Part I, because they were a bit hard in the preliminary pronunciation training. Meanwhile, in Part II, each of the four paragraphs was too long, and could be abbreviated. Expert B gave the only “-1” on item Dialogue (A) while other items were all rated “1”. Meanwhile, expert D revised item 21, 22, 23, 29 in Part I, and item Dialogue (B) in Part II, which were unacceptable on the IOC and to be redesigned.

#### **3.3.1.2.2 Student Opinion Questionnaire**

The modified questionnaire (adapted from Prasartong, N., & Dennis, N. K., 2016) consisting of 15 items was developed into a student opinion questionnaire (See Appendix G) in English and Chinese. It consists of two sections: Section I is for demographic information, and Section II is for investigating student’s opinions.

##### **Section I: Demographic Information**

The researcher designs a personal information part.

In this selection, the respondents are required to complete the personal information as the follows:

1. Name \_\_\_\_\_ 2. Age \_\_\_\_\_ 3. Gender \_\_\_\_\_ 4. Major \_\_\_\_\_

5. GPA \_\_\_\_\_

6. Native dialect:

Mandarin Chinese     Jin                       Wu                       Hui

- Xiang       Gan       Hakkas       Hokkien  
 Huangdong     Ping       Other \_\_\_\_\_

7. Where is your hometown? \_\_\_\_\_

8. Spent time on learning and speaking Thai:

- Never       Less than 1 year     More than 1 year

9. Have you ever traveled abroad (apart from Thailand)?

No

Yes      Where: \_\_\_\_\_

How long: \_\_\_\_\_

## Section II: Student's Opinions

15 items divided into 3 sections were designed in the questionnaire to answer the research question 2: What are the students' opinions towards the communicative framework instruction using CAPT?

The Q1 to Q6 constituted the section 1 to investigate the students' perception on the learning effects of the communicative framework instruction using CAPT on English pronunciation. The section 2, Q7 to Q10, was to explore the opinions of the effects of MyET app. Besides, the feedback on MyET was set on the Q11 to Q15 as the section 3.

Likert-type Scale was used as the rating scale to measure the student's opinions toward communicative framework using CAPT (See Appendix G). There were 15 items in this questionnaire. For each statement, the respondents selected one answer to

express their opinions towards that item. The five options are listed according to the degree of agreement:

- 1 means strongly Disagree
- 2 means Disagree
- 3 means Neutral
- 4 means Agree
- 5 means Strongly Agree

The appropriateness of the questionnaire was checked by using index of Item-Objective Congruence (IOC). Three experts in the fields of English language teaching and linguistics (See Appendix J) were asked to decide whether the items were appropriate and to suggest revision as necessary (See Appendix L). In addition, the items were translated into Chinese version by the researcher and were validated by a Chinese native speaker teaching in university. The Index of Item Objective Congruence (IOC) was developed and used to check whether the translation from English to Chinese was correct and appropriate (See Appendix L). The IOC experts were asked to validate the questionnaire.

The IOC index ranges from -1 to 1 as follows:

Congruent = 1

Uncertain = 0

Incongruent = -1

Results of the evaluation form indicate higher than 0.5 are proved appropriate.

### Verification of the Questionnaire

Both experts E and G suggested grouping the 15 questions on the questionnaire into the following three categories: perception of the students on the effects of the pronunciation instruction, MyET, and instructional teaching stages. Some grammatical errors on the question statement were also revised by expert E and F. Besides, expert F proposed changing item 11-15 from interrogative to affirmative sentences. All the 15 items on the IOC were acceptable (over 0.5).

#### **3.3.1.2.3 Student Interview Questions**

For the qualitative data, they were collected through interviews (See Appendix H). A semi-structured interview was used to explore students' opinions towards the implementation of communicative framework instruction using CAPT on English pronunciation. Four interview questions were to explore the student's perception on the learning effects of the pronunciation instruction using CAPT (Q1 and Q2), the opinions on MyET App (Q3), and the feedback on the 5 stages of the communicative framework (Q4). The data obtained from the semi-structured interview were analyzed and used to cross check the results of the student opinion questionnaire. Interview Q1 and Q2 corresponded to the questionnaire item 1 to item 6; Interview Q3 was in line with questionnaire item 7 to 10; Interview Q4 agreed with questionnaire item 11 to 15.

The interview required the students to express their opinions about this instruction.

6 interviewees were picked out from the 17 participants in the high, medium and low score groups of the post-test to elicit their opinions on the communicative framework instruction using CAPT on English pronunciation.

Students' opinions towards the instruction using CAPT on English pronunciation in terms of frequencies of keywords and key phrases were analyzed in the following two categories: advantage and disadvantages (Sutthiroj, W, 2015).

### **Interview Questions Validation**

The semi-structured interview questions were validated by three experts in the fields of English language teaching and linguistics (See Appendix J). The experts were asked to check the appropriateness of the questions by using “appropriate and need improvement” evaluation form (See Appendix M).

#### Verification of Interview Questions

As to the interview questions, expert G suggested interview question 1 and 4 should be revised, while expert E and F correct some minor grammatical and spelling problems on the interview question 1, 2 and 4.

Original version: Q1: What do you think about your English pronunciation ability after the communicative framework instruction using CAPT?

**Revised version:** Q1: What do you think about **your ability to pronounce**

**English** after **receiving** the communicative framework instruction using CAPT?

**(Improved? Any progress has been made? )**

Original version: Q2: Do you think the communicative framework instruction using CAPT helps you improve your English pronunciation? If yes, how?

**Revised version:** Q2: **How** do you think the communicative framework instruction

using CAPT **helped** you improve your English pronunciation?

If yes, how?

Original version: Q3: Do you think MyET is useful in learning pronunciation? If yes, how?

**Revised version:** Q3: Do you think MyET is useful in learning pronunciation? If yes, how?

Original version: Q4: Do you think each stage of communicative framework instruction using CAPT helped you improve your English pronunciation ability? If yes, what stages and how did the improve your English pronunciation?

**Revised version:** Q4: Do you think each stage of communicative framework instruction using CAPT helped you improve your English pronunciation ability? If yes, what stages and how did **they** improve your English pronunciation? **What stage do you think need improving the most? Why?**

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### 1.3 Pilot and Revise the instruments

#### Lesson Plan Pilot

After doing the revision based on the experts' suggestion, a pilot study was done to check the appropriateness of the lessons and detect problems that could occur before the actual implementation. The lesson was tried out by 5 Chinese undergraduate students with similar backgrounds of the participants in Siam University. The lesson plan was revised again after the pilot study. The following are the inspiration. First, the teacher needs to have good sense of time allocation.



Therefore, sometimes the spare time as the buffer in the real class is necessary. Second, some directions to do activities need to be revised so that students can understand the regulation easily. Last but not least, it is essential to prepare one or two smartphones in class for students encountering smartphone failure or out of battery problems.

### **Pronunciation Test Pilot**

After the pronunciation test was validated on the IOC checked by three experts.

Then the test was tried out with same group of the 5 Chinese undergraduate students in Siam University. The pronunciation test was revised again before the real implementation.

### **Student Questionnaire Pilot**

A pilot test was administered to the same group of the 5 Chinese undergraduate school in Siam University to ensure that there were no ambiguous words or confusing statements that might affect the content validity. The student opinion questionnaire was revised again after the pilot test.

## **3.3.2 Phase 2: The Implementation of the Communicative Framework**

### **Instruction using CAPT**

#### **3.3.2.1 Conduct the Instruction in 12 weeks**

There were 12 sessions in the 12 weeks. Each session time was 90 mins.

Week 1 and Week 12 were the pre-test and post-test respectively. There were five designed units in the instruction. Each unit is composed of two sessions. The five

units of the instructional design were implemented during Week 2-3, Week 4-5, Week 6-7, Week 8-9, and Week 10-11.

**Week 1:** In the first week of the instruction, students were arranged to do the pronunciation test MyET on their smartphones in the classroom. It took 50 minutes to be familiar with the operation of the MyET App (20 min) and the pronunciation test (30 mins). The other 40 mins was the time for the course introduction as well as the Q & A.

### **Week 2-3 (Unit 1: Session 1 & Session 2)**

Each instruction unit circle consisted of two sessions covering five teaching stages.

#### *Teaching Stage 1. Description and analyses (in the 1st session):*

The teacher presented the target sounds to do the description and analyses so that students may have a basic concept on the sounds. This stage was also supported by the illustration of Sounds of Speech website. Followed by watching mute animation of target minimal pairs, the activity required student to identify which sound it is from the target minimal pair. After revealing the answer on the animation with sounds, the teacher gave explicit instruction on the features, and asked students to pronounce the target sounds, adjust the mouth shape, and the tongue position by imitating the animation demonstration.

#### *Teaching Stage 2. Listening discrimination (in 1st session)*

The teacher used CAPT tool, Video Record, to implement minimal pair discrimination exercises to familiarize students with the target sounds [See Appendix C].

After the listening discrimination, the teacher assigned MyET homework.

*Teaching Stage 3. Controlled practice on CAPT (in 2nd session)*

In this stage, MyET was implemented as the CAPT tool in students' activity [See Appendix D]. The students' attention should be completely on the form. When students were doing the CAPT, the teacher walked around the classroom and provided necessary assistance when needed. Later, the teacher gave instruction focusing on the most common errors in class based on the students' MyET reports.

*Teaching Stage 4. Guided practice (in 2nd session)*

The students' attention was no longer entirely on form. Instead, the focus started to move on meaning, grammar and communication as well as pronunciation. The teacher developed a continuum of bridging activities that shift attention gradually to a new cognitive task, information gap grid [See Appendix E]. After checking up the worksheet answers of students and gave instruction, the teacher singled out some problematic error sounds and assigned low achievers to redo the MyET practice.



*Teaching Stage 5. Communicative practice (in 2nd session)*

In the 5<sup>th</sup> stage, the communicative practice activity, role play, stroke a balance between form and meaning [See Appendix F]. However, even in this communicative practice stage, the learners should still spotlight on the target sounds that are incorporated in the provided materials in the activities. Later, the teacher gave groups feedback in class and asked students to do the role play video and upload to the Facebook to receive comments of the teacher and peers subsequently.

**Week 4-5 (Unit 2: Session 1 & Session 2)**

**Week 6-7 (Unit 3: Session 1 & Session 2)**

**Week 8-9 (Unit 4: Session 1 & Session 2)**

**Week 10-11 (Unit 5: Session 1 & Session 2)**

### **3.3.2.2 Post-test the Pronunciation Test**

**Week12:** Students are arranged to do the pronunciation test on MyET on their Smartphones. It took 30 mins to take the pronunciation test.

### **3.3.2.3 Conduct Student Questionnaire**

**Week12:** Teacher conducts questionnaire to student for 20 mins and the left 30 mins will be the wrap up as well as Q & A time.

### **3.3.2.4 Interview Students**

A semi-structured interview was conducted after implementing the instruction. The participants will be interviewed on record. 6 interviewees were selected based on the high, mid, and low score group students in the post-test. The participants were interviewed in their first language, Chinese language, for the sake of student's being able to freely and accurately elaborate what they really think (See Appendix H).

### **3.3.2.5 Data Analysis**

Research Question 1:

To examine the effects of the communicative framework instruction using CAPT on Chinese undergraduate students' pronunciation ability. The pre-test and post-test scores were analyzed by means, standard deviation, and Wilcoxon signed ranks test

quantitatively to see if the difference in the scores was statistically significant at level of 0.05.

