SOMATICALLY - ENHANCED APPROACH (SEA)
IN INTENSIVE THAI COURSE FOR ACADEMIC PURPOSES

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A THESIS SUBMITTED TO THE UNIVERSITY OF CANBERRA
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY (EDUCATION)

APRIL 2015
Abstract

This thesis has endeavoured to evaluate the efficacy of the Somatically-Enhanced Approach (SEA) for Mandarin Chinese students learning Thai as a second language (Chinese students) in an intensive Thai course for academic purposes (TAP).

There are two objectives in this research. The first is to identify difficulties encountered by students when they are listening and speaking in a Thai medium academic setting. The second is to investigate the effectiveness of SEA in an intensive Thai course for academic purposes in solving problems identified in objective 1.

TAP employed communicative activities based on the strategies and activities used in SEA to train Chinese students to perceive and produce intelligible Thai prosody. These strategies involved relaxing the body, humming, clapping, using movement and gestures in the teaching of Thai. Drama techniques were also used to train Chinese students to detect the discourse features of Thai in academic lectures.

The activities in TAP with SEA were concerned with focusing on prosody such as tone, rhythm, and intonation of Thai language, not on consonants or vowels or lexical tones as separate entities. TAP with SEA provided learners with a routine containing three phases which are (1) the sensitization phase; (2) the consolidation phase; and (3) the utilization phase.

The analysis of the test scores from the Academic listening test, the Summarizing test, the Public exit test and the Speaking test using t-tests revealed that, after the SEA treatment, Chinese students in the experimental group improved their listening performance to a level sufficient to grasp the subject matter of academic lectures. They also outperformed the control group in terms of listening performance. This study also revealed that after the SEA treatment Chinese students in the experimental group employed more cognitive and metacognitive strategies when listening to academic lectures in Thai. These findings demonstrated that SEA in TAP had positive impact and benefit on Chinese students’ listening proficiency by making them more effective listeners.

Moreover, after the SEA treatment, Chinese students in the experimental group improved their speaking proficiency. Their improved performances in speaking skills were rated much more native-like compared with their performance before intervention by a panel of 9 native speakers.
Moreover, the average rating of the students’ performances in the experimental group in the post speaking tests was higher compared with that before the intervention. Chinese students in the experimental group also demonstrated improvement on Thai prosody production. The number of speech errors in prosodic features such as tone, stress and pause were reduced by 50% compared to the data collected before the treatment. Furthermore, after the SEA treatment, Chinese students’ Thai speech became more fluent according to fluency standard as defined as increased speech rate, number of syllables per minute, number of long sentences, increased mean length of runs between pauses, and a decrease in the number of inappropriate pauses. Such findings provide evidence that active learning strategies used in TAP can achieve long term positive impact on students’ listening and speaking performances.
Acknowledgements

I would like to take this opportunity to thank all of the people who have supported me during my PhD journey.

First and foremost, I would like to thank my primary supervisor, Dr Felicia Zhang. She always believed in me even when I doubted myself. She always encouraged me to face new challenges despite my fears. Without her love, understanding, patience, and intellectual support, I might not be able to finish the thesis.

My grateful appreciation goes especially to Dr Eleni Petraki, my secondary supervisor, for her kind support. I wish to express my utmost gratitude to Dr Alice Richardson and Dr Thuntuch Viphatphumiprathes for their time and help on the statistical suggestion.

I am indebted to all the participants who eagerly participated in the study and enabled me to complete my project. In addition, many thanks go to the administrators and teachers at Guangxi University for Nationalieis, the site of my research, for all their assistance.

I owe enormous gratitude to my workplace, Dhurakij Pundit University, for the scholarship.

I also would like to express my deep appreciation to Dr Lertluck S.Burusphat, Mrs Somsri Lathapipat, Associate Professor Dr Varakorn Samakoses, Associate Professor Dr Somboonwan Satyarakwit, Associate Professor Priya Unaratana, Assistant Professor Dr Peansiri Ekniyom, and Miss Rasi Petsuk who have been a source of inspiration and support throughout my doctoral study.

I am deeply indebted to my uncle and aunt, Chatchai and Suwanna Chantree, and wish to gratefully acknowledge their generous support in many ways during my years in Australia.

I am very grateful to my best friends, Samaporn Sirimongkol, Nongrat Sritana anant, Supavadee Sirisuvakon, and David Whiting for their friendship and invaluable support.

Finally, I would like to express my love to my parents and my elder brother, Pee Rung. This thesis is dedicated to the beautiful memory of three of you.
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<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>2+2 Program</td>
<td>Undergraduate Chinese students study two years in the university in People’s Republic of China and another two years in the university in Thailand.</td>
</tr>
<tr>
<td>A-only</td>
<td>Auditory-only</td>
</tr>
<tr>
<td>ACTEL</td>
<td>American Council on the Teaching of Foreign language</td>
</tr>
<tr>
<td>AEC</td>
<td>ASEAN Economic Community</td>
</tr>
<tr>
<td>ALP</td>
<td>Academic Listening Practice</td>
</tr>
<tr>
<td>ALT</td>
<td>Academic Listening Test</td>
</tr>
<tr>
<td>AOA</td>
<td>Age of arrival</td>
</tr>
<tr>
<td>ASL</td>
<td>American Sign Language</td>
</tr>
<tr>
<td>AV</td>
<td>Auditory-visual</td>
</tr>
<tr>
<td>Chinese students</td>
<td>Mandarin Chinese students learning Thai as a second language</td>
</tr>
<tr>
<td>CMRU</td>
<td>Chiang Mai Rajabhat University</td>
</tr>
<tr>
<td>CP</td>
<td>Critical period</td>
</tr>
<tr>
<td>CPH</td>
<td>Critical period hypothesis</td>
</tr>
<tr>
<td>CUTEL</td>
<td>Chulalongkorn University’s Thai Language Testing for Foreign Language Learners</td>
</tr>
<tr>
<td>CS</td>
<td>Cognitive strategies</td>
</tr>
<tr>
<td>CV</td>
<td>Syllable structure: consonant + vowel</td>
</tr>
<tr>
<td>CVS</td>
<td>Syllable structure: consonant + vowel + sonorant</td>
</tr>
<tr>
<td>CVO</td>
<td>Syllable structure: consonant + vowel + obstruent</td>
</tr>
<tr>
<td>dB</td>
<td>Decibels</td>
</tr>
<tr>
<td>DMC</td>
<td>Directed Motivational Currents</td>
</tr>
<tr>
<td>DPU</td>
<td>Dhurakij Pundit University</td>
</tr>
<tr>
<td>EFL</td>
<td>English as a foreign language</td>
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<tr>
<td>ESL</td>
<td>English as a second language</td>
</tr>
<tr>
<td>FD hypothesis</td>
<td>Fundamental Difference Hypothesis</td>
</tr>
<tr>
<td>FL</td>
<td>Foreign language</td>
</tr>
<tr>
<td>FLOSEM</td>
<td>Stanford Foreign Language Oral Skills Evaluation Matrix (FLOSEM)</td>
</tr>
<tr>
<td>F0</td>
<td>Fundamental frequency</td>
</tr>
<tr>
<td>FP</td>
<td>Filled pause</td>
</tr>
<tr>
<td>GUN</td>
<td>Guangxi University for Nationalities</td>
</tr>
<tr>
<td>HCU</td>
<td>Huachiew Chalermprakiet University (HCU)</td>
</tr>
<tr>
<td>Hz</td>
<td>Hertz</td>
</tr>
<tr>
<td>IELTS</td>
<td>English Language Testing System</td>
</tr>
<tr>
<td>KPU</td>
<td>Kasem Bundit University</td>
</tr>
<tr>
<td>L1</td>
<td>First language or mother tongue language</td>
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<tr>
<td>L2</td>
<td>Second language</td>
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<tr>
<td>LAD</td>
<td>Innate language acquisition device</td>
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<tr>
<td>LS</td>
<td>Long sentence</td>
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<tr>
<td>LTM</td>
<td>Long-term memory</td>
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<td>OP</td>
<td>Optimal period</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>NLM</td>
<td>Native language magnet theory</td>
</tr>
<tr>
<td>M</td>
<td>Mean</td>
</tr>
<tr>
<td>MLR</td>
<td>Mean length of run</td>
</tr>
<tr>
<td>MS</td>
<td>Metacognitive strategies</td>
</tr>
<tr>
<td>P</td>
<td>Pause</td>
</tr>
<tr>
<td>PR</td>
<td>Phonation time ratio</td>
</tr>
<tr>
<td>PRC</td>
<td>People’s Republic of China</td>
</tr>
<tr>
<td>SEA</td>
<td>Somatically- Enhanced Approach</td>
</tr>
<tr>
<td>SLA</td>
<td>Second language acquisition</td>
</tr>
<tr>
<td>SLM</td>
<td>Speech Learning Model</td>
</tr>
<tr>
<td>SR</td>
<td>Speech rate</td>
</tr>
<tr>
<td>STM</td>
<td>Short-term memory</td>
</tr>
<tr>
<td>SUVAG</td>
<td>System Universal Verbo-Tonal Audition Guberina</td>
</tr>
<tr>
<td>TAP</td>
<td>Intensive Thai course for academic purposes</td>
</tr>
<tr>
<td>TL</td>
<td>Target language</td>
</tr>
<tr>
<td>TPR</td>
<td>Total Physical Response</td>
</tr>
<tr>
<td>UG</td>
<td>Universal Grammar</td>
</tr>
<tr>
<td>VTM</td>
<td>Verbo-Tonal method</td>
</tr>
</tbody>
</table>
Chapter 1 Introduction

1.1. Background

The ASEAN Economic Community (AEC) has stipulated the goal of regional economic integration by 2015. Thailand also agreed to integrate with the AEC. In recent years, therefore, there has been a growing interest in teaching and learning Thai as either a second or foreign language. Thousands of undergraduate students from People’s Republic of China (hereafter PRC) come to Thailand to pursue their study every year. As a result, the number of Chinese students in Thai universities is growing steadily.

International students in Thai universities are required to enrol in the same courses and choose from the same curricula as Thai students do. Thus, an international student newly enrolled in a Thai university is assumed to have an advanced level of Thai language proficiency to cope with the vigour of academic study in Thai. This means as a Thai language user, s/he can understand the main idea of complex text on concrete and abstract topics including technical discussions in his/her field of specialization. S/he is also assumed to be able to interact with a degree of intelligibility and fluency with native speakers without straining either party.

However, according to an annual report on higher education for non-native speakers of Thai in Thailand (Higher Education, 2008) more than 15 percent Chinese students learning Thai as a second language (hereafter Chinese students) of 2+2 programs did not complete the bachelor degree within the required 4 years due to their limited Thai language proficiency. The same report also stated that many Chinese students did not possess the requisite level of Thai and evidently faced difficulties in understanding lectures taught in Thai.

Thai is classified as stress-timed language (Luangthongkum, 1977; Dauer, 1983). As a stress-timed language, Thai rhythm can cause difficulty to foreign language learners, especially syllable–timed language speakers such as the Mandarin speaking students in this study. Fluent Thai speech is usually fast, and not every word is stressed and clearly pronounced. Consequently, Thai tones are not pronounced in citation forms but rather are generally spoken in reduced forms (Teeranon, 2002). This characteristic could cause Chinese students to have difficulty perceiving reduced tones.
Richards (1983), Goh (1998), and Brown (2001) suggested that other factors of difficulties for foreign language learners in listening to English texts are unfamiliar pronunciation, speech rate, recognizing redundancies, hesitations, false starts, and pauses. These basic problems that EFL students encounter in conversational listening task would also cause problems in Thai academic settings (Richards, 1983). Because Thai, like English, is also a stress-timed language, similar difficulties might be encountered by Chinese students learning Thai in this study.

The difficulty of listening may stem from interference of the mother tongue (L1) in the integration of the phonetic system of a second language (L2) (Trubetzkoy, 1939). When L2 learners perceive foreign language sounds with the ‘sieve’ of their mother tongue, they fail in perceiving a L2 sounds. Lessening interference of the mother tongue (L1) could help learners improve in L2 listening skills (Lian, 1980; Zhang, 2006; Buranapatana & Zhang, 2008b). However, teaching methods to lessen the interference of mother tongue (L1) have not been examined closely in existing intensive Thai courses.

Moreover, compared with conversational listening, academic listening is much more complicated. Academic listening is the act of listening that requires skills to identify the purpose and scope of a lecture, identify relationships among units within the discourses, and deduce meaning of words from contexts (Richards, 1983). Academic listening is relevant to content understanding. High cognitive demands required in content understanding can cause great difficulty when L2 students are required to integrate general listening skills with higher skills, characteristic of academic listening.