**Research Question 2:**

To answer the research question about Chinese students' opinions towards the communicative framework instruction using CAPT. The quantitative questionnaire data as well as the qualitative data from the semi-structured interview were analyzed. Mean scores and standard deviation of the questionnaire were calculated, and qualitative interview data were analyzed through content coding after the recordings were transferred into transcript. The researcher read the transcription for relevant keywords, phrases or sentences that match the categories to triangulate the data of questionnaire and interview (Johnson & Turner, 2003).

The research methodology of this research is summarized as following:

*Figure 3.4 Research Procedure based on each research question*

<b>Research Question</b>	<b>Research Instrument</b>	<b>Data Analysis</b>
<b>1. To what extent does a communicative framework instruction using CAPT affect the English pronunciation ability of Chinese undergraduate students?</b>	English Pronunciation Test	Mean scores Standard deviation Wilcoxon signed ranks test
<b>2. What are the students' opinions towards the communicative framework instruction using CAPT?</b>	Questionnaire Semi-structured interview	Mean scores Standard deviation Key coding

## Chapter Four: RESULTS

### 4.1 Introduction

This chapter presents the findings of the current study, reporting both quantitative and qualitative results. 5 Unit plans consisting of 10 pronunciation dimensions based on the communicative framework instruction using CAPT on English pronunciation were implemented in a class of 17 third-grade Chinese students at a university in Bangkok, Thailand. Before the instruction, the students took a pre-test of English pronunciation adapted from the 10 pronunciation dimensions of the 5 designed units. After the instruction, one post-test, the identical one as the pre-test, was done. After the post-test, the 17 students were given a questionnaire to investigate their opinions. The researcher then selected 6 interviewees out of the 17 students. The 6 interviewees were singled out from each of the following 3 groups, the high, medium, and low score groups in the post-test. Each group was picked out 2 interviewees.

According to the objectives of the study, the analysis of the data was presented in accordance with the two research questions in the first chapter, presented as follows:

1. The effects of communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students
2. The students' opinions towards the communicative framework instruction using CAPT on English pronunciation Based on the results of the two pronunciation tests (pre-test and post-test), the questionnaire, and the interviews, the research questions were answered respectively as follows.

#### **4.2 Research Question 1: The effects of communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students.**

In this part, the results are presented quantitatively. The researcher evaluated students' pronunciation ability through the pre-test and post-test from the MyET App. The results were calculated for mean and standard deviation of scores from the pre-test and post-test. To find if the pre-test and post-test scores are statistically different, Wilcoxon signed ranks test was applied since the student number was less than 30. Wilcoxon signed ranks test in non-parametric tests is a statistical tool to calculate the result. It's a counterpart of t-test in parametric tests (Larson-Hall, 2015).

#### **The pre-test and post-test scores are revealed from the pronunciation tests.**

Table 4.1 shows the results regarding descriptive statistics.

**Table 4.1** *Descriptive Statistics of the overall English pronunciation test score of all students*

<b>Pronunciation Test</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>S.D.</b>	<b>Median</b>
<b>pre-test</b>	49.02	83.83	70.54	7.57	72.39
<b>post-test</b>	66.44	85.96	74.47	5.58	75.91

Note: n =17. Total score = 100

As in Table 4.1, student number is 17; the total score of the test is 100 points. For pre-test, the minimum score is 49.02, and the maximum score is 83.83. For post-test, the minimum score is 66.44, and the maximum score is 85.96. It can be found that the mean score of post-test, 74.47 (S.D. =5.58), is higher than that of the pre-test, 70.54 (S.D. = 7.57); meanwhile, the median score of post-test, 75.91, is also higher than that

of the pre-test, 72.39. The improvement in scores shows the students' English pronunciation ability improved after the instruction.

### Statistical difference between the pre-test and post-test scores of students

To find if the pre-test and post-test scores are statistically different, Wilcoxon signed ranks test result is reported in Table 4.2.

**Table 4.2 Statistical difference between the pre-test and post-test scores of students using Wilcoxon signed ranks test**

Ranks		N	Mean Rank	Sum of Ranks
post-test - pre-test	Negative Ranks	2 <sup>a</sup>	10.05	21.00
	Positive Ranks	15 <sup>b</sup>	8.80	132.00
	Ties	0 <sup>c</sup>		
	Total	17		

*Note.*

a. post-test < pre-test.  
b. post-test > pre-test.  
c. post-test = pre-test.

Test Statistics <sup>b</sup>	
post-test - pre-test	
Z	-2.627 <sup>b</sup>
Asymp. Sig. (2-tailed)	.009

*Note.*

- a. Based on negative ranks.  
b. Wilcoxon Signed Ranks Test.



Table 4.2 shows that out of 17 students, 15 students scored higher in the post-test than in the pre-test. The pre-test and post-test are significantly different at .009 level ( $p < 0.05$ ). The effect size was calculated on Wilcoxon signed ranks test equation for a percentage variance measure of  $r$ ,  $r = Z/\sqrt{N}$  (Larson-Hall, 2015). It shows that the communicative framework using CAPT on English pronunciation instruction had significant effect on the results, as can be seen from the great difference between the pre-test and post-test scores. In other words, the communicative framework using CAPT on English pronunciation instruction significantly improved the students' English pronunciation ability.

#### **Students' post-test score ranking**

Table 4.3 lists the 17 students' pre-test and post-test individually.

In Table 4.4, the researcher ranks students' post-test score for the purpose of singling out 6 interviewee candidates from the high, medium, and low score groups to do the interview.

***Table 4.3 The student score list in the post-test***

Student	Pre-test (total = 100)	Post-test (total = 100)	Score Difference
S01	49.02	66.44	17.42
S02	69.05	70.53	1.48
S03	75.39	79.11	3.72
S04	72.39	77.94	5.55
S05	75.90	75.91	0.01
S06	64.36	70.46	6.10
S07	67.26	76.77	9.51
S08	64.49	69.75	5.26
S09	83.82	85.96	2.14
S10	76.46	79.05	2.59
S11	73.68	76.53	2.85

S12	72.76	67.16	- 5.60
S13	74.45	70.39	- 4.06
S14	76.39	80.47	4.08
S15	66.11	68.56	2.45
S16	70.78	79.91	9.13
S17	66.77	71.10	4.33

*Table 4.4 The student score ranking in the post-test*

<b>Student</b>	<b>Pre-test (total = 100)</b>	<b>Post-test (total = 100)</b>
S09	83.82	85.96
S14	76.39	80.47
S16	70.78	79.91
S03	75.39	79.11
S10	76.46	79.05
S04	72.39	77.94
S07	67.26	76.77
S11	73.68	76.53
S05	75.90	75.91
S17	66.77	71.10
S02	69.05	70.53
S06	64.36	70.46
S13	74.45	70.39
S08	64.49	69.75
S15	66.11	68.56
S12	72.76	67.16
S01	49.02	66.44

Since the 17 students are categorized into high, mid, and low groups, the researcher classified student groups in accordance with post-test ranking 1- 6, 7-11, and 12-17 respectively. The researcher selected 2 students from each of the 3 groups

to do the interview. S16 and S04 are the high group interviewees. S11 and S05 are in the mid group. S08 and S01 represent the low group students.

In addition to the student grouping task, it can be noticed on the table 4.3 that out of the 17 students, there were only 2 students getting lower post-test mean scores. Overall, the results show decent progress after the pronunciation instruction using CAPT.

After receiving the pronunciation, student S01 made enormous strides at the improvement of 17.42 points. He was the only one student that got all the 10 pronunciation dimensions scores higher than the pre-test, though he earned the least score in the post-test among all. Student S12 and S13, however, didn't make improvement; instead, they got less scores than the pre-test.

#### **Statistical difference between the pre-test and post-test of the 10 dimensions of pronunciation instruction**

To further explore the statistical difference between pre-test and post-test mean scores on the 10 pronunciation dimensions, /l/, /r/, /v/, /w/, /θ/, /ð/, /eɪ/, /aʊ/, pitch, and stress, Table 4.5 and Figure 4.1 illustrate the results of the comparison.

***Table 4.5 Score Differences between the pre-test and the post-test scores of the 10 pronunciation dimensions***

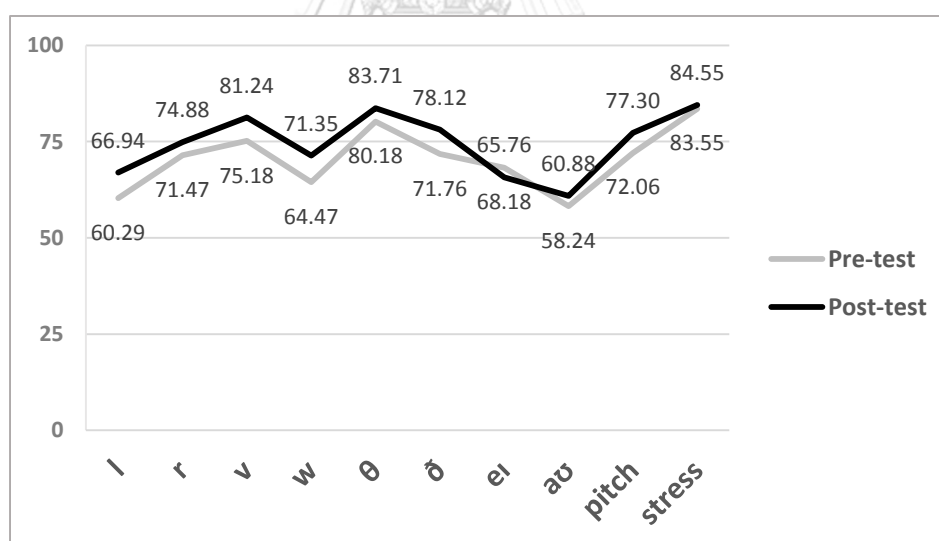
Test part	Pre-test		Post-test		Mean
	Mean	S.D.	Mean	S.D.	Difference
l	60.29	7.64	66.94	10.00	6.65
r	71.47	15.48	74.88	13.17	3.41
v	75.18	6.52	81.24	7.39	6.06
w	64.47	13.56	71.35	14.36	6.88
θ	80.18	10.90	83.71	13.99	3.53
ð	71.76	15.68	78.12	15.80	6.36
eɪ	68.18	10.47	65.76	12.46	-2.42

au	58.24	17.29	60.88	15.95	2.64
pitch	72.06	7.27	77.30	2.94	5.24
stress	83.55	3.98	84.55	1.92	1.00

Among the 10 dimensions: /l/, /r/, /v/, /w/, /θ/, /ð/, /eɪ/, /aʊ/, pitch, and stress, the consonants got more improvement than other dimensions. The two vowels got the improvement no more than any of the consonants. The /eɪ/ sound even regressed to - 2.42.

As to the suprasegmentals, pitch got fair score advancement while stress made progress by only one point.

**Figure 4.1 Comparison pre-test and post-test scores on the 10 dimensions of pronunciation instruction**



According to Table 4.5 and Figure 4.1, it can be seen that among the 10 dimensions of pronunciation, the mean differences between pre-test and post-test of the 7 segmental dimension, /l/, /r/, /v/, /w/, /θ/, /ð/, /aʊ/ got general improvement. The improved range are were from 2.64 to 6.88 points. However, /eɪ/ was the only dimension that showed the regression by 2.42 points. Among them, /w/ sound made

the most progress by 6.88 points; /au/ sound improved the least by only 2.64 points. In respect of suprasegmentals, pitch and stress rose 5.24 and 1.00 points more than the pre-test respectively. Overall, all dimensions got higher score, and there was only one dimension got lower score than the previous pre-test.

#### **4.3 Research Question 2: The students' opinions towards the communicative framework instruction using CAPT on English pronunciation**

This section presents both quantitative and qualitative results obtained from the questionnaires of 17 participants. 6 interviewees were picked out from the high, medium and low score groups in the post-test to elicit their opinions on the communicative framework instruction using CAPT on English pronunciation.

##### **Results from the questionnaire**

Firstly, the data obtained from the questionnaire will be presented. The results are presented based on the three main categories of the questionnaire: 1. The feedback of the students on the effects of the communicative framework instruction using CAPT on English pronunciation (Q1-Q6); 2. The opinions of the effects of MyET (Q7-Q10); 3. The feedback of the five stages in the communicative framework instruction using CAPT on English pronunciation (Q11-Q15).

The mean scores and standard deviations of the students' responses were calculated. For interpretation, mean score 4.0 and above are considered to reflect positive attitude, 2.6-3.9 reflect neutral attitude, and 2.5 and below show negative attitude (Simsek, 2008). Table 4.6 display the results of the students' opinions.

*Table 4.6 Questionnaire results*

No	Statements	$\bar{x}$	S.D.
1.	I think the pronunciation instruction class promoted my activity participation more in the classroom.	4.12	1.05
2.	I think the pronunciation instruction class helped me to pay more attention to the teacher.	4.00	1.12
3.	I think taking the pronunciation instruction class was interesting.	3.76	1.25
4.	The pronunciation instruction class promoted me to try to communicate more with the others.	3.82	1.07
5.	The pronunciation instruction class made me learn how to pronounce new words correctly.	4.41	1.00
6.	Learning English pronunciation through the pronunciation instruction class improved my English pronunciation.	4.41	1.00
7.	MyET App promoted me to practice pronouncing more words.	4.18	1.07
8.	MyET promoted me to spend more time practicing pronunciation.	4.06	0.97
9.	MyET promoted me to finish and turn in assignment on time.	4.18	0.81
10.	MyET promoted me to learn English pronunciation by myself after class.	4.29	1.11
11.	The teacher's analysis and description on how to pronounce helped improve my English pronunciation.	4.29	0.85
12.	Listening to minimal pairs helped improve my English pronunciation.	4.24	0.75
13.	MyET assignments helped improve my English pronunciation.	4.29	0.85
14.	Calendar information gaps activity helped improve my English pronunciation.	4.29	0.69
15.	The Role play activity helped improve my English pronunciation.	4.12	1.05
	<b>Grand Mean Score</b>	<b>4.16</b>	<b>0.98</b>

From Table 4.6, the opinions of the students towards the communicative framework instruction using CAPT on English pronunciation tended to be positive,

with the grand mean score of 4.16. The mean score of all items were higher than or equal to mean score 4.0 except statement 3 and 4.

Statement 5: *The pronunciation instruction class made me learn how to pronounce new words correctly* and statement 6: *Learning English pronunciation through the pronunciation instruction class improved my English pronunciation* both received the highest score, 4.41.

There were 4 Items receiving the second highest mean score at 4.29, which were statement 10: *MyET promoted me to learn English pronunciation by myself after class*, statement 11: *The teacher's analysis and description on how to pronounce helped improve my English pronunciation*, statement 13: *MyET assignments helped improve my English pronunciation*, and statement 14: *Calendar information gaps activity helped improve my English pronunciation*. Following the 4 items was the statement 12: *Listening to minimal pairs helped improved my English pronunciation*, whose mean score was 4.24. The following items with mean score 4.18 were statement 7 and 9. Statement 7 mentioned *MyET App promoted me to practice pronouncing more words*. Statement 9 was about *MyET promoted me to finish and turn in assignment on time*. The other two items getting mean score 4.12 were statement 1 and 15.

Statement 1: *I think the pronunciation instruction class promoted my activity participation more in the classroom*. Statement 15: *The role play activity helped improve my English pronunciation*. There were still 2 items over 4.00, which were statement 8: *MyET promoted me to spend more time practicing pronunciation*, and statement 2: *I think the pronunciation instruction class helped met to pay more attention to the teacher*.

The above 13 items were higher than or equal to the mean score 4.0; however, there were two items lower than mean score 4.0. Statement 4: *The pronunciation instruction class promoted me to try to communicate more with the others*, which had the mean score of 3.82. Statement 3: *I think taking the pronunciation instruction class was interesting*, which had the mean score of 3.76, the lowest score among the 15 items. Wong (1993) indicated that pronunciation is not boring, but that teaching of pronunciation is boring because it is done in a boring way. In other words, practicing pronunciation in a monotonous and unvaried way is boring. Despite that authentic material such as role play activities in class to offer students fun and autonomy promoted learning, the other drilling parts still bored students to some extent.

According to the results, it is interesting that the two highest and two lowest mean score items fell in the first main categories discussing the feedback of the students on the effects of the communicative framework instruction using CAPT on English pronunciation (Q1-Q6). It can be concluded that students highly recognized that the instruction improved their English pronunciation and the ability to pronounce new words correctly, while they still felt that they were not willing to communicate more with others and that pronunciation instruction class was not interesting.

### **Results from the interview**

To explore the opinions of the students towards the communicative framework instruction using CAPT on English pronunciation, the data obtained from the interview were analyzed with content coding. The interview required the students to express their opinions about this instruction. Table 4.7 shows the students' opinions towards the instruction using CAPT on English pronunciation in terms of the



advantages and disadvantage of this instruction. The frequencies of keywords and key phrases in the content coding are illustrated as follows:

**Table 4.7 Students' Opinions towards the communicative framework instruction using CAPT on English pronunciation**

Students' Opinions	Frequencies of keywords/key phrases in the answer
<b>Advantages</b>	
1. Learning how to pronounce and improve the pronunciation skills	26
2. Developing self-confidence and creating engaging learning environments	21
3. Providing more opportunities for learning inside and outside Classroom	16
4. Building cooperative learning environments	8
5. Enhancing learner autonomy	5
<b>Limitations</b>	
1. Instability of the App recording quality	4
2. Problems in Guided Practice stage	2

*Note.* The total frequencies of keywords / key phrases in the answer were 82

In analyzing the students' opinions towards the communicative framework instruction using CAPT on English pronunciation, two main aspects of students' opinions were focused: the advantages and disadvantages of the communicative framework instruction using CAPT on English pronunciation. "Learning how to pronounce and improve pronunciation skills" was mentioned the most ( $f = 26$ ) among the 5 advantages, followed by "developing self-confidence and creating engaging learning environments" ( $f = 21$ ), and "providing more opportunities for learning inside and outside classroom" was mentioned the third most ( $f = 16$ ). However, almost all the interviewees mentioned the instability of the operation on this app ( $f =$

4); some interviewees reported the problems of stage 4, guided practice stage ( $f = 2$ ), was the limitation of the communicative framework instruction using CAPT on English pronunciation.

To elaborate more on students' opinions towards the communicative framework instruction using CAPT on English pronunciation, the following section shows the excerpts from the content coding of two main aspects including advantages and limitation obtained from the semi-structured interview.

### **Advantages from students' opinions:**

#### ***1. Learning how to pronounce and improve pronunciation skills***

In regarding to learning how to pronounce and improve pronunciation skills, the analysis revealed that this advantage obtained the most frequencies in the answer from the interviews. (1) Interviewees described the detailed feedback from the MyET diagnostic report improved their pronunciation skills. (2) The effectiveness of description and analysis, as well as listening discrimination practice both gave rise to the improvement. Furthermore, (3) the feedback of the teacher and peers also played an important role. The communicative framework instruction using CAPT on English pronunciation design is reasonable and scientific.

The followings are the keywords and key phrases on learning how to pronounce and improve the pronunciation skills:

*upgrade/ feedback/ diagnostic report/ improve/ give suggestions/ easier to learn/ I know specifically/ concrete feedback/ useful for learning/ inspire/ how to do the pronunciation/ articulate well/ convincing and effective way/ reasonable/ scientific*

For the examples, S04 mentioned the communicative framework instruction using CAPT on English pronunciation helped him upgrade his pronunciation

knowledge and improve his pronunciation ability by giving the feedback in detail and identifying the highlighted errors to practice more.

*Excerpt 1*

S04: *“I think after I started to take the pronunciation class, I found my overall pronunciation ability was upgraded, the feedback from the diagnostic report of MyET generalized my problems and identified my mistakes in details, which did improve my pronunciation a lot. In addition, when I didn’t pronounce well, the grading system would highlight the error parts and give some suggestions so that I may focus on these parts and fix them later on.”*

The following excerpt also confirms how they learn to pronounce and the improvement they make. S08 was impressed by the stage one: description and analysis as well as the stage two: listening discrimination practice.

*Excerpt 2*

S08: *“On the first stage, we imitated and practiced the sounds after teacher’s analysis. Yes, it is much easier to learn pronunciation when I know specifically what I should do to pronounce the sounds; moreover, my listening skill got improved as well due to the training of distinguishing the minimal pairs.”*

Moreover, S11 reported his satisfaction of learning on how to learn and improve his pronunciation. The student emphasized the point on the feedbacks of teacher, MyET and peers.

*Excerpt 3*

S11: *“The teacher made good use of multimedia and animation to illustrate the tongue position, shape of the mouth, and how it goes when doing the articulation; also, the teacher gave the concrete feedback right after he listened to the students’ in-*

*pair practice in the classroom, which was quite useful for learning. MyET had its comprehensive report evaluating my pronunciation level from the big data, so I can know how good I am on average. On top of that, activities in pair might inspire my learning by receiving feedbacks from my partner.”*

Consistently, S16 told the interviewer that MyET is a good means to support the learning of pronunciation. Meanwhile, the communicative framework instruction using CAPT on English pronunciation is really a scientific approach to learn English pronunciation.

*Excerpt 4*

S16: *“The animation, real native speaker video clip, and MyET demonstrated how to do the pronunciation in different perspectives. We could recognize all the details of articulation very well. This is quite a convincing and effective way to learn the English pronunciation. Besides, all the communicative framework instruction using CAPT is reasonable and scientific with logical design.”*

**2. Developing self-confidence and engaging learning environments**

In terms of developing self-confidence and engaging learning environments, this advantage obtained the second most frequencies from the students' answers. Some students stated that some activities were interesting, and they had less anxiety when they were speaking in class. Besides, they had confidence. They are more interested in learning English now because their English can be more understandable and they have more confidence. (3) They feel writing their own script is fun, and doing the role play made them willing to talk more. (4) Face problem and embarrassment decreased when making mistakes in front of their phones, and they have more confidence to speak more.

The followings are the keywords and key phrases on developing self-confidence and creating engaging learning environments:

*confidence/ confident/like English more / less anxiety/ be willing to/ understandable/ interesting/ interested/ fun*

For the examples, S04 mentioned he felt he could speak more English and better. His anxiety when speaking English got lower when doing some fun activities.

*Excerpt 1*

S04: “*I have confidence now when speaking English. I think I may speak more standard English. I feel I like English more than before. I am more willing to talk in English now. Besides, writing role play script is really fun.”*

Consistently, as shown in the excerpt 2, S08 reported that he could make himself more understood when speaking English, so he felt confident now.