Difficulties faced by Chinese students in academic lectures have been known for a long time. However, existing intensive Thai courses do not teach Chinese students academic listening skills. Existing courses tend to teach Thai communication skills for survival. These survival skills do not assist students improve their speech perception and reproduction to a level sufficient to grasp the subject matter of academic lectures.

1.2. Description of the research and its objectives

This research deals with Chinese learners learning Thai as a second language in an intensive Thai course for academic purposes. This research employs communicative activities based on
Somatically-Enhanced Approach’s principles to train Thai prosody to Chinese learners. It also employs drama techniques to extend the effectiveness of the Somatically-Enhanced Approach (hereafter SEA).

There are two objectives in this research. The first objective of this research is to identify difficulties encountered by students when they are listening and speaking in a Thai medium academic setting. The second is to investigate the effectiveness of SEA in an intensive Thai course for academic purposes in solving problems identified in objective 1.

1.3. Context of research

Fifty seven full-time undergraduate Chinese students who have been studying Thai language as a foreign language in Guangxi University for Nationalities (hereafter, GUN), PRC in 2012 were used as subjects. These 57 Chinese students were divided into two groups: 30 students in the experimental group and another 27 students in the control group.

Before participating in this study, these students had been studying Thai in PRC for 110 hours within 3 semesters since 2011. They participated in the study as part of a 2+2 degree program between GUN and a university in Thailand. After they finished their second year in GUN, they needed to complete their third and fourth year in the undergraduate program of the international business degree taught in Thai language at Thai universities. After successfully completing another two years of the Bachelor degree program in a Thai university, they would graduate with a Bachelor degree in International business from a Thai university.

Thirty Chinese students in the experimental group of the study were trained in the intensive Thai courses for academic purposes (hereafter TAP). The TAP course was conducted for 4 hours per week within 2.5 months. To improve students’ oral proficiency in Thai to achieve academic goals, TAP employed communicative activities based on SEA’s principles and drama techniques to extend the effectiveness of SEA.

1.4. Chapter Outline

This report consists of 11 chapters including the present introductory chapter (Chapter 1).
Chapter 2 presents a brief description of the Thai phonological systems concentrating on the prosodic aspects of the phonological system. Moreover, it presents previous studies on Thai prosodic acquisition by foreigners. A brief overview in differences and similarities between Thai and Mandarin prosodic systems is also discussed in Chapter 2.

Chapter 3 presents a review of the related theories about adult language learners and L2 learning.

Chapter 4 describes the theoretical framework underlining SEA for prosody training on a discourse level in order to improve Chinese students listening and speaking skills in the Thai language. This includes a detailed description of the classroom method adopted in the learning environment.

Chapter 5 presents research questions and hypotheses of the study. This chapter also describes the design of the experiments involving the experimental and control groups of students based on the data collected in 2012. It covers (1) quantitative data collection methods based on students’ results on listening paper based tests, and students oral monologue performances; and (2) qualitative data collection methods using immediate written recall protocols, end of course questionnaires, and face-to-face interviews.

Chapter 6 describes the qualitative results on students’ listening difficulties and strategies based on immediate written recall protocols.

Chapter 7 reports on quantitative result on students’ improvement in listening performance.

Chapter 8 reports on quantitative results on prosodic errors in students’ speech production.

Chapter 9 reports on quantitative results on students’ improvement in speaking fluency.

Chapter 10 describes students’ attitude towards on Somatically-Enhanced Approach (SEA) in the intensive Thai course for academic purposes (TAP) obtained from end of course questionnaires and face-to-face interviews.

Chapter 11 contains a summary of the findings obtained in the study and a discussion of the pedagogical implications of the findings.
Chapter 2 Phonology of Thai language

2.1. Introduction

In this chapter, background information on the phonology of Standard Thai is first presented. This is followed by information on the prosody of Mandarin Chinese. A brief overview in differences and similarities between Thai and Mandarin prosodic system is discussed in the third section. Then, previous studies on Thai prosodic acquisition by foreigners are also reviewed and discussed in the final section.

2.2. Phonology of Thai Language

Phonology is “a branch of linguistics which studies the sound systems of language. Out of the very wide range of sounds the human vocal apparatus can produce, and which are studies by phonetics, only a relatively smaller number are used distinctively in any one language” (Crystal, 2003: 350).

Phonology can be divided into two branches: segmental phonology and suprasegmental phonology.

Chun (2002) defined suprasegmental features that:

“Suprasegmental feature are phonological units that stand in contrast to so called segmental features or simple sounds, i.e., consonants and vowels. Whereas each segmental feature is considered to be an entity in itself and sequences of them are strung together in an utterance, a suprasegmental feature typically extends over more than one sound segment in an utterance, over longer stretches of speech. For example, features such as pitch, tempo, and rhythm extend beyond a single vowel or consonant to syllables, words, and entire sentences” (Chun, 2002: 3)

The prosody in spoken languages involves variation in pitch, tempo, loudness and rhythm of speech sounds (Crystal, 1997). Prosody in this thesis refers to as the suprasegmental features because they are not confined to any one segment; rather, it occurs in a hierarchy of other levels of an utterance.
The discussion of Thai in this research is concerned with Standard Thai which is the official language of Thailand. It is used in broadcasting and conducting official business and legal matters (Tingsabhadh & Abramson, 1993).

2.2.1. Consonants

According to Tingsabhadh and Abramson (1993), Thai has 21 consonants in syllable-initial position as shown in Table 2.1.

Table 2.1: Thai consonants

<table>
<thead>
<tr>
<th></th>
<th>Labial</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaspirated stops</td>
<td>p*</td>
<td>t*</td>
<td>c</td>
<td>k*</td>
<td>?*</td>
</tr>
<tr>
<td>Aspirated stops</td>
<td>ph</td>
<td>th</td>
<td>ch</td>
<td>kh</td>
<td></td>
</tr>
<tr>
<td>Voiced stops</td>
<td>b</td>
<td>d</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricatives</td>
<td>f</td>
<td>s</td>
<td></td>
<td></td>
<td>h</td>
</tr>
<tr>
<td>Nasals</td>
<td>m*</td>
<td>n*</td>
<td></td>
<td></td>
<td>η*</td>
</tr>
<tr>
<td>Liquids</td>
<td>r , l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximants</td>
<td>w*</td>
<td></td>
<td></td>
<td></td>
<td>j*</td>
</tr>
</tbody>
</table>

* Consonants with asterisks can occur in syllable initial and syllable final position.

Among 21 consonants in syllable-initial position, the initial cluster consonants include [pr], [phr], [pl], [phl], [tr], [kr], [khr], [kl], [khl], [kw], and [khw] (Henderson, 1948; Naksakul, 1998). In these clusters, the first possible consonant can be [p, ph, t, k, kh]. The first consonant in the cluster is used for determining the tone of syllable (Smyth, 2002). Second consonant is restricted to those in the consonant set [r, l, w] (Naksakul, 1998). The example of these clusters is shown in words in the distribution table below.

Table 2.2: Thai consonant clusters

<table>
<thead>
<tr>
<th>Initial consonant</th>
<th>Cluster consonant</th>
</tr>
</thead>
<tbody>
<tr>
<td>r</td>
<td>l</td>
</tr>
<tr>
<td>p [pra:m]</td>
<td>‘to warn’</td>
</tr>
<tr>
<td>t [tra:]</td>
<td>‘trademark’</td>
</tr>
<tr>
<td>ph [phra:j]</td>
<td>‘a spirit’</td>
</tr>
<tr>
<td>th [can thra:]</td>
<td>‘the moon’</td>
</tr>
<tr>
<td>kh [khra:j]</td>
<td>‘who’</td>
</tr>
</tbody>
</table>
2.2.2. Vowels

There are 18 monophthongs, nine long and nine short. Phonemic contrastive length is found in Thai as each of the nine monophthongs may occur as long or short with different meanings, for example, short [a] and long [a:], as in [ ták] ‘to take’ and [ta:k] ‘to dry’. Phonetically, long vowels are approximately twice as long as short vowels (Hudak, 1990). Thai monophthongs are shown in the figure below.

![Monophthongs in Thai](image1)

Figure 2.1: Monophthongs in Thai taken from Luksaneeyanawin (1983: 43)

There are three diphthongs, which have their short and long corresponding pairs in the Thai vowel system. All of them start with high vowels, and then move towards the low central vowel. The diphthongs are shown in the figure below.

![Diphthongs in Thai](image2)

Figure 2.2: Diphthongs in Thai taken from Tingsabadh & Abramson (1993: 26)
2.2.3. Tones

Thai is a tonal language. A syllable is assigned a tone and each spoken syllable with a different tone will have a different lexical meaning (Abramson, 1962; Smith, 1995, 2005).

Luksaneeyanawin (1983: 46) noted that “tone will be used to refer to a distinctive pitch of a syllable of which the function is to distinguish the meaning of one word from another”. There are five different lexical tones in Thai as follows: the mid, the low, the fall, the high, and the rising tones. All tone shapes can be described by using the five-tone scale pitch system to represent their F0 height and direction. In order to convert their shapes into the five-tone scale pitch system, the mid tone is represented as [32], low tone is represented as [21], falling tone is represented as [451], high tone is represented as [35 or 45], and rising tone is represented as [215] (Erickson, 1976; Potisuk & Harper, 1994; Tingsabadh & Deeprasert, 1997; Teeranon & Rungrojsuwan, 2008). Thai tone in the five tone scales is shown in Figure 2.3.

![Thai tones on the five-tone scale pitch system](image)

Figure 2.3: Thai tones on the five-tone scale pitch system

In order to communicate in Thai effectively, good pronunciation of consonants and vowels alone are not sufficient (Poomsan, 1995; Vongvipanond, 2000; Wittayasakpan, 2005). The following examples show the effect of tones on the meaning of an utterance (Luksaneeyanawin, 1998):

- kha: Mid tone ‘a kind of grass’
- khà: Low tone ‘galangale’
- khâ: Falling tone ‘to kill’
khá: High tone ‘to trade’

khạ: Rising tone ‘a leg’

Mid tone is indicated by the absence of tone marker. Low, Falling, High and Rising tones are indicated by [ ], [ ], [ ] and [ ] tone diacritics respectively.

Acoustically, each Thai tone phonetic characteristic is well represented by their fundamental frequency (F0) shape. Fundamental frequency is the acoustic correlate of pitch and is defined as the frequency of vibration of the vocal fold (Taylor 1992). Fundamental frequency descriptions are normally represented as F0 contours, which are plots of F0 against time (Taylor 1992). F0 shape is identified by F0 height (the starting point of F0) and F0 direction (the movement of F0) (Teeranon & Rungrojsuwan, 2008). Figure 2.4 illustrates F0 contour of the tones in standard Thai, adapted from Abramsom (1962).

As shown in Figure 2.4, the beginning portion of the high and falling tones are higher than the low and rising tones, with the mid tone being intermediate. The ending portion of the high and rising tones are higher than the low and falling tones, with the mid tone being intermediate. F0 contours associated with the mid and low tones fall steadily throughout, whereas those associated with the falling, high, and rising tones change abruptly in slope. High tone starts from mid F0 before rising. Rising tone falls slightly and then rise.
The F0 shape is identified by the F0 values and F0 direction, via starting point, and its movement forwards endpoint categories (Abramson, 1962). Luksaneeyanawin (1983, 1998) concluded that the two main features which can be used to distinguish the five tones from each other are the F0 height and F0 direction. Thai tones can be categorised into the static and dynamic groups. The mid, high and low tones are somewhat static or level; their F0 trajectories are relatively flat. In contrast, the falling and rising tones are dynamic or contour tones; during these tones, F0 changes direction sharply (Abramson, 1962).

According to Gandour (1974), Tumtavitikul (1993), and Morin and Zsiga (2006), Thai language has five contrastive lexical tones but not all syllable shapes are allowed to have all five tones. Syllable structure plays a significant role in Thai tone assignment. Only CVV, CVS, and CVVS can bear all five tones. ‘C’ stands for a consonant; ‘V’ for a vowel and ‘S’ for sonorant in Thai: [m, n, ŋ, w, j] (sonorant means a sound that is produced without turbulent airflow in the vocal tract). However, on CVO syllables, only the high and low tones can occur. On CVVO syllables, only the fall and low tones are allowed. ‘O’ stands for obstruent in Thai including [p, t, k] (obstruent refers to a sound that is produced by obstructing airflow, causing increased air pressure in the vocal tract such as stops and fricatives).