*Excerpt 2*

S08: “*After taking the class, more people understand my English. When I couldn't pass the minimum requirement on MyET, I would practice more. So, now my English pronunciation is more understandable. I feel very confident, and more interested in learning English now.”*

The following excerpt also revealed that S05 was really fond of the role play activity and she enjoyed the time.

*Excerpt 3*

S05: “*I like to write something fun on the role play scrip; we can tease and make fun of each other. I feel it is really fun because it may train your sense of creativity and thinking ability.”*

In addition to the preceding excerpt, S11 also confirmed that he felt more confident when speaking English to the phone in that the MyET app may save his face.

*Excerpt 3*

S11: *“I used to have problems opening my mouth to speak English because I felt embarrassed whenever I spoke English with people. MyET creates an anxiety free learning environment where I am willing to talk with a small device. I have confidence to talk to a machine, and more confidence to talk with people now.”*

**3. Providing more opportunities for learning inside and outside classroom**

In regarding to providing more opportunities for learning inside and outside classroom, students mentioned with this app, they can practice the pronunciation unlimitedly. They may also practice more before joining the online pronunciation contests. Moreover, they felt it is convenient because they may practice anytime and anywhere in a quiet environment with Internet. They use the scattered time and it is more flexible for learning English in terms of time and space.

The followings are the keywords and key phrases on providing more opportunities for learning inside and outside classroom.

*unlimited/ more opportunities/ anytime/ anywhere/ no limited/ practice more/ convenient/ spend more time on English/ make good use of time*

For the examples, S04 described that he may do the practice unlimitedly on the App.

*Excerpt 1*

S04: “The exercises are unlimited, so I may practice it to my content. I have problems on some sounds so I like to take more opportunities to use it anytime and anywhere.”

Consistently, S05 also felt that no limitation was quite useful. She could join the contest as well and she would practice more before the contest.

*Excerpt 2*

S05: “Since the MyET can be used online and it has no limited times to practice, I may also join some online English pronunciation contests. I practice more to win the online pronunciation contest. I have more opportunities and interest on learning.”

Consistently reported, as shown in the following excerpt, S11 stated that she likes to use her scattered time on practice English on the app.

*Excerpt 3*

S11: “I think it is very convenient. I spend more time on English now because I can make good use of time whenever and wherever I go, as long as I have the Internet and when the environment is not too noisy.”

**4. Building cooperative learning environments**

In terms of building cooperative learning environments, students stated that they work together and learn mutually. Besides, they could help each other when the other one is left behind and helpless.

The followings are the keywords and key phrases on building cooperative learning environments.

*With my partner together/ learn from the other person/ discuss the content with my friend/ ~ until I work with my partner/ happy after I help my partner/*

For the examples, S08 described he might do the cooperative learning with other people and got some inspiration from the partner when doing the role play.

*Excerpt 1*

S08: *“When I was in the role play activity, I finished the script and did the recording with my partner together. It was very constructive and I learned some from the other person. I think the role play is fun, I can discuss the content with my friend and arrange the plots to the roles by my imagination. It is fun to learn.”*

Consistently, S05 described she helped her partner and she got more ideas on pronunciation after the pair work activities. She also mentioned she felt good to help her partner.

*Excerpt 2*

S05: *“I never thought about some pronunciation problems that I had never experienced until I worked with my partner. I felt happy after I helped my partner.”*

**5. Enhancing learning autonomy**

In regarding to enhancing learning autonomy, students mentioned with this app, they could arrange their schedule individually. Besides they may also plan their study based on their pace. Additionally, the role play activity provides a stage where they may show their talent autonomously.

For the examples, S04 agreed that he might practice the sounds that he was not good at individually without the assignment of the teacher and decided what he wanted to improve and according to the diagnostic reports. Besides, he arranged his self-paced learning schedule and picked time and sounds he wanted to learn and set the goal.



The followings are the keywords and key phrases on enhancing learner autonomy

*independently/ individually/ my own schedule/ wrote my own script/ apply the sounds in real life*

*Excerpt 1*

S04: *“I don’t speak English well and I want to practice more on my weak sounds. I improve those parts by working hard at home independently and individually. I like the diagnostic reports on my sounds recording. Some sounds are hard to pronounce; others are easy for me. I spent more time on those sounds bothering me. I can have my own study schedule”*

Meanwhile, S01 stated that role play gave him space to show his ideas and he could make good use of what taught by the teacher.

*Excerpt 2*

S01: *“I wrote my own script in my role play and we had good time when being the actors. I feel I can do even better next time and use more sounds to integrate them in the script. Also, I will be able to apply the taught sounds in real life unconsciously because I wrote some sentences before.”*

From the interviews, it was revealed that all the interviewees agreed that they had made progress after the instruction. They mentioned they felt confident to speak English, they had less anxiety when they were in class to speak English. Some English sounds can be pronounced correctly now. In addition, almost all of them expressed liking doing role player and pair work activities. Doing role play and writing their own script based on the taught pronunciation features not only aroused their creativity and the sense of cooperation but also increased their autonomy. In

addition, with MyET, there is less limitation of time and space. Therefore, they may expose themselves more in an English environment and develop a better English command. However, according to the interview results, in addition to the previous advantages, the instruction has some disadvantages.

**Disadvantages about the instruction from students' opinion:**

From the semi-structured interview, some students reported that instability of the App in terms of the recording quality, and the problems of guided practice stage on the instruction were found to be the disadvantages during learning through the communicative framework instruction using CAPT on English pronunciation.

***1. Instability of the App in terms of the recording quality***

With respect to the instability of the App recording quality, students mentioned they encountered some recording problems when they did the exercise. It required very good Internet connection and quiet space.

The followings are the keywords and key phrases on instability of the App recording quality

*not stable/ not accurate/ Internet connection/ elements of the environment/ delay*

*Excerpt 1*

S04: *“I feel it requires high quality of the Internet connection; sometimes the system delayed for response or I cannot see the results of my exercise.”*

*Excerpt 2*

S08: *“The recording quality is not stable due to the Internet or some elements of environment. I think I don't feel it accurate sometimes because I knew I did my job better compared with the previous recording. Interestingly, I got lower score somehow.”*

## ***2. The problems of guided practice stage***

Regarding the problems of guided practice stage, some students described that in the instruction stage 4, guided practice stage, they encountered some problems in terms of limited time in the activity and the difficulty on the materials, which resulted in less efficiency of learning.

The followings are the keywords and key phrases on guided practice stage *take too much time/ too hard/ time not enough/ waste of time*

### ***Excerpt 2***

S16: *“I feel it takes too much time to do the practice and some vocabulary is too hard for us. My partner cannot pronounce well, and I couldn’t get the correct answer. Also, I think the time for this stage is not enough. I don’t feel I learn more. It looks like a waste of time.”*

In sum, the qualitative data are consistent with the quantitative data showing that the communicative framework instruction using CAPT on English pronunciation improved the students’ English pronunciation ability.

The overall findings of the current study can be concluded that the communicative framework instruction using CAPT is effective on improving English pronunciation ability of Chinese undergraduate students. Meanwhile, they hold positive opinions towards the instruction. The coming chapter would present the summary of the study, the discussion of the findings, the limitation of the study, pedagogical implications, and the recommendations for the future research studies.

## Chapter Five: DISCUSSIONS

This chapter consists of five parts. First, a summary of the study is provided, followed by presenting the research findings in this study. The third part is the discussion of research findings. The fourth part entails the limitations from the findings. Finally, the researcher elaborates recommendations for further research studies.

### 5.1 Summary of the Study

The study employed one-group quasi experiment design to investigate the effects of a communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students, and to explore their opinions towards the instruction. The participants were 17 third grade Chinese undergraduate students studying in an International College BBA (Bachelor of Business Administration) Program in Siam University, Bangkok, Thailand in the first semester of the academic year 2018.

The researcher designed an English pronunciation instruction by adopting the communicative framework (Celce-Murcia et al, 2000) integrated with CAPT.

The communicative framework was composed of 5 stages, 1) description and analysis, 2) listening discrimination, 3) controlled practice, 4) guided practice, and 5) communicative practice respectively. Each participant partook in the activity provided for each stage and completed the task at the end of each stage. This instructional instrument, the communicative framework using CAPT on English pronunciation ability, consisted of 5 units including 10 pronunciation dimensions: /l/, /r/, /v/, /w/, /θ/, /ð/, /eɪ/, /aʊ/, pitch, and stress.

There were three research instruments used to collect data in this study, which were English pronunciation tests, student opinion questionnaire, and semi-structured interview questions. The English pronunciation test was employed two times, prior and posterior to this instruction, followed by the student opinion questionnaire and the semi-structured interview questions. The researcher constructed and validated all the instruments for the implementation of the communicative framework instruction using CAPT on English pronunciation ability. Each of the instrument was validated by three experts. The instruments (except the semi-structured interview questions) were also piloted with second grade Chinese students in the International College BBA program who were not in the sample group.

The course was carried out for 12 weeks. The researcher himself was the teacher, and the participants attended class in face-to-face session once a week. Each session lasted for 90 minutes. First week was the pre-test. From week 2 to week 11 was the instruction to finish the 5-unit design covering the 10-pronunciation dimension teaching during the 10 weeks. In the last week, week 12, both questionnaire and interview were administered to the students so as to explore the students' opinions on the instruction. The data obtained from the two English pronunciation tests were compared the mean scores as well as the standard deviation, and analyzed by Wilcoxon signed ranks test to figure out the statistical difference. Meanwhile, the content coding was used to analyze the data from the semi-structured interview in respect of triangulating the data of the statistical analysis on the student opinion questionnaire.

## 5.2 Summary of the Findings

The present study revealed two main findings according to the research questions.

With regards to the effects of the communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students, the results demonstrated that the pre-test and post-test were significantly different, revealing the instruction had significant effects. Meanwhile, the students' overall post-test mean scores was higher than their pre-test mean scores. It was also found that the mean scores of the post-test from all the 10 pronunciation dimensions scores were higher than those of the pre-test (except the /ei/ sound). Additionally, the overall scores of consonants are higher than those of the vowels in the post-test. Students made little progress in the stress. In brief, the students' English pronunciation ability was significantly improved after receiving the communicative framework instruction using CAPT on English pronunciation ability.

Regarding students' opinion towards the communicative framework instruction using CAPT on English pronunciation ability, results of the student opinion questionnaire and the interview indicated that the majority of the students had positive feedbacks towards this instruction. The grand mean score of all items on the questionnaire was 4.16, which is considered to reflect positive attitude (Simsek, 2008). It was found that most of them liked the course design and thought it helped them upgrade their English pronunciation ability. On the other hand, the obtained data from the semi-structured interview revealed that there were both advantages and disadvantages derived from students' opinions. The advantages of the communicative framework instruction using CAPT on English pronunciation ability included learning

how to pronounce and improve the pronunciation skills, developing self-confidence and creating engaging learning environments, providing more opportunities for learning inside and outside classroom, building cooperative learning environments, and enhancing learner autonomy. Although this study has successfully been conducted and the findings reached all the research objectives, the disadvantages were also elicited from the interview. Some students reported that the instability of the App recording quality and the problems of the guided practice stage were not good experiences when they were in the pronunciation learning.

### **5.3 Discussion of the Findings**

The purposes of this study were to investigate the effects of the communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students and their opinions towards this instruction. Accordingly, the findings are going to be discussed on two aspects, which are 1) students' English pronunciation ability, and 2) students' opinions towards the communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students.