All five tonal contrasts are preserved in unstressed as well as stressed syllables. However, F0 contours of stressed syllables more closely approximate the contours in citation form of a word than those of unstressed syllables (Potisuk, Gandour, & Harper, 1996).

For example, ผม [phôm], in Thai language can be homophone meaning ‘I’ and ‘hair’. ผม [phôm], in both meanings have the same F0 contour in citation form (as shown in Figure 2.5). However when we speak this word in running speech, [phôm] ‘I’ has a secondary stress but [phôm] ‘hair’ has a primary stress. [phôm], therefore, have different F0 contour in connected speech shown in Figure 2.6.
Figure 2.5: [phǒm] in the meaning either ‘I’ or ‘hair’ in citation form

Figure 2.6: [phǒm] in the meaning either ‘I’ or ‘hair’ have different F0 in connected speech
2.2.4. Stress

The syllable in a word produced which required a higher degree of respiratory effort is referred to as ‘stressed’. The stressed syllables are usually louder, longer, and higher in pitch than unstressed syllables.

Traditionally, languages are classified into ‘stress-timed’ and ‘syllable-timed’ (Abercrombie, 1967). In stress-timed language, the natural segmentation of the elements depends on the differentiated changes of air pressure in the vocal tract. In syllable-timed languages, on the other hand, each syllable is produced on one chest pulse. Thus, each syllable is of equal duration and equal stress. Dauer (1983), and Roach (1983) pointed out that stress-timed languages and syllable-timed languages differ in several phonological aspects: syllable structure, vowel reduction and stress. Stress-timed languages have more variation in syllable length and structure, more reduced unstressed syllables, and more stress related rules than syllable-timed languages. The stressed syllables in stress-timed languages occur at regular intervals. They are usually longer and louder than the unstressed syllable. A syllable-timed language refers to language that each foot has equal duration (Dauer, 1983). A phonological unit called ‘foot’ can be used to describe rhythmic grouping within an utterance. The domain of a foot extends from a salient syllable (stressed syllable), and is audible up to but not including the next salient syllable (Luangthongkum, 1984).

Rhythmic characteristic of Thai language is considered as the stress-timed language (Luangthongkum, 1977; Dauer, 1983; Grabe & Low, 2002). That is because Thai has high Pair wise Variability Index (PVI) values (Grabe & Low, 2002). The PVI is a phonetic measure of variability between vocalic and intervocalic speech durations and they predicted that stress-timed languages should have high PVI values (Low, Grabe, & Nolan, 2000).

Thai rhythm can be illustrated in the following example:
A) monosyllabic word

น้ำ (water)

[ná:m]

Stressed

Foot

B) polysyllabic word

น้ำส้ม (orange juice)

[nám 'söm]

Unstressed Stressed

Foot

Figure 2.7: น้ำ [ná:m] as a stressed syllable in a monosyllabic word
Figure 2.8: น้า [nám] as an unstressed syllable in a polysyllabic word

C) Sentence in a citation form

ฉัน จะ ไป ตลาด  (I’m going to a market.)

[‘chăn ‘càʔ ‘paj ‘täʔ ‘lâ:t]

Every syllable in this sentence is stressed
Figure 2.9: ฉันจะไปตลาด [chân 'cà? 'paj 'tà? 'là:t ] in citation form

D) Sentence in a connected speech

ฉัน จะ ไป ตลาด  (I’m going to a market.)

[chân ca 'paj ta 'là:t ]

Some syllables are reduced and unstressed.
Thai is a fixed accent language (Luksaneeyanawin, 1983). That means the placement of stress on a word in Thai is linguistically governed by rules.

Basically, words in Thai are monosyllabic, for example, พ่อ [phː:] ‘father’, แม่ [mː:] ‘mother’, กิน [kin] ‘to eat’,ข้าว [khâ:w] ‘rice’. These monosyllabic words pronounced in isolation are always realized with stress (Luksaneeyanawin, 1983). When the monosyllabic words are put together into a sentence or connected speech, the syntactic function of the words determines whether or not it will be realized with stress. Content words always are stressed, whereas grammatical words are unstressed (Luangthongkum, 1977).

For instance

<table>
<thead>
<tr>
<th>ชั้น</th>
<th>จง</th>
<th>ไป</th>
<th>ลำตับ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject content word</td>
<td>Auxiliary grammatical word</td>
<td>Verb content word</td>
<td>Complement content word</td>
</tr>
<tr>
<td>[chán]</td>
<td>[ca]</td>
<td>['paj']</td>
<td>[ta]</td>
</tr>
<tr>
<td>stressed</td>
<td>unstressed</td>
<td>stressed</td>
<td>unstressed</td>
</tr>
</tbody>
</table>

Figure 2.10: ฉันจะไปลำตับ [chán ca ‘paj ta ‘là:t] in connected speech
Polysyllabic words in Thai are mostly loanwords from foreign language especially Pali and Sanskrit:

<table>
<thead>
<tr>
<th>Origin of the words</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pali and Sanskrit</td>
<td>วิชำ [wí 'cha:]</td>
</tr>
<tr>
<td>English</td>
<td>สถำนี [sa 'thâ: 'ni:]</td>
</tr>
<tr>
<td>Japanese</td>
<td>ปิ่นโต [pì'n to:]</td>
</tr>
</tbody>
</table>

For the polysyllabic words, stress placements are determined by the number of syllables as well as the structure of the component syllables in the word (Luksaneeyanawin, 1983). Accent refers to the potentiality of the syllable(s) in a word to be realized with stress. Stress on the other hand, refers to a subjective complex of some objective phonetic features such as a higher degree of respiratory effort, length, pitch, loudness as compared with the unstressed syllable (Luksaneeyanawin, 1983).

2.2.4.1. Thai stress patterns

Stress is a suprasegmental feature relating to the production of a syllable. The perception of stress involves the three acoustic parameters of intensity, duration, and fundamental frequency. Stressed syllables are more prominent than unstressed syllables. Prominence is due to an increased physical effort in production, with the result that stressed syllables are usually louder, longer, and higher in pitch than unstressed ones (Phinicharom, 1991).

Luksaneeyanawin (1983; 1993) proposed the following generalizations for stress patterns in Thai.

1) The possible stress patterns of disyllabic words are:

   - strong-strong

   - weak-strong

2) The possible stress patterns of tri-syllabic words are

   - strong-weak-strong
(3) The possible stress patterns of tetrasyllabic words are:

- weak-weak-strong
- weak-strong-weak-strong
- strong-weak-weak-strong
- weak-weak-weak-strong

‘Strong’ refers to the stressed syllable while ‘weak’ is the unstressed syllable. The stress patterns also depend also on the tempo. The disyllabic words are mainly pronounced with strong-strong pattern, the tri-syllabic words with erratic rhythm (‘strong-weak-strong’ pattern), and the tetrasyllabic words with ‘strong-weak-weak-strong’ pattern (Luksaneeyanawin, 1983, 1993).

Luksaneeyanawin (1983, 1993) also noted Thai recognizes double stresses in a word as primary and secondary. The last syllable always receives a primary stress and secondary stress is sometimes suppressed in casual or fast speech. Examples of the stress patterns in words are given below.

<table>
<thead>
<tr>
<th>Stress patterns of disyllabic words</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>strong-strong (secondary-primary)</td>
<td>ลูกเสือ  'lú:k 'sù:ə   a boy scout</td>
</tr>
<tr>
<td>weak-strong (unstressed-stressed)</td>
<td>ประเทศ pra thè:t a country</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stress patterns of tri-syllabic words</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>strong-weak-weak-strong (secondary-unstressed-primary)</td>
<td>สกุลผา 'lák sa 'nà a character</td>
</tr>
<tr>
<td>weak-weak-strong (unstressed-unstressed-primary)</td>
<td>ธนำคำร tha na: 'kha:n a bank</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stress patterns of tetrasyllabic words</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>weak-strong-weak-strong (unstressed-secondary-unstressed-primary)</td>
<td>สาตรอบบี้ sa 'tɔː: bɔ: 'rì a strawberry</td>
</tr>
</tbody>
</table>
2.2.4.2. Duration in each syllable of polysyllabic words

Duration of a syllable in polysyllabic words relates to stress patterns. Duration of a primary stressed syllable is longer than a secondary and an unstressed one.

<table>
<thead>
<tr>
<th>Polysyllabic words</th>
<th>Duration (MSC)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td><strong>Sound</strong></td>
</tr>
<tr>
<td>มะขาม</td>
<td>[maʔ khāːm]</td>
</tr>
<tr>
<td>น้ำตาล</td>
<td>[nǎː nɐː]</td>
</tr>
</tbody>
</table>

2.2.4.3. Tonal neutralization in unstressed syllables

Based on stressed and unstressed syllable, syllables in Thai have two forms: a full form and a reduced form. The full form (also called citation form) is stressed and it is the pronunciation form that is usually found in the dictionary entry of the word. The reduced form or weak form occurred in unstressed syllable in connected speech (Luangthongkum, 1977).

As previously mentioned, fluent Thai speech is usually fast and not every word is clearly reduced. Consequently, Thai tones are not actually pronounced in full forms but rather are generally spoken in reduced forms. Because of this, it can be assumed that while native Thai listeners are able to perceive the tones by relying on the context, L2 learners of Thai have difficulty perceiving reduced tones.

Gandour et al (1999) and Teeranon (2002) studied stressed and unstressed syllables in tempo and rhythmic units of speech. They suggested that the F0 shape of Standard Thai tones can vary by context, e.g. tone variants in stressed and unstressed syllables. Basically, the stress of Thai
always falls on the last syllable of the words such as ทะเล [tha 'le:] ‘the sea’. Thai tone is realized on stress syllables. The degree of tone reduction is directly related to the stress pattern in a word.

Phinicharom (1991) investigated the F0 of tones and the duration of voiced segments in the stressed and unstressed Thai syllables. Her study revealed that tones in unstressed syllables differ from those in stressed tones in three ways. First, unstressed syllables maintain the F0 height and contour of original tones but the range of the F0 movement of rising and falling tones is narrower than stressed ones for all syllable structures. Second, the F0 height and contour of dynamic tones (falling and rising tones) are changed to be similar to a high tone. Third, all five tones are neutralized toward mid-level tones. However, Gandour (1975) and Tingsabadh (1990) argued that the falling and rising tones do not neutralize toward the mid tone.

Luksaneeyanawin (1983) and Peyasantiwong (1986) suggested that in the unstressed syllable, when the original tone is low or high, the tone would reduce to the mid tone. Tonal neutralization in unstressed syllables might cause difficulty in tone perception to L2 learners of Thai. For example,

<table>
<thead>
<tr>
<th>Monosyllabic word</th>
<th>Stress patterns</th>
<th>Polysyllabic word</th>
<th>Stress patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ติ [ʼdiʔ]</td>
<td>Stressed Full form</td>
<td>ติชั้น [di 'chán]</td>
<td>Unstressed- Stressed Reduced form- Full form</td>
</tr>
<tr>
<td>2. กะ [ʼkàʔ]</td>
<td>Stressed Full form</td>
<td>กะทิ [ka 'thiʔ]</td>
<td>Unstressed- Stressed Reduced form- Full form</td>
</tr>
</tbody>
</table>

Thai tones can be change based on stressed and unstressed syllables in the connected speech. Because of this, teachers cannot teach Thai tones in isolation words but they need to teach Thai tones in a sentence level. However, awareness of teaching Thai tones in a sentence is inadequate to help L2 learners learning Thai perceive Thai tones in connected speech. Although the stress in Thai has an effect on the tone change in each syllable, the stress has been ignored in existing Thai course even in a beginning level.
Regarding the stress-pattern rules in Thai, they are complicated themselves. Moreover, in older learners, the acquisition of rhythmic patterns of Thai may be considerably more complicated. That is because they are learned after the first language (L1)’s rhythmic pattern has already been acquired. In other words, the interference from the L1 patterns is inevitable.

With these factors, providing L2 students with the stress pattern rule and examples and asking them to memorize and apply the rules to other examples might not be effective. L2 students could spend too much time memorising rules. They might be able to remember the rules one day, but they could not apply it in their speech production and perception. In other words, the presentation of a grammatical rule by teachers as the centre of the class would not help L2 learners learning Thai to reduce the L1 interference.

Rhythmicity is a phenomenon rooted in the physiology of our body, and our use of attention and perception (Wundt, 1904; Ruckmich, 1913). Rhythmicity is formed and cultivated through the experience of body movement and physical gesture (Todd, 1999; Todd, O’Boyle, & Lee, 1999; Doğantan-Dack, 2006). Because of this, “rhythm must be perceived from within” (Vakhtangov, 1947: 121). Moreover, some scholars advocate the rhythmic reinforcement through additional kinaesthetic features such as body movement and gestures (Acton, 1984; Chen, Fan, & Lin, 1996). With this view, TAP with SEA, therefore, tried to enable adult L2 learners to pick up the L2 rhythm by encouraging Chinese students feel their movement and synchronize it with rhythmicity rather than letting them recite the stress pattern rules.

2.3. Mandarin Chinese prosody

2.3.1. Tones in Mandarin Chinese

Like Thai language, Mandarin Chinese is also a tonal language. This means tone operates lexically to vary meaning. For example, in Mandarin the syllable [ma] means ‘mother’ when produced with a high level tone (Tone 1), but when produced with a falling-rising tone (Tone 3), it means ‘horse’.

Mandarin has 5 tones: a level, a rising, a falling-rising, and a falling tone, plus a neutral tone which occurs on unstressed syllables. Chao (1930 cited in Zhang, 2006) proposed the use of 5 different letters to express the tonal value of different lexical tones [1, 2, 3, 4, and 5]. The value
[5] indicates the highest level of a person’s voice on the five-scale system, whereas the value [1] indicates the lowest level.

Tone 1-4 of Mandarin Chinese are represented as [55], [35], [214], and [51] respectively. However, it has been observed that [212] and [211] are frequently uttered in speech for Tone 3, which indicates tonal values of the four tones may not be reliable in spontaneous speech (Chao, 1968), Tone 3 in Mandarin has been labelled as a falling-rising or dipping-low tone.

If a syllable has a weak stress or is unstressed, that syllable will have a neutral tone or tone 5.

According to Chao (1968 cited in Zhang, 2006), the pitch of the neutral tone is:

Half-low after first tone: tā-de ‘his’;

Middle after second tone: hòng-de ‘red one’;

Half-high after third tone: wō-de ‘my’;

Low after fourth tone lù-de ‘green one’

These tones in the five-tone scale are shown in the figure below.

![Mandarin Chinese tones derived from Moore and Jongman (1997)](image)

Figure 2.11: Mandarin Chinese tones derived from Moore and Jongman (1997)

Similar to Thai tones, the characteristics of Mandarin tones are well represented by their fundamental frequency (F0).
2.3.2. Stress in Mandarin Chinese

In suprasegmental units, Mandarin tones are modified in strings of two or more syllables according to the requirements of prominence (Yang, 1994 cited in Zhang 2006). Prominence means the stress or emphasis by which a particular part of a speech performance is drawn to the attention of the listener. Prominent syllables are generally louder; their pitch level is higher. They are also of longer duration, especially in the case of Tone 3. Similar to the stress of Thai, pitch, intensity, and duration are the three factors that lead to the realization of stress in Mandarin (Chao, 1968).

In Mandarin, almost every word has only one syllable (Kelly, 2000). However, polysyllabic words can be occurred in Mandarin. According to the previous studies, it is agreed that stress patterns of Mandarin polysyllabic word fall mainly into four basic types (Chao, 1968; He, 2002; Xu, 1980; Zhou, 1980):

(1) The possible stress patterns of disyllabic words are:

- secondary stress- primary stress
- secondary stress- neutral stress

(2) The possible stress patterns of tri-syllabic words are

- secondary stress- tertiary stress- primary stress

(3) The possible stress patterns of tetrasyllabic words are:

- secondary stress - tertiary stress- tertiary stress – primary stress

<table>
<thead>
<tr>
<th>Stress patterns of disyllabic words</th>
<th>Chinese Words (Pinyin)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>secondary- primary</td>
<td>huǒchē</td>
<td>train</td>
</tr>
<tr>
<td>secondary - neutral</td>
<td>pǔtáo</td>
<td>grape</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stress patterns of trisyllabic words</th>
<th>Chinese Words (Pinyin)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>secondary - tertiary - primary</td>
<td>huǒchēzhàn</td>
<td>railway station</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stress patterns of tetrasyllabic words</th>
<th>Chinese Words (Pinyin)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>secondary - tertiary - tertiary primary</td>
<td>dí sǎn xīa sī</td>
<td>obsequious</td>
</tr>
</tbody>
</table>
As mentioned before, Mandarin disyllables have the stress patterns of ‘secondary stress -primary stress’ and ‘secondary stress - neutral stress’ (Chao, 1968; Chen, 1984) as shown in the above examples. In disyllabic words in Mandarin, the first syllable tends be slightly longer than the second (Wang & Wang, 1993). According to Lin, Yan and Sun (1984), there are some 30,000 disyllabic words (including compounds) in a large modern Chinese dictionary, and about 2,000 disyllabic words ending with a neutral tone are stressed on the first syllable and week in the last one. In trisyllabic and tetrasyllabic words, the last syllable is the longest, followed by the first (Chao, 1968).

2.4. Overview in differences and similarities between Thai and Mandarin prosodic systems

The differences between Mandarin prosody and Thai prosody are discussed as follows:

2.4.1. Tones

![Figure 2.12: Tone shape diagram of the five Thai tones taken from Luangthongkum and Graduate Students (2011)](image-url)
When comparing the tone shape diagrams between Thai and Mandarin, at first glance, the tone shape diagrams of Thai and Mandarin tones suggest that the falling, high, and rising tones of Thai are very similar to the 4th, 1st, and 2nd tones in Mandarin respectively. Therefore, contrastive analysis would predict that Mandarin speaking L2 learners of Thai would possibly master these tones fairly quickly. On the other hand, the mid and low tones of Thai do not exist in Mandarin tones. Therefore, it would be safe to assume that Chinese students would encounter difficulty producing these tones. See the contrastive analysis between Thai tones and Mandarin tones in the following table.

<table>
<thead>
<tr>
<th>Thai tones</th>
<th>Mandarin tone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tone 3 (Falling tone)</td>
<td>Tone 4 (Falling tone)</td>
</tr>
<tr>
<td>Tone 4 (High tone)</td>
<td>Tone 1 (High tone)</td>
</tr>
<tr>
<td>Tone 5 (Rising tone)</td>
<td>Tone 2 (Rising tone)</td>
</tr>
<tr>
<td>Tone 1 (Mid tone)</td>
<td>Mid tone does not exist in Mandarin tone</td>
</tr>
<tr>
<td>Tone 2 (Low tone)</td>
<td>Low tone does not exist in Mandarin tone</td>
</tr>
</tbody>
</table>

### 2.4.2. Stress

The stress and accent in Mandarin interact with the lexical tone so that pattern of polysyllabic constituents in Mandarin is unstable (Kratochvil, 1968). Unlike the stress pattern in Mandarin, the stress pattern of Thai is fixed (Luksaneeyanawin, 1993). As previously mentioned, the
primary stress always is on the last syllables of Thai word. Conversely, the primary stress of Mandarin words can be on either the first or final syllables. As a result, the transference of Mandarin stress patterns could cause Chinese students mispronounce Thai words by placing the primary stress on the first syllable.

2.4.3. Rhythm
In fact, L1 rhythm has been claimed to be one of the first aspects of language to be acquired by infants (Nazzi, Bertoncini, & Mehler, 1998; Nazzi & Ramus, 2003). L2 rhythm, however, is regarded as the most difficult prosodic feature for adult speakers to acquire when s/he wants to learn to communicate in a foreign language (Abercrombie, 1967; Luangthongkum, 1984).

One more difference is the different rhythm between Thai and Mandarin Chinese. Mandarin with nearly equal weight and time in all syllables is syllable-timed language (Lin & Wang, 2005). Thai with an alternation of stressed and unstressed syllables, on the other hand, is a stress-timed language. The basis for Mandarin Chinese rhythm is the number of syllables, and the production of every syllable virtually takes the same amount of time, while the basis for Thai rhythm is based on that of stresses and the stressed syllable takes more time to pronounce.

Although rhythm and stress patterns between Mandarin and Thai language are different, Chinese students seem not to be aware of this striking difference. With no knowledge of this significant feature, Chinese students tend to apply the rhythm of Mandarin (syllable-timed rhythm) when speaking Thai. Consequently, they might clearly articulate every Thai syllable and word in speeches. Therefore, one assumption of this thesis is that Chinese students could become ‘deaf’ to Thai prosodic sounds and could not produce Thai prosody correctly. Furthermore, Barry (2007) claimed that although acquiring L2 rhythm can be problematic for many non-native speakers, it can significantly contribute to the perception of foreign accent. Therefore, if Chinese students could acquire Thai rhythm and could lessen the effect of the Mandarin ‘filter’, they might be able to better perceive and reproduce Thai accent.
2.5. Previous research on Thai prosodic acquisition

2.5.1. Thai prosodic acquisition as the first language

In tonal languages, tone is essential for understanding all aspects of grammar: phonology, morphology, syntax, semantics and pragmatics (Akinlabi & Liberman, 2000). Because of this, the mastery of tones is necessary for the acquisition of tonal languages.

In first language acquisition (L1), tone is one of the earliest aspects of acquisition of the sounds by children (Ioup & Tansomboon, 1987). With regard to the order of acquisition of particular tones in Thai static tones are generally found to be produced contrastively earlier than dynamic tones (Tuaycharoen, 1977). Moreover, among the two dynamic tones, Thai children acquire the rising tone at the age of 16 months. The rising tone is acquired earlier than the falling tone.

Panpraneet and Onsuwan (2013) investigated the development of five-tone sensitivity in young children ranged between 2-7 years old. The participants of this investigation were divided into 3 different age groups, namely: 2-3 year old group (n=11); 4-5 year old group (n=11); and 6-7 year old group (n=11). The participants needed to identify which monosyllabic word they had heard. From the result, the oldest group performed best, followed by the middle group, and the youngest. This result suggests that Thai children do not achieve mastery of tone identification until after age of eight. Misidentification response from this investigation revealed that low tone elicited the highest number of tonal errors and that the participants were more likely to identify it as a mid tone. This result suggests that the mid and low tones are the most difficult pair to discriminate.

2.5.2. Thai prosodic acquisition for adult learners learning Thai

2.5.2.1. Difficulty of Thai prosodic acquisition for adult L2 learners

Tone is a great difficulty for L2 adult learners who are non-tonal speakers (Bluhme & Burr, 1971). Even after non-native speakers of Thai have studied the language for a long period of time and are able to communicate in Thai, they may still have problems perceiving and pronouncing tones (Ponmanee, 2002; Wittayasakpan, 2002; Potibal, 2005; Sathiansukon, 2005; Sittikesorn, 2005; Udompan, 2005).

Ioup and Tansomboon (1987) studied prosodic acquisition in Thai language among different age of subjects. The study shows that the influence of age on the acquisition of a new tonal system is
more dramatic than its influence on the acquisition of a new stop contrast. They compared the ability of four groups to acquire the Thai tonal system and its system of stop contrasts. Subjects included children acquiring Thai as a first and second language and beginning and advanced adult learners. For both groups of adults, the tonal system was more difficult to acquire than the stop consonants, while the tonal system was less difficult to acquire than the stop consonants for children.

Ioup and Tansomboon (1987) argued that this discrepancy between adult and child acquisition of tones and phonemes can only be explained by neurological factors, indicating a critical period for the acquisition of prosody. In adults, the brain is generally believed to be lateralized for language, with most linguistic functions located in the left hemisphere. Restak (1984) argued that the right hemisphere is considered to be superior at handling the prosodic component of speech. Ioup and Tansomboon (1987) contended that their adult subjects’ ability to replicate tones without the consonants and vowels illustrates that adults process pitch differently depending on whether the task is in a linguistic or non-linguistic context. From these views, it can be interpreted that listening with the right side of the brain can help adult learners develop prosody and offer insight how to train speech processing to adult learners.

According to Abramson (1975), mid and low tones are very close to each other’s. Abramson (1975, 1976), Wayland and Guion (2004), Sathiansukon (2005; 2007), and Sittikesorn (2005) agreed that mid and low tones are the most difficult pair to discriminate, even for native speakers of Thai, especially when they are perceived in isolation.