#### **5.3.1 Students' English pronunciation ability**

According to the statistical results, the participants' English pronunciation ability was significantly improved, which is in alignment with the previous study conducted by (Lee, 2008; Lu, 2010; Pi-hua T, 2015) that pronunciation instruction using MyET may enhance the students' pronunciation ability.

The following 3 points played an important role in terms of strengthening students' pronunciation ability in this current study: lower anxiety, communicative framework, and more language exposure.

### **5.3.1.1 Lower Anxiety**

Utilizing CAPT on the pronunciation training reduced student's face problem. They received specific feedback on the report to check up their individual problems (Nagata, 1993), and did further practice at their own tempo (Cucchiarini, Neri, & Strik, 2009; Levis, 2007). They were able to not only monitor the progress independently but also develop self-confidence, which contributed virtuous circle on their language learning (Neri, 2002; Pennington, 1999).

### **5.3.1.2 Communicative Framework**

The 5-stage communicative framework (Celce-Murcia et al., 2000) provided students with systematic stages. The first two stages, description and analysis as well as listening discrimination, dealt with rule-based features of language with sensory and physiological challenges on not only students' perception ability but also their production capabilities of the target features (Rochet, 1995; Wang & Munro, 2004). As to the subsequent stages, the controlled practice focused on accuracy, and the guided practice did the limited meaning transferring training in partial communication. The last stage, communicative practice, was doing information processing in an authentic setting, which led students to unconsciously perform the target tasks in their daily spoken language. Through the meaning negotiation with a context or keywords that contain the target sounds, the genuine exchange of information occurred. The boring pronunciation teaching turned to be more interesting and remain students' interest on pronunciation learning.

### **5.3.1.3 More Language Exposure**

Brown (1992) identified that lack of exposure to the English-language environment may result in pronunciation learning problems. Communicative



framework instruction using CAPT created various communicative setting and provided material support inside and outside the classroom. Besides students exposed themselves in the English-speaking classroom on each individual stage of communicative framework, with the CAPT, students didn't hesitate to try; therefore, they were willing to make mistakes and developed the confidence on more language occasions (Neri et al., 2002).

### **5.3.2 Pronunciation Ability of the High and Low-level Groups**

As to the high-level group students, most of them didn't make significant progress. Bordonaro (2003) stated that advanced students prefer learning a language through interaction with native speakers to using language learning software to practice English. In addition, Chiu, Liou, and Yeh (2007) claimed that their automatic speech recognition experiment was more helpful for non-English major students than English major students with high English proficiency.

Among the 17 participants, the least 2 improvement students (S12 and S13) with the only regressive score were in the low-level group. Low-level group interviewees felt frustrated sometimes when they couldn't move to the next item. Since the MyET scoring system set a rule that the users need to attain the minimum requirement of the general score at 70 (average of pronunciation, pitch, rhythm, and stress), or they need to repeat the word/sentence and are not allowed to do the next item until they reach the criteria, which annoyed the low-level group participants and demotivated their learning to some extent (Y.-F. Wang & Tsai, 2003).

Interestingly, the most improved one (S01) was also in the same group. However, his post-test score was still the lowest among all the participants. He mentioned in the interview that he didn't pay much attention on the pre-test so he

could make a big jump by 17.42 points on the post-test. On the other hand, the low-level group students got the least improved mean score among the three groups, which contradicts the study (Y.-F. Wang & Tsai, 2003) that speech recognition technology is more helpful for low-level learners.

### 5.3.3 Student's Improvement on the Designed Materials

Regarding the 10 pronunciation dimensions, the designed materials in this study are the most common pronunciation errors including segmentals and suprasegmentals for Chinese EFL learners, which are /l/, /r/, /v/, /w/, /θ/, /ð/, /eɪ/, /aʊ/, pitch, and stress (Burri, 2015; Cruttenden, 2014; Deterding, 2006; Han, 2013; Ho, 2003; Li & Yuan, 1998; Li, Siniscalchi, Chen & Lee, 2016; Liang, 2014; Siqi & Sewell, 2012; Zhang & Yin, 2009). After students received the communicative framework instruction using CAPT on English pronunciation ability, all the dimensions test results got improved.

The only regressive sound, /eɪ/, supported the previous study conducted by Wei (2003) that in English diphthongs, the transition between the first and the second sound is slower and clearer than that in Chinese diphthongs. Accordingly, it was found that students are likely to use Chinese /e/ to replace English /eɪ/ sound. And it takes time to practice and get improved as a result of their first language interference (Derakhshan & Karimi, 2015). Interestingly, it can be found that all the other most difficult minimal pairs for Chinese EFL learners in this instruction, such as /l/-/r/; /v/-/w/; /θ/-/ð/, are well improved on the test results of the participants after the communicative framework instruction using CAPT. However, in comparison with the above consonant sounds, the vowels, /aʊ/ received relatively lower progress, and the /eɪ/ sound even regressed by 2.42 points. Overall, vowels revealed less improvement than consonant in the segmentals, which is in line with Lord (2005) that vowels often

prove to be the most difficult segments for second language learners to master. Interestingly, in the suprasegmentals, pitch got 5.24 points progress; still, stress received only 1.00 point. It might be due to the first language interference of the Chinese /CV/ syllable structure (Senel, 2006; Jenkins, 2007).

Stress got little improvement by only 1 point. Chang (1987) stated Chinese usually pronounced more emphases, and perform fewer phonetic changes. Therefore, too many English syllables are stressed.

### **5.3.2. Students' opinions towards the communicative framework instruction using CAPT on English pronunciation ability**

Data analysis from the questionnaire and interview indicated that all the participants agreed that they had learned how to pronounce and improve the pronunciation skills. They expressed the opinions in terms of the advantage and disadvantage.

#### **5.3.2.1 Advantage**

The students stated that the instruction developed their self-confidence, created engaging learning environments (Chen, 2007), provided more opportunities for learning inside and outside classroom (Lear, 2014), built cooperative learning environments (Pennington, 1999), and enhanced learner autonomy (Neri, 2002). Significantly, most interviewees mentioned they were fond of the role play activity in the communicative stage. The activity provided not only engaging and positive learning environments but also more opportunities to exchange their ideas with others, which was confirmed by Wan (2017) that drama activities allow students to participate and express themselves so that they may be more involved and enjoy more in class. This result also supported Baldwin and John (2012) that drama activity may

help self-confidence, encourage cooperation, promote creativity and enhance the ability of self-expression and independent learning.

### **5.3.2.2 Disadvantage**

Some disadvantages, however, were also reported in the interview such as instability of the App recording quality, and the problems of the guided practice stage.

The instability of the App recording quality is congruent with the result findings conducted by Chen (2012) that the fairness of scoring system might bother students when using MyET. Levis (2007) also argued that CAPT programs do not always diagnose pronunciation errors precisely, which is consist with the results of this study. Meanwhile, Tsai and Yu (2009) stated that ASR (Automatic Speech Recognition) is highly sensitive to varieties in speaker voice, acoustic surroundings and Internet quality, which might be responsible for a false recognition and the accuracy in error detection. Consequently, the teacher feedback was designed on all the 5 stages of the communicative framework to support the insufficiency of MyET in this study. Though some students experienced unstable problems on the App such as bad Internet connection or unsatisfying recording quality, they still developed positive attitude towards the communicative framework instruction using CAPT on English pronunciation ability. This might be explained that the students regarded such problems as normal things they usually encountered when using the Internet service. Additionally, most of them were familiar with using smartphone and surfing the Internet. They knew how to face the situation when a basic technical problem arose. Therefore, such problems did not really frustrate or annoy them or even keep them away from the App and practice.

The content analysis obtained from the interviews revealed that two out of the six interviewees didn't really think the stage 4, guided practice stage, in the instruction was helpful, which didn't correspond with the questionnaire result on item No. 14. Here are three possibilities that may explain the inconsistency. First, the well-organized interview questions might probe students' deeper thoughts than those of questionnaire. For example: Q1. Which stage do you think needs improving most? Q 2. Why do you think it needs improving? The first question elicited a specific target, and the second open-ended question probed real feeling from the students. Furthermore, according to the interview, some reported the material design of the stage 4 was not user-friendly. Some students stated time was not enough, and that materials were too much and too hard for them. Meanwhile, students might set goals higher than teacher's expectation. Consequently, students felt a bit frustrated without the sense of achievement. Last but not least, the interviewer provided a cozy sitting and chat in a quiet classroom for the interview. In a one-on-one and comfortable environment, students were willing to reveal more details to the interviewer (King, Horrocks, & Brooks, 2018).

### **5.3.3 Features from the high, mid and low-level groups**

In this study, the researcher found the mid-level group interviewees exhibited the most satisfaction in the communicative framework instruction using CAPT.

The high-level group interviewees were elicited the following three features: not feeling evident improvement, feeling like doing reading aloud, and need more challenging tasks. They mentioned they felt they made a bit lower progress than what they had expected on their English pronunciation proficiency. It might be because of the high achievers have relatively high scores; therefore, there was less space to

improve. As a result of the capacity of the segment to be analyzed on the MyET software, the sentence cannot be too long. The system is set to analyze segments one by one. Therefore, the users cannot do consecutive reading such as read aloud. Moreover, the interviewees indicated they would like to do some tasks more challenging.

Low-level group interviewees also encountered some situations. Since their pronunciation ability is lower based, their facial muscles for doing correct pronunciation were not well trained; therefore, the intensive training would lead to some uncomfortable feeling. However, once they are accustomed to it, and upgraded to the mid-level, they will feel less stressful and the situation will be greatly improved. Furthermore,

Compared to high-level and low-level groups, mid-level group interviewees hold more satisfaction. They had less problems than the other two groups and showed more contentment. It can be concluded that communicative framework instruction using CAPT better fits the mid-level group in this study rather than all levels. The teacher is supposed to shoulder the responsibility for further adjustment on the teaching content and the tempo for better fitting the target groups. Particularly, the high-level group and the lower-level group.

#### **5.4 Limitation of the Study**

There are two major limitations presented in this study. First, due to the small sample size, the generalization might not be as effective as that of the big sample size. Furthermore, although this study has been successfully conducted and the findings reached all the research objectives, limitations were elicited from the semi-structured interview. Since the MyET recording input was not conducted in a well-equipped

language classroom, some students reported that they had difficulty having fine recording quality on their mobile devices due to the factors of Internet connection quality and the environment. Besides, some students felt the stage 4, guided practice stage, was too hard and distributed time is limited. As a result, these students were not able to complete the activity even they made the effort.

### **5.5 Pedagogical Implications**

There was a lack of research discussing the effects of pronunciation teaching through the communicative framework instruction integrating CAPT. In the current research, the designed course was found effective based on the improvement of pronunciation ability of the Chinese undergraduate students; moreover, students also showed their positive attitude on the CAPT as well as the integration of the communicative framework instruction and CAPT. Therefore, it is suggested that teachers use communicative framework instruction using CAPT as a delivery means to mid-level undergraduate students on English pronunciation teaching. On the other hand, four some implications were drawn from the research findings and discussion. They were summarized as the following.

First, the material on the stage 4, guided practice stage, can be more carefully designed in terms of students' level and can be reconsidered the time distribution and the quantity of the sounds to fit the students' needs.

Second, with the communicative framework instruction using CAPT on English pronunciation ability, all the other necessary pronunciation sounds can be developed and implemented for specific purposes based on this template.