Ponmanee (2002) reported that even after 2 or 3 years of studying Thai at Chiang Mai University, Thailand, as an adult language learner, Korean students self-reported that the most difficult aspect in learning Thai was tone pronunciation. Further, Potibal (2005) examined other Korean students who had been studying Thai for 4 years at Hankuk University of Foreign Studies, Seoul, Republic of Korean. Korean language is a non-tonal language (Jun, 1993, 2005). Because of this, Potibal similarly found that Korean students had difficulty pronouncing Thai tones. She noted that their errors might stem from their inability to correctly produce pitch height for level tones and pitch contour for contour tones. Moreover, their production of contour tones was too short. Korean students also showed the influence of their mother tongue as they applied the Korean stress and intonation to Thai. As a result of this, they pronounced word with the mid tone, the
change the mid tone to the high tone. Potibal did not illustrate how the L1 had influence on Korean students’ Thai tone production. According to Jun (1993, 2005), the intonation and stress pattern for the standard Seoul dialect of Korean is Low-High-Low-High. Because of this, when speaking Thai, the Korean students placed stress and used high pitch in every second syllable.

2.5.2.2. The influence of tonal language background on Thai prosody perception

The differences and similarities between the L1 and L2 sound systems, and (previous) experiences with the target language are important factors in L2 speech perception and production.

According to Trubetzkoy (1939: 51), “starting from childhood, each person becomes accustomed to analysing what is said with their phonological sieve in their mother tongue”. This analysis is carried out automatically and unconsciously. That means when s/he hears another language spoken, s/he intuitively uses the familiar ‘phonological sieve’ of her/his mother tongue (L1) to analyse what has been said. Since different languages have different ‘sieves’, the ‘phonological sieve’ of the L1 filter the foreign sound in perception. Therefore, when learners perceive foreign language sounds with the ‘sieve’ of their mother tongue, they do not appropriately select what is needed in perceiving the foreign sounds. Thus, they become ‘deaf’ to the foreign language sounds.

Rochet (1995) did not use the metaphor of ‘phonological sieve’ like Trubetzkoy (1939). However, he purported that the main difficulty of L2 listening could be that learners tend to rely on their L1 phonological systems. As a result of the first language (L1) phonological systems, L2 learners fail in perceiving L2 sounds (Underbakke, 1993; Rochet, 1995; Trofimovich & Baker, 2006).

Some studies (Wayland & Guion, 2004; Cooper, 2007) support the theory of the positive influence of tonal language background on foreign tone discrimination. These studies suggest that having a tone language background could be advantageous when learning foreign tone contrast. Wayland and Guion (2004) pointed out the advantage of tonal language background on foreign tones. They employed five days training program with Thai, English and Chinese participants learning to discriminate Thai mid and low tones. They reported that the Chinese
learners outperformed the English learners, before and after training at discrimination the Thai tones.

**2.5.3. Training that assists Thai prosodic acquisition for adult L2 learners**

Wayland and Guion (2004) argued that adult learners could learn some aspects of a new prosodic system differing from their native system although they might acquire it imperfectly.

Wayland and Guion (2004) investigated the ability to identify and discriminate the mid tone and low tone contrast in Thai by native English and native Chinese listeners before and after auditory training under two Inter-Stimulus-Intervals (ISI) of presentation (500-ms ISI versus 1500-ms ISI effect). These two different ISIs have been claimed to trigger different levels of processing: a phonetic level void of native language (NL) interference for 500-ms ISI and a phonological level for 1500-ms ISI (e.g., Burnham & Francis, 1997; Werker & Tees, 1984). The effect of ISI on speech perception has been shown in previous studies (e.g., Burnham & Francis, 1997; Burnham, Kirkwood, Luksaneeyanawin, and Pansottee, 1992; Werker & Tees, 1983, 1984). Werker and Tees (1984), for example, found that inexperienced participants could not discriminate non-native contrasts at a 1500-ms ISI, but that they could discriminate them at a 500-ms ISI. These researches suggest that the participants’ failure at the longer ISI might be due to their use of native categories stored in long-term memory while performing the task.

Wayland and Guion (2004) found that the native Chinese group outperformed the native English group in their ability to discriminate between the two Thai tones under the 500-ms ISI condition before training and under both ISI conditions after training. Wayland and Guion (2004) found that without laboratory training, American English listeners with prior experience of Thai were better at discriminating the mid and low tones in Thai than those without the experience. These studies suggest that perceptual difficulty experienced by speakers of tonal and non-tonal languages can be overcome through experience afforded by a short-term laboratory.

Laphasradakul (2010) also investigated the ability to identify and discriminate the mid-tone and low-tone contrast in Thai by American English listeners before and after training. There were three groups to participate in the experiment: the prototype group, the high variability and the control group.
The Prototype training group (n = 20 participants) was trained to perceive the Thai mid and low tones with prototypical, low-variability stimuli produced in citation form by two Thai speakers (one male and one female) at a single slow, clear speaking-rate. The High variability training group (n = 20 participants) was trained with high-variability stimuli. Stimuli varied due to the use of multiple speakers: 4 speakers (2 men and 2 women), and speech occurred in a fast conversational style. The control group (n = 20 participants) was administered the pretest and, four days later, the posttest, but did not undergo the training.

The experiment was carried out in a laboratory setting. The result indicated that the training significantly improved tone identification accuracy among participants in both experimental groups: the prototype group and the high variability group, but there was no statistically significant difference in the two groups’ amount of improvement. However, the finding suggests that the high-variability training paradigm may result in a more robust, longer-term representation of the two Thai tones than the low-variability training method. The study also suggests that perceptual difficulty experienced by speakers of non-tonal languages can be overcome through experience afforded by a short-term laboratory.

2.6. Summary

As previously mentioned, ‘phonological sieve’ (Trubetzkoy, 1939: 51) has a significant influence on perceiving foreign sound. Since different languages have different ‘sieve’, the ‘phonological sieve’ of the mother tongue would filter the foreign sound in perception. Therefore, when learners perceive foreign language sounds with the ‘sieve’ of their mother tongue, they do not choose what is needed in perceiving the foreign sounds. Thus, they could not perceive those foreign sounds.

This thesis conducted the experiment on Mandarin Chinese learners of Thai language. Like Thai language, Mandarin Chinese is a tonal language. Because of this, one assumption of this thesis is that Thai tone perception by Chinese listeners might be less filtered from their ‘phonological sieve’ than other non-tone listeners.

However, other areas of suprasegmental features between Mandarin and Thai seem to be different. For example, the stress and accent in Mandarin interact with the lexical tone so that
pattern of polysyllabic constituents in Mandarin is unstable (Kratochvil, 1968). The last syllable in Mandarin can be primary stress, secondary stress or neutral stress (Chao, 1968; Chen, 1984). Unlike the stress pattern in Mandarin, the stress pattern of Thai is fixed (Luksaneeyanawin, 1983). The last syllable in Thai always receives a primary stress (Luksaneeyanawin, 1983).

One more difference is that Mandarin is a syllable-timed language but Thai is a stress-timed language. Dauer (1983), and Roach (1983) pointed out that stress-timed languages and syllable-timed languages differ in several phonological aspects: syllable structure, vowel reduction and stress. Stress-timed languages have more variation in syllable length and structure, more reduced unstressed syllables, and more stress related rules than syllable-timed languages. Based on stressed and unstressed syllable as the stress-timed language, syllables in Thai can be a full form and a reduced form. The reduced form or weak form occurred in unstressed syllable in connected speech (Luangthongkum, 1977). Because of this, it can be assumed L2 learners of Thai have difficulty perceiving these reduced tones.

With understanding the positive influence from learners’ tonal language background on learning Thai tones and the negative influence of the difference between other areas of prosody in Mandarin and Thai on the learning of Thai as L2, the intensive Thai course for academic purposes (TAP) will shift focus from on tones to stress, intonation, and rhythm in both a sentence level and discourse level.
Chapter 3 Review of Literature

3.1. Introduction

In first language acquisition (L1), tone is one of the earliest aspect of acquisition of the sounds by children (Ioup & Tansomboon, 1987). Conversely, tone presents a great difficulty for second language (L2) adult learners who are non-tonal speakers (Bluhme & Burr, 1971). Even after non-native Thai speakers have studied the language for a long period of time and are able to communicate in Thai, they may still have problems perceiving and pronouncing tones (Ponmanee, 2002; Wittayasakpan, 2002; Potibal, 2005; Sathiansukon, 2005; Sittikesorn, 2005; Udompan, 2005). These findings seem to indicate that it is difficult for adult language learners of Thai to pronounce Thai tones to a Thai native level.

“Age has often been considered a major, if not the primary, factor determining success in learning a second or foreign language. Children are generally considered capable of acquiring a new language rapidly and with little effort, whereas adults are believed to be doomed to failure” (Marinova-Todd, Marshall, & Snow, 2000: 9).

Many researchers seem to believe that age is intimately connected with second language acquisition (SLA). This belief has made researchers propose the correlation between age and pronunciation ability. However, this correlation has intrigued many language researchers. From their findings, some researchers agree that age-related differences do exist but others do not. Researchers who disagreed with age being a factor have explained that child language learners outperform adult language learners because of different learning methods. In this chapter, some of the related theories about adult language learners and their L2 learning are reviewed.

3.2. The Critical Period Hypothesis

3.2.1. What is a critical period?

The notion of a critical period (CP) was first observed in the biology of animals (Herschensohn, 2007).
Bialystok (1997) stated that:

“Imprinting in chicks, acquisition of birdsong, cocoon preference in ants, aggression in mice, vision in cats, sociability in dogs, sexual imprinting in finches, maternal responsiveness in goats, egg recognition in birds and social behaviour in monkey are all different types of knowledge and skills that must be learnt by a certain point in the animal life” (Bialystok, 1997: 17).

This statement indicates that after a certain age, certain skills can no longer be acquired. Thus a critical period is considered as a limited duration of specific capacities or behaviour (Singleton, 2005). Within this time frame, children have remarkable ability to learn language. However, beyond this critical period, capacity to learn languages declines.

3.2.2. The Critical Period Hypothesis and language acquisition

Penfield and Roberts introduced the idea of the Critical Period Hypothesis (CPH) in 1959. According to their CPH, a child's brain is more plastic than that of an adult. Because of this, before the age of nine, a child can easily learn two or three languages at the same times. Penfield (1959) hypothesized that the brain plasticity makes the child possess superior capacity in acquiring units of language. He, later, recommended that teaching of a second language should start at an early age in school.

Tees (2001) described an optimal period (OP) as a biologically (and experientially) determined period during which some aspect of an organism’s neural and behavioural functioning is especially sensitive to a particular environmental factor.

Penfield and Lamar (1959) noted that:

“…for the purposes of learning languages, the human brain becomes progressively stiff and rigid after the age of nine” (Penfield and Lamar, 1959: 236).

The popular belief that adults are worse at learning a second language than children has been supported by many researchers, especially since Lenneberg (1967) further explored the CPH. With regards to language acquisition, the CPH states that human beings must be exposed to a language during their infancy and early childhood before puberty. CPH suggests that during the critical period, language acquisition takes place easily and the brain retains its plasticity.
Based on studies in the field of neurophysiology, Lenneberg (1967) proposed that biological factors have an effect on an innate process of L1 acquisition. In other words, the biological factors limit the critical period for a language acquisition from roughly two years of age to puberty. When language learners come to the onset of puberty, their cerebral plasticity begins to disappear (Lenneberg, 1967). A lateralization of the language function in their left hemisphere stops developing (Lenneberg, 1967). Lenneberg (1967) also suggested although development of language lateralization in the left hemisphere stops, language learning, in fact, could take place, at least in the right hemisphere until the ages of thirteen.

Although the CPH is supported from the position of general neurological plasticity (Penfield, 1959) and from the position of hemispheric function specialization (Lenneberg, 1967). The CPH has been found to be only partially sufficient in answering the questions being raised in SLA.

Besides, Penfield’s and Lenneberg’s research only apply to L1 production. Their study pertained to adult with impaired first language skills as a result of brain damage. There were no studies of second language skills in healthy brain. Therefore, it would not be necessarily true that healthy adult with intact neurological system would have analogue learning problem. It has been difficult to define exactly when complete lateralization of language function in the left hemisphere is achieved.

Both Penfield (1959) and Lenneberg (1967) agreed on the view that the ability to acquire language is related to aging and there is a limited period of time to attain a language after which it is no longer possible. However, they both could not agree on the age at which it becomes too late for an individual to acquire language.

Furthermore, researchers have debated the age at which lateralization actually occurs. Kinsbourne (1975) proposed completion by birth; Lenneberg (1967) proposed lateralization by puberty. Language lateralization is complete only by age five and cannot end at puberty (Krashen, 1973) and even may be present as birth (Molfese & Molfese, 1979).