Third, to ensure the stability of recording quality, it is suggested that teachers be well trained to be familiar with how to get better recording quality and deal with the

instability of the App recording quality. The teachers may spend some time beforehand consulting the App authorities to get some support on how to handle the frequent problems. In addition, it is suggested collecting students' feedbacks and undergoing trials on the App to avoid possible problems so that students may do the recording stably and effectively.

Four, it can be an alternative solution to turn voice recording input from smartphones into well-equipped computers classroom to avoid the problems of unstable Internet and poor recording quality.

Five, diphthong /eɪ/ was found the only regressive sound in the 10 dimensions. Alternative ways on teaching this sound may be further explored and discussed.

Last but not least, parts of the CAPT in this current study adopted MyET to conduct the pre-test and post-test as well as the stage 3 and 4 on the communicative framework instruction using CAPT. The researcher made a research request to the MyET office before conducting this study and later got fully technological support. Therefore, all the expense was free of charge for doing the academic research. However, CAPT software packages are commercial products, which means without funding, it is not always affordable for schools (Luo, B., 2016). The monthly retail price for each course/package of MyET for one user is USD 16.99. The company sells products wholesale at a minimum of 500 students for the institutes or schools. However, the setting in this study is a classroom teaching with 17 students, which might still have the discount to some extent if the instruction is applied to a real classroom teaching.



## 5.6 Recommendation for Further Research

This current study focused on the effects of the communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students and their opinions on this instruction. The communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students can be further investigated in the future according to these given recommendations:

First, similar study could be conducted to investigate the effects of the treatment on English pronunciation ability and opinions of students in different background settings such as proficiency levels, regions, or nationalities. New learning activities or strategies on communicative learning can be further explored and employed in the instructional design.

Moreover, this study employed one-group quasi experiment design to investigate the effects of the communicative framework instruction using CAPT on English pronunciation ability of Chinese undergraduate students. Further study may add the comparison group to strengthen the design of the study and see the different results between intervention group and control group.

Additionally, student logs and classroom observation can be used as the qualitative instruments to investigate students' performance and opinions in more detail.

Lastly, the number of the student can be extended to probe further results. The increase of the sample size in the future study can also enhance the power of the analysis to see more significant difference in the effectiveness of intervention in the research study.

## Appendix

### Appendix A

#### Sample Lesson Plan: Unit One /l/-/r/; /v/-/w/

Unit 1: Consonant Pairs /l/-/r/ and /v/-/w/

Time: 180 minutes (90 min/ week)

#### Learning outcome:

1. Students will be able to accurately distinguish the minimal pairs of /l/-/r/ and /v/-/w/ sounds.
2. Students will be able to properly enunciate the minimal pairs of /l/-/r/ and /v/-/w/ sounds.
3. Students will be able to articulate /l/-/r/ and /v/-/w/ sounds with increasing intelligibility.

#### Contents:

1. Minimal pairs: /l/-/r/ and /v/-/w/ consonants sounds
2. Articulation position in the mouth
3. Function expression: everyday personal information talking
4. Grammar structure: present simple tenses

#### Material

1. Charts of mouth shape for different sounds
2. Charts of tongue position for different sounds
3. Charts of consonants and vowels
4. Sounds of Speech website (the tool of CAPT in teaching stage 1)  
(<http://soundsofspeech.uiowa.edu/index.html#english>)
5. MyET App

## 6. Worksheets

**Assessments**

1. Listening discrimination task
2. Worksheets
3. MyET tasks
4. Pair work evaluation

**Procedures:**

Week	Stage	Steps	Teacher roles	Students roles
1 (90 mins)	[ Stage 1] <b>Description and analysis</b> (40 min)	<ul style="list-style-type: none"> <li>- Introduction to the Sounds: /l/-/r/ and /v/-/w/ description and analysis (20 mins)</li> <li>-illustrate the 4 sounds by charts and animations</li> <li>- open the mouth to practice</li> <li>- Discussion with students (20 mins) in terms of initial position medial position final position</li> </ul>	<ul style="list-style-type: none"> <li>-Illustrate the components of the sounds, show the references such as chart of tongue position, chart of mouth shape, and demonstrate supported materials on the Sounds of Speech website</li> <li>-Ask students to practice sounds by shadowing</li> <li>- Ask students to practice in pairs on given sample:</li> </ul>	<ul style="list-style-type: none"> <li>- pay attention to demonstration of Sounds of Speech website (<a href="http://soundsof-speech.uiowa.edu/index.html#english">http://soundsof-speech.uiowa.edu/index.html#english</a>)</li> <li>-open the mouth and start to imitate the sounds</li> <li>-Students in pairs to practice sample sounds: Sounds occur at initial,</li> </ul>

Week	Stage	Steps	Teacher roles	Students roles
		of the sounds. -Teacher gives feedback both individually and publicly	Sounds occur at initial, middle and final - Walk around classroom and note some students' pronunciation errors. -Check students' understanding of the tongue position as well as the shape of mouth on /l/-/r/ and /v/-/w/ sounds	middle and final - Receive teacher adjustment individually and publicly
	<b>[ Stage 2 ]</b> <b>Listening discrimination practice</b> <b>(50 min)</b>	- Listening discrimination exercise: There are 20 items. Each item has one minimal pair. With the audio clip, either sound of the pair is pronounced in each item. Students need to identify this sound after the play of the audio. (40 mins) - Generalize students' problems based on the	- Play the audio clips from the Voice Record software on the computer and ask students to do Listening discrimination practice worksheet - Check students' answers as well as give necessary instruction on error items -Concluding the common errors and give further	- Do Listening discrimination practice worksheet - Correct worksheet answers and pay more attention on the error items - Listen to the review and identify



Week	Stage	Steps	Teacher roles	Students roles
		<p>missing plans in calendar on each individual worksheet.</p> <p>- Assign low achievers homework</p>	<p>and check the answers</p> <p>- Conclude the common errors based on the worksheets and assign homework for low achievers</p>	<p>and check the answers</p> <p>- Check the answers and low achievers to do the MyET assignment</p>
	<p><b>[ Stage 5 ]</b>  <b>Communicative practice</b>  <b>(35 mins)</b>  <b>-Wrap up</b>  <b>(5 mins)</b></p>	<p>- Pair works  Role play (25 mins)  Students make up dialogue based on the given setting with key sounds related to the taught sounds. The plot is open-ended and students may do it in an imaginative way. Some groups are randomly selected to demonstrate it in class.</p> <p>-Feedback from teacher to the groups doing the demonstration (10 mins)</p> <p>- Wrap up  All pair groups are required to post their video clips of role play on Facebook. Teacher will give</p>	<p>- Give the role card to each pair</p> <p>- Ask students to create their own role play communication dialogues and be a facilitator for each pair</p> <p>- Ask some pairs to present their role play in class</p> <p>- Reflect the performance and give constructive comments</p> <p>-Conclude for today and ask students to post the clips on Facebook.</p>	<p>- Read the settings of the role play</p> <p>- Read role cards and brainstorm to create their own role play communication dialogues with their own imagination</p> <p>- Do role play in front of the class</p> <p>- Receive the reflection of the performance</p> <p>-Review the lessons and upload the role play clips on Facebook. Peers also give</p>

<b>Week</b>	<b>Stage</b>	<b>Steps</b>	<b>Teacher roles</b>	<b>Students roles</b>
		comments as the feedback. (5 mins)	Teacher gives comments after class	comments to each other after class



## Appendix B

### Pronunciation Test

#### Part I

##### Segmentals

1. light right
2. lass grass
3. cancel cancer
4. vest west
5. veil wail
6. sink think
7. true through
8. worse worth
9. mouse mouth
10. lay they
11. fail fell
12. mad maid
13. sell sail
14. moss mouse
15. hose house

#### Part II

##### Suprasegmentals (stress)

- |                |             |
|----------------|-------------|
| 1. police      | please      |
| 2. desert (v)  | desert (n)  |
| 3. aerobic     | Arabic      |
| 4. produce (v) | produce (n) |
| 5. project (v) | project (n) |



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#### Part III

##### Sentences

1. A: Did he pray or play?

B: He just played.

2. A: Did you walk in the woods with Walter?

B: No, I didn't. I walked in the woods with Vivian, not Walter.



3. A: Who will go to the theater on Thursday besides your father and brother?

B: My mother.

4. The impatient patient is waiting for patient patients.

5. They found our towels are out of the house.

#### **Part IV**

##### **Paragraphs**

(A) Samantha

I think about Samantha every thirty minutes. I think her youth, health, and wealth. Her mother thinks that I'm like a brother to her. I'm thoroughly in love with her and no other else. I think we would be faithful to each other.

(B) The Hungry Owl

The owl looked down with his great round eyes. "A good night for scouting," he says. "A mouse or two may be found on the ground. So down he flew from the old church tower. The mouse and birdie crouch and cower.

(C) Lucky Larry

When Larry lived in Alberta, he loved to ride the range. He regularly left early in the morning and rode until he saw the lovely lake on his land. Luckily, the weather is rarely rainy in Alberta.

(D) Mr. Gray

It's the eighth of May, and Mrs. Gray's birthday. She is eighty eight and she's going away on vacation to Spain. They said they would take Mrs. Gray to take the plane.

#### **Part V**

##### **Dialogues (A)**

**SITUATION: Husband and wife are talking at home**

Husband: Hi, honey. What did you do today?

Wife: I went shopping.

Husband: You went shopping? Again?

Wife: Yes. The mall had a big sale. Everything was half-price.

Husband: What did you buy?

Wife: I bought this blouse for only three thousand baht. Isn't it stunning?

Husband: Yes, It's stunning. I'm the one that's stunned.

Wife: Do you like the green hat or the red one?

Husband: I like the cheaper one.

Wife: I also bought a belt, scarf, dress, and shoes.

Husband: Stop it! I'm afraid to hear any more. Do you have any money left?

Wife: Yes, dear, we had lots of money left, so I bought you a set of golf clubs.

Husband: Really? I always said you were a great shopper.

## **Part V**

### **Dialogue (B)**

#### **SITUATION: Vivian and Willy are discussing their vacation**

Vivian: I've waited a long time for this vacation, Willy.

Willy: Well, Vivian, I have too. That's why I want to wander around Mount Vesuvius for a while.

Vivian: Wait a minute, Willy. Climbing Mount Vesuvius will be a real waste of time.

Willy: What are you saying! It's one of the world's most wonderful spots.

Vivian: Willy, why don't we visit Washington or Las Vegas instead?

Willy: I never want to visit the United States. It's way too expensive.

Vivian: You're right. I wonder what Asia would be like.

Willy: Asia? Now there's a clever idea.

How about Taiwan, Vivian?

Vivian: Taiwan would be wonderful, Willy.

## Interface of MyET

English Prosody/Unit 13 - Tongue Twisters (B)

If you understand, say "understand".

If you do  
But if yo  
How do

**60**  
Total

**57**  
Pronun.

**77**  
Pitch

**45**  
Rhythm

**74**  
Intensity

Words	Comparison	Score	Remark
But		0	This is the wrong sound!
		74	Your pronunciation of the sound is rough.
		100	
if		72	Your pronunciation of the sound is rough.

English Prosody/Unit 13 - Tongue Twisters (B)

If you understand, say "understand".

If you do  
But if yo  
How do

**60**  
Total

**57**  
Pronun.

**77**  
Pitch

**45**  
Rhythm

**74**  
Intensity

**Pronunciation Diagnosis [ b ]**

You are having trouble pronouncing the consonant [ b ] .