It has been argued that pass the age of puberty, there is not only decline in language learning ability, but also physical change in the brain in how languages are acquired. However, it appears that while the existence of the critical period (CP) in language acquisition is generally accepted,
its neuro-physiological cause, if any, is still unclear. Moreover, there have been few studies of the effects of age on the process of second language acquisition.

In terms of phonology, Werker & Tees (2005) claimed:

“It is likely that there are OPs for the acquisition not only of phonology in comparison to other subsystems of language but for the different realms within phonology as well” (Werker & Tees, 2005: 236).

Scovel (1988: 101) argued that there might be the CP for the acquisition of pronunciation of a L2 only because pronunciation is the only aspect of language performance that has a neuromuscular basis that requires “neuro-motor involvement and has a physical reality”. Learners who start to learn a second language later than age 12 will never be able “to pass themselves off as native speakers” and “will end up easily identified as non-native speakers of that language” (Scovel, 1988: 185). Scovel (1988), however, added that there might be some super-exceptional late learners who are not bound by critical constraints.

3.3. Evidence of perceptual sensitivities not being lost

There are some researches pointing to the fact that the unused neurons are not lost and might be able to be reactivated in future learning. Neufeld’s study (1978) is often cited by those seeking evidence to refute the Critical Period Hypothesis (CPH). In Neufeld’s study, 20 adult native speakers of English were given 18 hours of intensive instruction in the pronunciation of Chinese and Japanese. To test the ‘nativeness’ of their pronunciation, the learners were then given an imitation test and their utterances judged on a five-point scale (from ‘unmistakably native’ to ‘heavily accented’) by native speakers of the two languages. The subjects of his study made a start by imitating short phrases they heard through their earphones. In the final phase of the program, the subjects repeated 10 short phrases 5 times. Their last attempts at imitating each phrase were recorded. Then their recording was later played to three native speakers of each language who rated them for accent. Of the 20 subjects, one subject received native ratings in both Japanese and Chinese and two more subjects in Japanese only. Neufeld (1977) interpreted these findings as indicating that native-like mastery of the sound patterns of a foreign language (FL) is attainable by adult learners. Neufeld’s findings (1977) strongly suggest that a step in the
learning process which involves imitating the rhythm or intonation of the L2 would be beneficial. Under the right conditions, adults can achieve native ability in pronunciation, which is generally considered as the most difficult for adults to acquire. Neufeld (1977, 1979) conducted other studies with similar results.

However, his studies have been strongly criticized by supporters of the critical period hypothesis. Scovel (1988) and Long (1993), for instance, pointed out that there are some doubts on the validity of Neufeld’s conclusions. For instance, the outcome of his experiment might have been influenced by the instructions to the judges. The judges were not told that the phrases they were to rate had been pronounced by English-speaking learners of Japanese and Chinese. They were made to believe that these samples were from Japanese and Chinese immigrants whose pronunciation of their mother tongue might show traces of interference from English. Moreover, the subjects were not informed about the meaning or the grammatical structure of the phrases they were trained to imitate. Therefore, it could be argued that Neufeld’s study only shows that adults can be trained to imitate or mimic phrases from a foreign language (FL) that do not carry any meaning for them in a native-like manner. However, Scovel (1988) and Long (1993) agreed that the essential claim of Neufeld’s study is that adults possibly achieve native-speaker levels of proficiency in an L2. This claim led Scovel (1988) to accept that there might be some ‘super-exceptional’ late learners who are not bound by critical constraints.

Neufeld’s experiment (1977) suggests that the original perceptual and motor abilities that allow children to acquire the speech sounds of their mother tongue are still available and can be accessed by adult L2 learners.

Neufeld’s research findings were further supported by Tees and Werker’s studies which found that decline in performance on non-native contrasts was not absolute. A latent sensitivity to non-native distinctions continues to exist (e.g. Tees & Werker, 1984; Werker & Logan, 1985; Werker & Tees, 1984 cited in Werker & Tees, 2005). Furthermore, Event Related Potential (ERP) studies which reveal neural responses to both native and non-native distinctions show that ERP to the non-native contrast may be slower and/or be over different recording sites than is the ERP to native phonetic distinctions (Mills, Coffey-Corina, & Neville, 1997; Werker, Fennell, Corcoran, & Stager, 2002). This led Werker and Tees (2005) to argue that maintenance of
sensitivity to a speech contrast should be conceptualized as resulting in reorganization rather than loss.

3.4. Plasticity of the brain

One of the most famous examples of what has been called a ‘loss’ or ‘impoverishment’ in discriminative capacities was discovered by Werker and Tees (1983) and is related to the perception of sounds in a language. In the first year of life, the discriminative capacities relating to some phonological contrasts not belong to the mother tongue is lost. Although newborns are capable of discriminating phonological contrasts belonging to various languages, several phonological contrasts which do not belong to the mother tongue are no longer discriminated by the baby by the time he/she is one year old. The interesting aspect regarding plasticity is that this phenomenon was initially interpreted as a loss in discriminative capacities related to phonological contrasts. Later on it was reinterpreted, in particular by Jusczyk (1985) and Kühl (1992) as resulting from different attentional processes. (i.e. the native language magnet theory (NLM) developed by Patricia Kühl).

The native language magnet theory (NLM) aims to illustrate the development of speech perception from infancy to adulthood. NLM theory postulates that new language input is mapped in detail by the infant’s brain. In other words, the infant has innately-given natural auditory boundaries that partition the auditory space. Kühl (2000) suggested that there are three instances in the process of neutral commitment by the infant. Three instances are: pattern detection in the input; exploitation of the statistical properties of the input; and alteration of perception. Infants acquire information from the signal through the detection first. Then, infants’ perception becomes language specific through the categorized and statistical processing. This perceptual warping of acoustic dimensions takes place within their first year. Kühl (2000) also suggested that the child engages in learning processes that lead to the emergence of a speech perception system and perceptual representations.

Moreover, Kühl (2000) emphasized that perception is language specific. Because of this, the speaker of any language could not perceive acoustic reality (Kühl, 2000). Kühl (2000: 1852) described that “perception is altered in service of language”. The NLM model claims that perceptual representations are stored in memory. Therefore, adults’ the perception is shaped by
their earlier linguistic experience. Consequently, the perception is seen as language specific (Kuhl, 2000). The NLM theory claims that perceiving a new sound is a necessary step in acquiring this sound on the productive level. In addition, evidence suggests that perception and production interact when new sounds and patterns are acquired (Lacabex, Lecumberri & Cooke, 2008). Therefore, the L1 can be expected to influence L2 perception.

New results in fact have demonstrated that the discriminative abilities are not lost, but they are only temporally no longer available. Moreover, current theories posit that language acquisition patterns are influenced by linguistic experience rather than biological or maturational constraints (Best, 1995; Flege, 1995; Kuhl, 2000; Hernandez & MacWhinney, 2005).

The Speech Learning Model (SLM) (Flege, 1995) concerns the ultimate attainment of L2 pronunciation. The SLM claims that learners of an L2 must create accurate perceptual ‘targets’ to guide them in the production of L2 sounds; failure to do so will result in inaccurately produced targets. The postulate of the SLM proposes that the same devices that are used by learners to learn their native language (L1) can be accessed at any age and applied to L2 learning.

Flege (1995) stated that:

“The greater the perceived difference of an L2 sound from the closest L1 sound, the more likely that a separate category will be established for the L2 sound” (Flege, 1995: 264).

The SLM hypothesizes that new phonetic categories might be “blocked by the mechanism of equivalence classification” (Flege, 1995: 239).

Flege’s SLM model provides an explanation for why foreign accents have been routinely attested for late L2. However, Flege (1995) hypothesized that equivalence classification may lead to foreign accent in adult learners. That is because the equivalence classification prevents L2 adult learners from making effective use of auditorily accessible acoustic differences between phones in their L1 and a new language. Learners’ experience shapes L2 speech learning (Flege, 1995; McCandliss, Fiez, Protopapas, & McClelland, 2002). However, based on experimental evidence (cited in McCandliss et al., 2002), it could be argued that access to original perceptual abilities becomes more difficult in some way after a certain age but not totally lost.
3.5. The effect of training after the optimum period

The SLM argues that the older learners have difficulty in the native-like attainment of L2 perception. This is because the more L1 phonetics categories are developed, the more likely L2 phonetics categories are blocked to learners with a late age of arrival (AOA). Conversely, it native-like attainment of L2 perception tends to be found in younger learners, who have an early age of arrival (AOA) (Flege & MacKay, 2004). Besides, the SLM postulates that L2 learners who frequently use their L1 in their L2 community will be less likely to attain native-like L2 perception than those who rarely do (Flege, Mackey, & Meador, 1999; Piske, MacKay, & Flege, 2001; Flege & MacKay, 2004).

The SLM places much emphasis on the perceptual assimilation of the L2 sounds to L1 sounds. Its models relate L2 learners’ problems in L2 speech learning to the perceptual assimilation of L2 sounds to their L1 sounds. It hypothesizes that perceptual learning (the establishment of a phonetic category) will eventually lead its way to production.

The SLM provides explanations for the L2 perceptual learning depending on one’s native language by using non-native contrast pairs. However, Flege’s SLM model does not propose any actual mechanism through which experience with non-native sounds leads to change.

As McCandliss et al (2002) stated:

“The neural substrate of a phonetic percept may be a pattern of neural activity within some region or regions of the cerebral cortex. Given this … experience with a language may result in a situation in which a recurring categorical pattern of neural activity is elicited by a range of acoustically distinct inputs – in some cases, failing to capture aspects of speech input that distinguish non-native phonemes” (McCandliss et al., 2002: 91).

Hebbian learning is the contribution of a Canadian neuropsychologist, Donald O. Hebb. Hebbian learning is a theory of behaviour based as much as possible on the physiology of the nervous system. Hebb (1949) postulated a theory in which he proposed the benefit of persistence or repetition of an activity on cellular changes.
Hebb (1949) also postulated that:

"When an axon of cell A is near enough to excite B and repeatedly or persistently takes part in firing it, some growth process or metabolic change takes place in one or both cells such that A's efficiency, as one of the cells firing B, is increased" (Hebb, 1949: 62).

Understanding of Hebbian theory, effectively summarized by the popular paraphrase, ‘neurons that fire together, wire together’, is essential to the understanding of neuroplasticity (Boakye, 2009). Learning rules reinforce whatever response a neural system makes to a received stimulus. Hebb (1949) postulated that repeated stimulation of specific receptors leads slowly to the formation of ‘cell-assemblies’ which can act as a closed system after stimulation has ceased. This continuous cerebral activity serves not only as a prolonged time for structural changes to occur during learning, but also as the simplest instance of a representative process (i.e. images or ideas). The postulates of Hebb have become known as Hebbian Learning.

Hebbian Learning is a theory that explains that some types of associative learning in which simultaneous activation of cells leads to increases in synaptic strength. Indeed, this may explain why repeated thought or practice strengthens the hardwiring of neurons in the association areas of the various lobes of the brain. The Hebbian model of learning postulates that learners with a late AOA could acquire a non-native speech contrast if they are trained with exaggerated stimuli. The exaggerated stimuli enable L2 adult learners to distinguish new phonetic contrasts (McCandliss et al., 2002).

Along with the proposal of McClelland, Thomas, McCandliss, and Fiez (1999), the McCandliss et al.’s study (2002) hypothesizes that speech perceptual learning might depend on an unsupervised Hebbian learning process.

McClelland, Thomas, McCandliss, and Fiez (1999) carried out computer simulations of a model based on Hebbian learning. Computer simulations of Hebbian model attempts to resolve long time residents in the US of adults of Japanese descent and their difficulty in discriminating between [r] and [l]. McClelland et al (1999) argued that the perception of non-native speech sounds might depend on an unsupervised Hebbian learning. Presentation of a speech sound brings out a perceptual representation. The perceptual representation is considered as a pattern of activation over neuron-like processing units.
McCandliss, Fiez, Conway, and Protopapas (2002) carried out a further experiment on Japanese adults learning the [r]-[l] distinction. With Hebbian model of learning, it is predicted that adults may be able to acquire a non-native speech contrast if they are trained with stimuli that are exaggerated to make them perceptually distinct. Exaggerated tokens strengthen the contrast between both sounds and eventually result in robust perceptual learning.