**Pronunciation Method**

Press your lips tightly together, and do not let any air flow out. Then part your lips quickly, releasing a small puff of air.

MyET

English Prosody/Unit 13 - Tongue Twisters (B)

If you understand, say "understand".

If you do

But if yo

How do

**Rhythm 45** ■ Teacher ■ Student

Words	Syllable	Duration	Remark
you	ju:		bit more quickly.
understand	ʌn		
	də		
	stænd		
and	ənd		
say	seɪ		You are speaking too slowly!

60 Total

57 Pronun.

77 Pitch

45 Rhythm

74 Intensity

But if you understand and say "don't understand".

## English Diagnostic Report

maxsmile2016

Lesson Difficulty	Number of Tests Taken	Average	Passing Rate (Above 80)	Pronun.	Pitch	Rhythm	Intensity
Rudimentary	2	84.20	100%	85.40	85.50	91.20	83.90
Total	2	84.20	100%	85.40	85.50	91.20	83.90

### General Comments:

- Your overall English proficiency is below average. You can introduce yourself and carry out basic conversations on familiar topics. However, you have not consistently achieved high scores for Intermediate courses. We recommend that you take more Intermediate
- Sorry, we do not have enough data to generate a Diagnosis Report for you. The MyET Diagnosis Report is available only after sufficient speech data has been collected. Please take more MyET self-tests if you haven't done so, and then you will receive your

### Pronunciation

Vowel			Consonant		
Phoneme	Standard Value	Your Error Rate	Phoneme	Standard Value	Your Error Rate
[i:]	<31%	20%	[p]	<32%	18%
[i]	<29%	11%	[b]	<14%	27%
[e]	<26%	14%	[t]	<24%	20%
[æ]	<28%	34%	[d]	<22%	25%
[ɑ:]	<29%	52%	[k]	<24%	16%

Dear XXXX ,

Hello, Thank you for choosing MyET. The following is your account, password, and software instructions :

Course Name	Duration	Account	Password
MyCT Courses	3 months	Thai01	Thai01

Mobile User :

**Step 1 : Download MyET.**

iPhone \ iPad :



Scan



QRcode

Android :

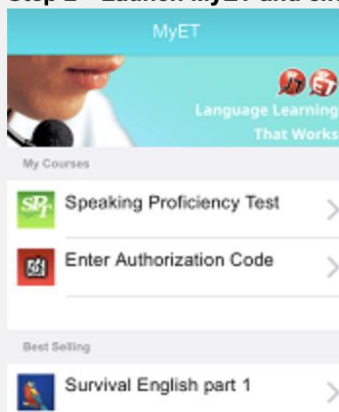


Scan

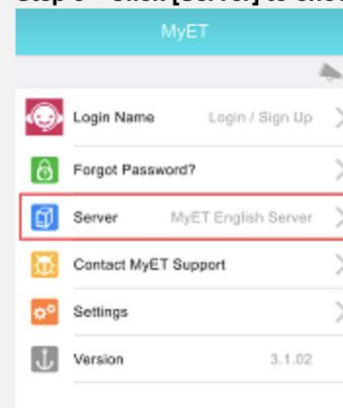


QRcode

**Step 2 : Launch MyET and click [ME].**



**Step 3 : Click [Server] to choose your server.**



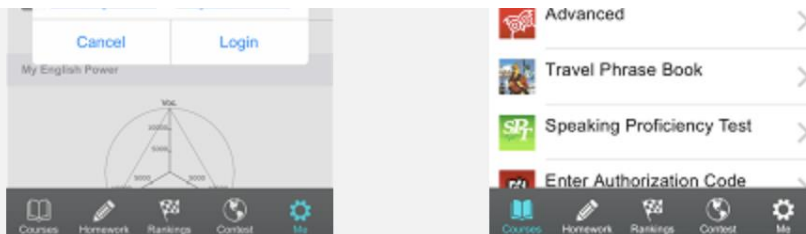
**Step 4 : Select [MyET English Server].**

**Step 5 : Click [Login Name].**

**Step 6 : Log in with your name and password. (MyET Account and password are courses have activated and are available. listed at the beginning of this mail.)**

**Step 7 : After logging in, you will see your courses have activated and are available. Please click one icon and start learning.**

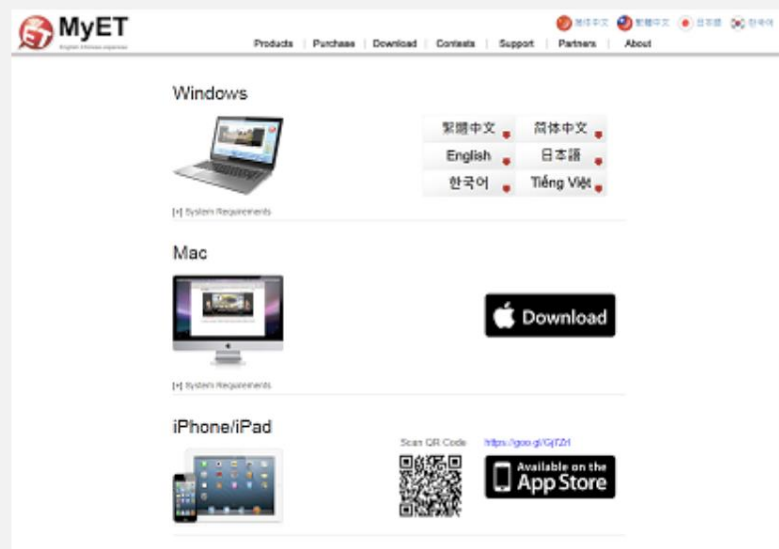




Computer User :

### Step 1 : Launch MyET

If you do not have MyET installed on your computer, please go to the MyET website <http://tw.myet.com/MyETWeb/Download.aspx> to download and install the software.



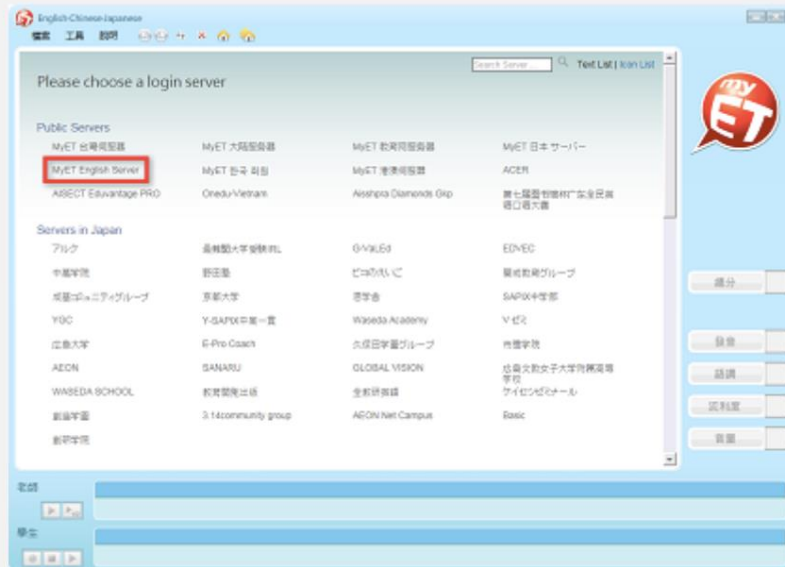
### Step 2 : Choose [MyET English Server]

After launching MyET, you will be prompted to choose a server. Please click [MyET English server].



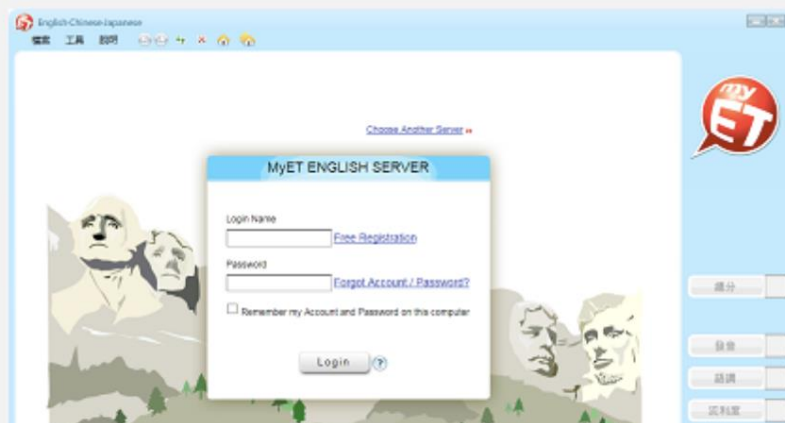
### Step 2 : Choose [MyET English Server]

After launching MyET, you will be prompted to choose a server. Please click [MyET English server].



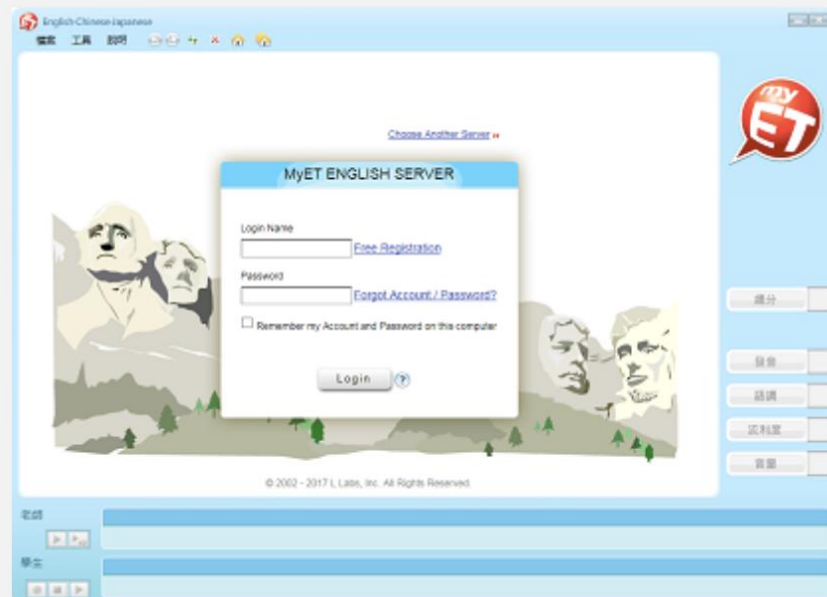
### Step 3 : Log in to MyET

Please log in to MyET with the account and password listed at the beginning of this mail.





Please log in to MyET with the account and password listed at the beginning of this mail.



#### Step 4 : Start Learning

Congratulations! You will see the courses under [My Courses]. You may start learning with MyET now. A microphone is needed when recording in MyET.



## Appendix C

### Listening Discrimination

[Teaching Stage 2]

DIRECTIONS: Circle the correct sound of each minimal pair, after you hear the recording.

- |                  |                 |
|------------------|-----------------|
| 1. lace race     | 11. fly fry     |
| 2. law raw       | 12. belly berry |
| 3. lead read     | 13. pool poor   |
| 4. leader reader | 14. vest west   |
| 5. load road     | 15. veil wail   |
| 6. long wrong    | 16. vine wine   |
| 7. light right   | 17. viper wiper |
| 8. pilot pirate  | 18. vet wet     |
| 9. play pray     | 19. veil whale  |
| 10. alive arrive | 20. V we        |



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## Appendix D

Controlled Practice  
[Teaching Stage 3]

### Exercise One: Minimal Pairs

Listen to the following words and  
repeat after the speaking.

1. light right
2. lick Rick
3. long wrong
4. flight fright
5. glass grass
6. bowling boring
7. tool tour
8. bell bear
9. cancel cancer
10. V we
11. vine wine
12. vest west
13. veil whale
14. viper wiper
15. vet wet



### Exercise Two: Sentence Repetition

Listen to the following word pairs and repeat the sentence

1. The laugh of the labor leader is loud.
2. The robber rode away from the restaurant.
3. Colleges believe the islands are popular.
4. The crowd arrived the foreign country.
5. The couple will cancel the meal.
6. The poor guitar is before the star.
7. The vendor lost the visitor's vest and visa.
8. We have twelve vipers in every cave.
9. It was wet last week, wasn't it?
10. In winter, the weather in Wales is wild.

### Exercise Three: Tongue Twisters

- |   |
|---|
| 1. Love's a feeling you feel when you feel you're going to feel the feeling you've never felt before. |
| 2. When you write a copy, you have the right to copyright the copy you write.                         |
| 3. They vow the view of the valley is vanishing   |
| 4. Wow, race winners really want red wine right away!   |
| 5. Wise women don't walk in the woods while wolves wander.  |

## Appendix E

Guided Stage [Teaching Stage 4]

### Worksheet (A)

Sunday	Monday	Tuesday	Wednesd	Thursday	Friday	Saturday
						1
2	3 ?	4 Take van to the beach	5	6 ?	7	8
9	10	11 ?	12	13	14	15 Read a novel: The Road of the King
16	17 ?	18	19 Fix the wiper	20	21	22
23	24	25 Meet Royal friends	26	27 ?	28	29
30 Clean The vine garden						

September 2018

Please fill in the missing information by asking each other questions about the blank (the “ ? ” dates ) of the calendar.

Sample questions may be:

1. What is the teacher’s plan on September 11th?
2. Is he busy on September 15th? What will he do on this day?

**Worksheet (B)**

Sunday	Monday	Tuesday	Wednesd	Thursday	Friday	Saturday
						1
2	3 Correct students' lesson plans	4 ?	5	6 Practice a song: My Vest Story	7	8
9	10	11 Write a story about: Pilot of the Caribbean	12	13	14	15 ?
16	17 Find students' long sentences in their writing	18	19 ?	20	21	22
23	24	25 ?	26	27 Find information about wine	28	29
30 ?						

September 2018

Worksheet (B)

Please fill in the missing information by asking each other questions about the blank (the “ ? ” dates ) of the calendar.

Sample questions may be:

1. What is the teacher's plan on September 15th?
2. Is he busy on September 15th? What will he do on this day?

**Appendix F**

Communicative Practice [Teaching Stage 5]

**Role Card****Student A****Role: Lara**

**Situation** (you can choose either setting “a”, or setting “b” )

You and Victor are going to watch the movie, Avengers.

- (1) You ask Victor to be hurry before being late for the movie, Avengers.
- (2) a. But Victor mentions Larry has said it several times that the movie was boring.  
b. And Victor mentions Larry has said it several times that the movie was exciting.
- (3) a. And you tell Victor that Ryan loved it.  
b. But you tell Victor that Ryan felt sleepy when he watched it.
- (4) Victor tell you he read a review about Avengers last night and its details.
- (5) You give Victor your ideas on his comments.

**[Stage 5]****Role Card****Student B****Role: Victor**

**Situation** ( you can choose either setting “a”, or setting “b” )

You and Lara are going to watch the movie, Avengers.

- (1) Lara ask you to be hurry before being late for the movie, Avengers.  
And you say you are almost ready, everything is all right.
- (2) a. But you mention Larry has said it several times that the movie was boring.  
b. And you mention Larry has said it several times that the movie was exciting.
- (3) a. And Lara tell you that Ryan loved it.  
b. But Lara tell you that Ryan felt sleepy when he watched it.
- (4) You tell Lara last night you read a review on actors, lighting, script, etc.
- (5) After Lara gives you her comments you give her your feedback.



## Appendix G

### Questionnaire

#### Section I: Demographic Information

1. Name \_\_\_\_\_ 2. Age \_\_\_\_\_ 3. Gender \_\_\_\_\_ 4. Major \_\_\_\_\_

5. GPA \_\_\_\_\_

6. Native dialect:

- |   |                               |                                      |                                  |
|---|-------------------------------|--------------------------------------|----------------------------------|
| <input type="checkbox"/> Mandarin Chinese | <input type="checkbox"/> Jin  | <input type="checkbox"/> Wu          | <input type="checkbox"/> Hui     |
| <input type="checkbox"/> Xiang            | <input type="checkbox"/> Gan  | <input type="checkbox"/> Hakkas      | <input type="checkbox"/> Hokkien |
| <input type="checkbox"/> Huangdong        | <input type="checkbox"/> Ping | <input type="checkbox"/> Other _____ |                                  |

7. Where is your hometown?

\_\_\_\_\_

8. Spent time on learning and speaking Thai:

- Never       Less than 1 year       More than 1 year

9. Have you ever traveled abroad (apart from Thailand)?

No

Yes      Where: \_\_\_\_\_

How long: \_\_\_\_\_

## Section II: Student's opinions

Tick one in each item from 1 (strongly disagree) to 5 (strongly agree) to indicate the amount of your agreement or disagreement towards each statement.

*\* Communicative Framework Instruction Using CAPT*

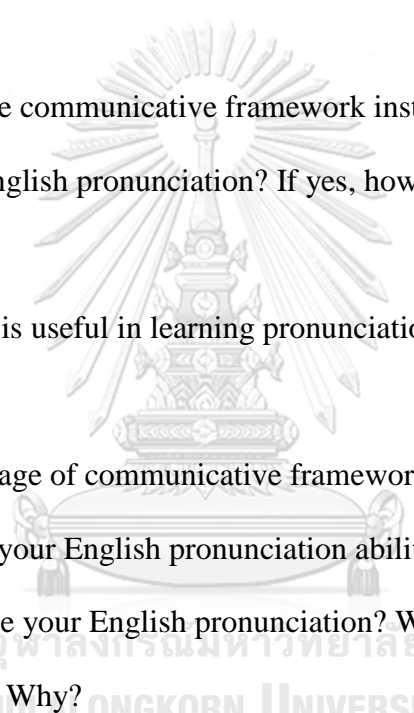
Statement	1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree
1. I think *the pronunciation instruction class promoted my activity participation more in the classroom.					
2. I think the pronunciation instruction class helped me to pay more attention to the teacher.					
3. I think taking the pronunciation instruction class was interesting.					
4. The pronunciation instruction class promoted me to try to communicate more with the others.					
5. The pronunciation instruction class made me learn how to pronounce new words correctly.					
6. Learning English pronunciation through the pronunciation instruction class improved my English pronunciation.					
7. MyET App promoted me to practice pronouncing more words.					
8. MyET promoted me to spend more time practicing pronunciation.					
9. MyET promoted me to finish and turn in assignment on time.					
10. MyET promoted me to learn English pronunciation by myself after class.					
11. The teacher's analysis and description on how to pronounce helped improve my English pronunciation.					
12. Listening to minimal pairs helped improve my English pronunciation.					
13. MyET assignments helped improve my English pronunciation.					

14. Do you think calendar information gaps activity helps improve your pronunciation?					
15. The Role play activity helped improve my English pronunciation.					



## Appendix H

### Interview Questions

1. What do you think about your ability to pronounce English after receiving the communicative framework instruction using CAPT?  
(Improved? Any progress has been made?)
  2. How do you think the communicative framework instruction using CAPT helped you improve your English pronunciation? If yes, how?
  3. Do you think MyET is useful in learning pronunciation? If yes, how?
  4. Do you think each stage of communicative framework instruction using CAPT helped you improve your English pronunciation ability? If yes, what stages and how did they improve your English pronunciation? What stage do you think need improving the most? Why?
- 
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## Appendix I

### Evaluation form for lesson plans

**Unit: Consonant /l/-/r/ and /v/-/w/**

Please put a tick (✓) in the box that best describes your opinion about each of the item.

-1 = Disagree *or* the item is NOT appropriate.

0 = Not sure

1 = Agree *or* item is appropriate

Statement	-1	0	1	Comment
<b>1. Teaching procedure</b>				
1.1 The sequence of the instruction is appropriate				
1.2 The feedback given is accurate and sufficient				
<b>2. Learning activities</b>				
2.1 The activities are well-matched with the objectives				
2.2 The activities can promote learners' pronunciation skill				
2.3 The activities can motivate and challenge learners to participate				
2.4 The activities represent a progression from simple to more complex				
<b>3. Design and Interface</b>				
3.1 The layout design of MyET (including font size and color on the screen) is appropriate				
3.2 The quality of the sample voice is appropriate				
3.3 The navigation aids are appropriate				
3.4 The operation on the CAPT software page is user-friendly				
3.5 The task time arrangement is appropriate				



**Appendix J****Experts of the Validation****A. AJ. Chansongklod Gajaseni**

Assistant Professor, Chulalongkorn University

**B. AJ. Phranapha Modehiran**

Assistant Professor, Chulalongkorn University

**C. Ms. Tseng, Chin-Chin**

Professor, National Taiwan Normal University

**D. Ms. Tsai Pi-hua Associate**

Professor Mackay Medical College, Taipei, Taiwan

**E. AJ. Ra-Shane Meesri**

Faculty of Education, Chulalongkorn University

**F. AJ. Maneerat Ekkayokkaya**

Assistant Professor, Chulalongkorn University

**G. AJ. Lee Yu-Hsiu**

Assistant Professor

International College, National Institute of Development Administration

## Appendix K

### Evaluation form for Pronunciation Test

Please put a tick (✓) in the box that best describes your opinion about each of the item.

-1 = Disagree *or* the item is NOT appropriate.

0 = Not sure

1 = Agree *or* item is appropriate

Item	-1	0	1	Comment
Part I				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
Part II				
(A)				





## Appendix L

### Evaluation form for student opinion questionnaire

Please put a tick (✓) in the box that best describes your opinion about each of the item.

-1 = Disagree *or* the item is NOT appropriate.

0 = Not sure

1 = Agree *or* item is appropriate

#### Section I: Demographic Information

Statement	-1	0	1	Comment
1				
2				
3				
4				
5				
6				
7				
8				
9				

#### Section II: Student's opinions

Statement	-1	0	1	Comment
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

## Appendix M

### Evaluation form for interview questions

The interview questions are developed by Mr. Ching-yueh Chang for the research on the Effects of Communicative Framework Instruction Using CAPT on English Pronunciation Ability of Chinese Undergraduate Students

Please give your comments regarding each part of the interview form in the space provided.

Q 1: What do you think about your ability to pronounce English after receiving the communicative framework instruction using CAPT?

(Improved? Any progress has been made?)

- Appropriate
- Should be revised by

---



---

Q 2. How do you think the communicative framework instruction using CAPT helped you improve your English pronunciation? If yes, how?

- Appropriate
- Should be revised by

---



---

Q 3: Do you think MyET is useful in learning pronunciation? If yes, how?

- Appropriate
  - Should be revised by
- 
- 

Q 4: Do you think each stage of communicative framework instruction using CAPT helped you improve your English pronunciation ability? If yes, what stages and how did they improve your English pronunciation? What stage do you think need improving the most? Why?

- Appropriate
  - Should be revised by
- 
-



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