McCandliss, Fiez, Conway, and Protopapas (2002) hypothesized that:

“...It should be possible for Japanese adults to learn the [r]-[l] distinction, if only we [McCandliss et al] can find contrasting [r]-and [l]-like stimuli that will elicit distinct perceptual representations” (McCandliss et al., 2002: 91).

Their study created [r] and [l] stimuli based on natural speech with exaggerating the differences both sounds. McCandliss et al (2002) suggested that using exaggerated stimuli could reinforce the resulting distinct precepts. Consequently, their study subjects who were Japanese native speakers could hear the difference between [r] and [l].


The stimuli were then used to train subjects who were Japanese native speakers. Four conditions in the stimuli were (1) adaptive conditions; (2) fixed training conditions; (3) the feedback conditions; and (4) no feedback conditions.

In adaptive conditions, subjects initially heard exaggerated tokens. When the subjects identified eight exaggerated tokens correctly, the [r] and [l] tokens moved closer to each other. In the fixed condition, subjects received the same number of training trials. They also obtained the same task of attempting to identify the stimuli. Subjects heard the same two tokens of [r] and [l]. Then, the subjects had to label them as [r] or [l]. However the stimuli were a fixed pair of contrasting speech tokens that was reliably identified by English speakers but that the Japanese subjects could not discriminate with accuracy greater than 70 percent. In the feedback conditions, the subjects obtained immediate visual feedback on the correctness in each response. Conversely, in the condition without feedback, the visual feedback was omitted.
Eight subjects involved in each condition. Four trained with a rock-lock continuum and another four with a road-load continuum. The training was conducted over three days with half of the subjects given an additional three sessions of training.

The learning of the subjects was evaluated in four ways:

(1) performance on probe stimuli that were periodically presented to the subject during the training; (2) categorization on trained and untrained [r] / [l] continua; (3) same–different discrimination of pairs with fixed interstimulus distance; and (4) same–different discrimination of pairs with increasing interstimulus distance.

Results of this experiment were illuminating. The substantial learning in just three 20-min sessions was seen in three of the experiment’s training conditions underscores the point that adult language learners’ plasticity still remained. The plasticity assists adult learners’ ability to learn perceptual speech contrasts.

Subjects in the adaptive training condition revealed substantial gains in identifying stimuli on the continuum used in training even without feedback. Larger gain was obtained from training with fixed training group with feedback that without it. It is noted that the available feedback has a benefit on the speech perceptual system. Training with feedback helps subjects better discriminate between [r] and [l] stimuli for both the fixed and the adaptive trainings. The evidence from McCandliss et al’s finding (2002) clearly indicated that availability of feedback can have a dramatic effect on learning.

The results of the experiment are consistent with the Hebbian learning hypothesis which predicts that subjects who received exaggerated exposure to stimuli can discriminate sounds even without feedback. In this experiment, it was found that the group receiving adaptive training without feedback but with initially exaggerated stimuli could show considerable gains in both identification and discrimination. The subjects in the adaptive training outperformed the no training control group and the group receiving fixed training with difficult stimuli.

The Hebbian account could not explain the result of why fixed training with feedback has a positive effect on learning. The subject in the fixed training with feedback could show as good as or better gain than adaptive training under some conditions. It might be interpreted that both
exaggeration and feedback facilitate learning by calling subject’s attention to the cues that distinguish the training stimuli.

Moreover, in this experiment, only a single contrasting stimulus pair such as ‘rock/lock’ spoken by a single individual was used. It was found that when the networks were exposed to only one pair of stimuli, their representations eventually separate, even if initially they are highly overlapping. Slight differences in their representations eventually become amplified. Consequently, the distinctive representations could be gradually emerged.

In conclusion, Neufeld’s findings (1977) strongly suggest that a step in the learning process which involves imitating the rhythm or intonation of the L2 learned would be beneficial. McCandliss et al’s findings (2002) provide strong support for training students with exaggerated stimuli with feedback. Moreover, the findings reveal that it might be necessary to limit the training to smaller chunks or one chunk at a time. These findings offer us information about how particular steps in the L2 learning process can be organized. Therefore, adopting the findings from both Neufeld’s (1977) and McCandliss et al’s (2002) studies to train non-native speakers of Thai would be likely to achieve similar results.

3.6. The ‘Less is More’ hypothesis

Newport (1990 cited in Jusczyk, 1998) has proposed the ‘Less Is More’ hypothesis to explain the apparent critical period in language acquisition. Newport posited that children process complex stimuli at the level of the component parts thus allowing them to locate the components effectively, while adults operate at the level of the whole stimulus. The ‘Less is more’ hypothesis states that it is the limited nature of infant’s cognitive capabilities that enable them to perform this parsing task rather than some specialized device that atrophies after a certain age.

Newport noticed that late learners lack the facility to learn the morphology of verbs in American Sign Language (ASL). Older L2 learners do not learn language as well as young children. When older children and adults begin to learn the language, they use their fully developed working memories and processing capacity to attend to complex sentences that contain multiple morphemes. This would explain why older learners of ASL often produce unanalysed chunks involving one or more incorrect morphemes. Adults may have a more difficult time determining
which aspects of meaning are relevant to a particular morpheme and which aspects are relevant to a different morpheme within a segment of language. As a result, older learners may find working out the mapping relations harder. Unlike older learners, younger learners focus on small segments of language. Their attention to componential analysis in the input may facilitate working out of the mapping relations. Younger learners could actually benefit from having fewer resources available for analysing information in the speech signal. As a result, they could attain superior competence at the language.

Newport’s focus is on the morphology of words (Jusczyk, 1998). However, similar reasoning can be used to explain why infants are more sensitive to the distributional properties of phonotactic patterns in the input as reported by recent investigations (Ioup & Tansomboon, 1987; Bley-Vroman, 1989; Schachter, 1996).

From the ‘Less is More’ hypothesis, the plasticity of the brain might not be the reason why L2 adults do not learn language as well as L2 younger learners do. The reason might be due to L2 learners’ developed memory and attentional capacities in their L1. Too many kind of information in both L1 and L2 are competing for memory and attention. This makes selecting the relevant units in the speech input difficult. To assist L2 adult learners work out the mapping relations easier, highlighting the relevant units in the speech input might be required.

To sum up, from evidences of perceptual sensitivities not being lost as illustrated in studies of Neufeld (1977) and McCandliss et al. (2002), this thesis contends that the unused neurons are not lost and might be able to be reactivated in future learning at any age even after puberty. The use of exaggeration and feedback training to support the brain to accept new data obtained (McCandliss et al, 2002) guided TAP with SEA to use exaggerated movements, gestures and feedback in the teaching of Thai pronunciation. The ‘Less is More’ hypothesis was implemented in TAP to assist L2 adult learners by highlighting the importance of tones stress and rhythm of Thai to learners.

3.7. The Fundamental Difference hypothesis

The Fundamental Difference hypothesis (FD hypothesis) proposed by Bley-Vroman (1989). Bley-Vroman (1989) assumed that both first language (L1) and second language (L2) acquisition
involve a linguistic knowledge base and a set of cognitive procedures. However, there are differences in the two types of language acquisition. He posited that young child’s language acquisition is led by the principles and parameters of Universal Grammar (UG) purposed by Chomsky. He further pointed out that L1 acquisition relies on Universal Grammar (UG) as an innately specified linguistic knowledge base and a set of domain-specific learning procedures (e.g. an innate language acquisition device (LAD). Conversely, adults no longer have access to UG. Therefore, their L2 acquisition relies on the learner’s L1 as a linguistic knowledge base and a set of domain-general learning procedure. With this view, Bley-Vroman (1989) hypothesized that younger learners acquire their L1 by using the innate ability. Conversely, L2 adult learners manifest very few of the remarkable properties that are characteristic of L1 acquisition. L2 adults rely instead on the problem-solving skills belonging to the domain-general learning process. With their problem-solving skills, L2 adults have indirect access to UG through the grammar of their L1. Thus, they can project the specific parameter settings of the L1 onto their L2 interlanguage. Bley-Vroman (1989) also claimed that ability to employ their problem-solving skills in their domain-general learning procedure will vary among individual learners.

Furthermore, in a second language acquisition, individual cognitive ability, motivation, social status, and a serious effort play a significant role. L2 learners, thus, are not ‘equipotential’ (Schachter, 1996: 159) for any natural language. L1 affects the nature of the attained L2 knowledge at all language levels (phonological, syntactic, semantic, and pragmatic). L2 learners thus achieve more with language typologically closer to their first language.

In addition, the learner’s L1 has been found to exert substantial influence on both L2 competence and performance. From recent experimental studies (e.g. Ioup & Tansomboon, 1987; DeGraaf, 1997), SLA is sensitive to instruction methods and corrective feedback. However, very few L2 learners manage to acquire complete competence in the L2.

The FD hypothesis also claims that an age-related decline in cognitive ability might cause older learners not to achieve as high as younger learners in ultimate attainment of the L2 (Denney 1990; Kausler, 1991; Craik & Salthouse, 1992; Bialystok & Hakuta, 1994). Age affects general cognition. In other words, the process of aging involves a gradual decline in cognitive ability (e.g. Denney, 1990; Kausler, 1991; Bosman & Charness, 1992; Craik & Salthouse, 1992; Bialystok & Hakuta, 1994).
3.8. The role of output in second language acquisition (SLA)

It seems to be accepted that SLA is dependent on input (Krashen, 1985; Shehadeh, 2003). Krashen (1985) claimed that human learns a language only by receiving enough comprehensible input as postulated in the Input Hypothesis. Krashen (1985) considered input important in the initial stages of language learning. He also claimed that speech cannot be taught directly but emerges on its own as a result of building competence via comprehensible input. The input learners are exposed to must be a little beyond the learners' existing level to prompt acquisition (Krashen, 1981, 1985; Shehadeh, 2003).

Krashen (1985) stated:

"We move from i, our current level, to i +1, the next level along the natural order, by understanding input containing i +1" (Krashen, 1985: 2).

In Krashen's terminology ‘i + 1’, represents the current competence of learners. ‘1’ refers to the language that includes structure a little beyond the learner’s current level. It is difficult to define and measure variables such as prior exposure to a L2, both ‘i’ (input) and ‘1’ in Krashen’s ‘i+1’ can be no more than metaphors to guide the sequencing and selection of learning materials.

Krashen (1985: 2) also stated that the ‘necessary grammar’ would ‘automatically’ be provided in order to ensure whether L2 students receive ‘comprehensible input’ in ‘sufficient amount’ and ‘right quantities’. However, Krashen’s terms (1985) on ‘sufficient amount’ and ‘right quantities’ seem vague. This is because it is difficult to measure whether the amount of comprehensible input is sufficient and its quantities are right. Furthermore, Krashen's hypothesis (1982, 1985) claimed that the comprehensible input was based the natural order hypothesis. He postulated the natural order in L2 learner's acquisition of grammatical structure. His hypothesis was based on English morpheme order studies. Because of this, this hypothesis is not for all L2 learners to adopt as different TL would have different morpheme orders particular to that language. With this limitation, to assist Chinese students attain Thai language as the TL, the comprehensible input along the natural order is not applicable in TAP with SEA.

Krashen (1985) also provided the so-called ‘silent period’ as evidence for this hypothesis—i.e., children learning a second language commonly speak very little in the target language for the
first several months (Romeo, 2000). Students should be given an initial ‘silent period’ where they are building up acquired competence in the language before beginning to produce it.

Krashen stated:

“In accordance with the Input Hypothesis, speaking ability emerges on its own after enough competence has been developed by listening and understanding” (cited in Gregg, 1984: 90).

However, Swain (1985) argued that providing only comprehensible input may not be sufficient for successful second language acquisition. Opportunities for non-native speakers to produce comprehensible output are also necessary.

Swain (1985) conducted her experiment in immersion contexts in Canada. She found that although immersion students were provided with a rich source of comprehensible input, their L2 language performance was still identifiable as non-native. Swain (1985) found that the expressive performance (such as use of vocabulary and syntax, and accuracy in pronunciation) of these students was much weaker than that of same-aged native speakers of French. Thus, Swain claimed that passive understanding of new forms is not enough. L2 learners must also be given the opportunity to produce the L2 language.

Swain (1985) proposed the Comprehensible Output Hypothesis for second language acquisition (SLA). Comprehensible output is the output that extends the linguistic repertoire of the learner as he or she attempts to create precisely and appropriately the meaning desired.

Swain refined her hypothesis and specified the following four functions of output, namely (1) fluency function; (2) hypothesis-testing function; (3) metalinguistic (reflective) function; and (4) noticing/triggering. Fluency function provides opportunities for developing automaticity in language use. Swain, (1985) suggested that the output enables language learners to improve their fluency. To develop their fluent productive performance, learners need opportunities to use their knowledge in meaningful contexts.

Swain (1985) further explained that:

"Being 'pushed' in output … is a concept parallel to that of the i + 1 of comprehensible input. Indeed, one might call this the 'comprehensible output' hypothesis" (Swain, 1985: 249).
The second function of output is the hypothesis-testing function. Providing L2 learners with opportunities to produce output allows them to judge the comprehensibility and linguistic well-formedness of the TL against the feedback obtained from their interlocutors. Third, output has a meta-linguistic function. The meta-linguistic function in learners’ output enables L2 learners to control and internalize linguistic knowledge. Finally, output serves as a noticing function. When producing L2, L2 learners possibly notice a gap between what they want to say and what they can say. Their noticing process enables them to recognize what they do not know, or know only partially. Output generated by L2 learner may influence noticing and promote the L2 acquisition (Swain, 1995).

Swain (1985, 1995) also stressed the important role of collaborative dialogues. In working in pairs or small groups learners need to work collaboratively to co-construct the text in the target language. Collaborative learning may prompt learners to focus on linguistic rules as they attempt to fill out the text.

3.9. Relationship between perception and production

There has been a lot of debate about the relationship between perception and production in language learning. Firstly, based on the perceived stimulus response (SR bond) from behaviourists, perception directly leads to action (e.g. Skinner, 1938; Watson, 1913). Zhang (2006: 101) further explained “these responses are not imitations of the perceived event but are stamped in responses to stimuli based on one’s past reinforcement history”.

The behaviourists (e.g. Skinner, 1957; McLaughlin, 1978, 1984), also argued that imitation of adult speech have a very slight role to play in L1 child language. Therefore, it is noticed that children often produce forms that they never heard their parents or other adults say. "The child's language is simply too strange" (McLaughlin 1984: 15).

The second is Gibson’s notion of affordances (cited in Dijksterhuis & Bargh, 2001). In this view, perception and action are integral. We learn to perceive, and we perceive to learn (Pick, 1992). Furthermore, the notion of affordances suggests that environmental stimuli directly suggest the appropriate behavioural responses to learners (Dijksterhuis & Bargh, 2001). For instance, when we see roast chicken, it says “eat me” and when we see a cup of coffee, it says “drink me”.
In the views of behaviourist and the Gibson’s theory, perceptual activity directly affect to
behavioural tendencies. These tendencies are learned responses over time based on one’s
experiences with those stimuli. However, Dijksterhuis and Bargh (2001) argued against the
previous perspectives. They argued that the imitative nature of human beings can make the
relationship between perception and behaviour overlapped rather than sequential.

Dijksterhuis and Bargh (2001) argued that:

“The human (and basic animal) tendency to act in the same way as we see others act. We will
contend that this phenomenon flows directly from mental representation and organization.
Perceptual and behavioural representations for the same action overlap. Thus, the effect is a
natural consequence of the automatic activation of the behavioural response by the perception
of someone else doing the same thing. It is not necessary that the behavioural response is
stamped in as a habit through reinforcement and it is not necessary for the response to be
intended and strategic” (Dijksterhuis & Bargh, 2001: 2).

Dijksterhuis and Bargh (2001) also stated:

“Perceptual abilities and functions developed because we started to behave, not because we
started to understand. Perception in human does not always lead to a specific action because
we are all able to look at a grilled lobster without starting to eat it. Thus it has been proposed,
from an evolutionary perspective, in humans, perceptual activity is sufficient to create action
but that it is sometimes inhibited” (Dijksterhuis & Bargh, 2001: 3).

Evidences from studies of people with various disorders support the inhibitor option. The effects
of perception on behaviour can be observed in aphasia, low-rate mental deficiency, epilepsy and
catatonic states (Stengel, Vienna, & Edin, 1947; Prinz, 1990). By removing the capacity of
inhibition, the effect of perception on behaviour can be increased (Dijksterhuis & Bargh, 2001).

3.10. Individual Factors of Acculturation

Schumann’s (1978) theory of acculturation regards social factors as a separate component in
language acquisition. Schumann (1986) claimed that acculturation, or the integration of the
learner of L2 into the target linguistic community is not a direct cause of second language
acquisition (SLA), but rather it is the first in a chain of factors which results in a natural acquisition of the second language. A learner’s success in second language learning is dependent on the amount of acculturation (Schumann, 1986). Schumann (1986: 379) also posited the term ‘acculturation’ which is defined as “social and psychological integration of the learner with the TL group”.

Schumann (1986) also proposed:

“Acculturation as a remote cause brings the learner into contact with TL speakers and verbal interaction with those speakers as a proximate cause brings about the negotiation of appropriate input, which then operates as the immediate cause of language acquisition” (Schumann, 1986: 385).

Schumann’s acculturation hypothesis hence focuses on social and psychological variables. These variables account for the way language learners approach and acquire a new language. Social factors account for the degree of social distance a L2 learner has to TL. Schumann (1986) considered the social distance as an individual’s perceived position which relates to the target language group. The psychological distance relates to how social surroundings affect learner’s comfort. Schumann (1986) stated that learners can be placed along a continuum ranging from social-psychological distance to social-psychological proximity with the speakers of the TL. In other words, the degree of language acquisition would correlate with the degree of the psychological proximity to the target group.

In Schumann’s opinion (1986), an amalgam of social and affective variables affects TL acquisition. “In this case, the unconscious, emotionally based social distance felt by the learner would override, or at least interfere with the cognitive processing” (Yong, 1999: 18).

Along with Schumann’s idea (1986), Ushioda (1993) and Brown (2007) agreed that the greater the social distance between two cultures, the more difficult it is to learn the second language.

Five affective factors may increase the psychological distance. These include (1) language Shock; (2) culture Shock; (3) culture Stress (4) motivation; and an ego permeability (Schumann, 1986).

Ego permeability refers to the amount in which an individual gives up their differences in favour of the TL group (Guiora, Brannon, & Dull, 1972) According to Schumann (1986), ego
permeability is crucial for SLA. He claimed that learners’ ego boundaries may block one’s innate cognitive potentials debilitating the whole FL learning process. The constraints are most vivid in the case of adult learners (Schumann, 1975).

In terms of L2 and culture learning, ego-permeability can be increased by lowering learner’s level of inhibition (Guiora, 1983).

Guiora (1983) explained that language ego constitutes the basis for the process of language learning particularly when pronunciation is concerned. Guiora (1983) also emphasized ego-boundaries which stem from a tremendous role the native language plays in creating an individual’s identity. As he explained:

“Native language is the very lifeblood of human self-awareness, it is the carrier of identity, the safe repository of a vast array of affective and cognitive templates making up the total web if personality” (Guiora, 1983: 10).

Adults learning process is influenced not only by their age but also by their experiences and life circumstances. Through their life, adult learners have formed a stronger sense of self than children or teenagers and their ego permeability is usually lower (Guiora, 1983). Therefore, the adult learner may show resistance and be more inhibited which can influence the language learning process (Klein, 1984).

The problems of adult learners acquiring native-like pronunciation are due to them losing or reducing their ego permeability and flexibility with age (Guiora, 1983). In other words, the more mature the learner, the stronger his or her native language ego. Then adult learners are likely to reject aspects of L2 as acquiring and assimilating a new language successfully, L2 adult learners may need to develop a new identity (Guiora, 1983).

3.11. Affective factors

According to Krashen (1981, 1982, 1985), one obstacle that manifests itself during language acquisition is the affective filter. Affective filter is a ‘screen’ that is influenced by emotional variables that can prevent learning. Affective filter does not impact acquisition directly but rather prevents input from reaching the language acquisition part of the brain. The affective filter can
be prompted by many different variables including anxiety, self-confidence, motivation and stress.

Anxiety can contribute to the raising of a learner’s affective filter. When a learner’s affective filter is high, they will have more difficulty acquiring language. Macintyre (1995) concluded that language learning is a cognitive activity relying on encoding, storage, and retrieval processes. When language learners encounter anxiety, their anxiety interferes with these processes.

Krashen (1981, 1982) claimed that learners with high motivation, self-confidence, a good self-image, and a low level of anxiety are better equipped for success in second language acquisition. On the other hand, low motivation, low self-esteem, and debilitating anxiety can combine to raise the affective filter, thus, forming a mental block. This mental block would prevent comprehensible input from being used for acquisition (Dulay & Burt, 1977). This filter is likely to be present in adults but not in children, and accounts for the failure of adult learners in acquiring a second language (Larsen-Freeman & Long, 1991).

To reduce a student’s affective filter, a teacher may need to lower student anxiety and raise motivation and self-confidence (Krashen, 1981). In order for learning to occur, students must have a low affective filter, be relaxed and feel unthreatened (Dulay & Burt, 1977; Krashen, 1981).

Krashen (1982) made suggestions similar to those made in connection with the language ego though from the perspective of cognitive psychology. The affective filter, however, is likely to have no more concrete existence than any ego. Neither affective filter nor language ego is likely to be discovered through neurology. Indeed, both are abstract models which aim to explain obstacles that manifest themselves during language acquisition.

From the review of relevant theories such as ‘perceptual sensitivities not being lost’; ‘the effect of training after the optimum period’; ‘the FD hypothesis’; and ‘individual factors of acculturation’, it can be seen that a critical period (CP), may not be as significant for SLA. If CP does not play a crucial role in SLA for adult learner, adult L2 learners can possibly achieve mastery of a TL.
These theories provide the hope for L2 adult learners to achieve in a TL by: (1) using as highly exaggerated stimuli and feedback (McCandliss et al, 2002); (2) imitating the rhythm or intonation (Neufeld, 1977); (3) highlighting the relevant units in the speech input (Newport cited in Jusczyk, 1998); (4) providing opportunities for non-native speakers to produce comprehensible output (Swain 1985); (5) removing the capacity for inhibition increases the effect of perception on behaviour (Dijksterhuis & Bargh, 2001); (6) acculturation hypothesis (Schumann, 1978); (7) inducing ego-permeability by lowering learner’s level of inhibition (Guiora, 1983) and (8) decreasing the affective filter (Krashen, 1981, 1982, 1985). TAP with SEA, therefore, turn these suggestions into concrete practices in order to assist adult learners to achieve a TL and attain acceptable pronunciation according to the native speakers’ standard.

3.12. Rhythmicity, social interactions and body movement

The basis of our comprehension of rhythm begins from the experience of hearing and feeling the mother’s heartbeat, voice, and physical movements from inside the womb, followed by early rhythmic, vocal and physical interactions between parents and children (Stern, 1985; Pradier, 1990; Feldman, 2006). An infant is born expecting a competent caregiver to pay attention to and care for him or her. His or her instinctive reactions convey how he or she wants to be held, touched, moved, and comforted. The powerful force that enables infants to participate in the joint-engagement with their caregivers without language is rhythmicity. The rhythmic exchange that occurs between an infant and a caregiver is called a relationship dance (Thoman, 1987). That is because, at the same time, the caregiver strives to fulfil her baby’s basic needs by studying his cries, movements, states of arousal, facial expressions, and more to respond accordingly. This interaction is a synchronized ‘dance’ between the mother and the infant (Klaus & Kennel, 1982).

As dancers, both infant and caregiver are inventing their own set of movements. They are gradually constructing their language of endearment through repetition (Zhang, 2006). The relationship dance between the infant and his/her caregiver strengthens infant’s language development (Edwards & Raikes, 2002).

In normal speech behaviour, speech and body movement are also rhythmically coordinated. They are synchronized (Condon, 1980). Studies have shown that all body movements are synchronized with the rhythm of the speech accompanying them. In other words, when we speak we dance.
The body of the listener dances too, in same rhythm with speaker’s (Condon & Ogston, 1966). These views show that body movement is also very important for a rhythmic dance.

Zhang (2006) proposed that the main cause of inability to learn a new language of adult L2 learners is the interference of L1 prosody on L2 prosody. She explained that adult L2 learners feel discomfort in speaking or listening because they are out of synchrony with what they are saying or what is being said to them. This leads to a feeling of distance and sense of isolation. Consequently these negative emotions push them to give up. Zhang (2006) further explained that children are more flexible in adapting to new rhythms. Because of this, they are more successful at L2 learning.

“This is not to contest the notion that the child's brain is more ‘malleable’, but rather to see that malleability from a behaviour standpoint. Flexibility of rhythmic performance is an aspect of rapid neural growth. Exposure to new rhythms seems to stimulate such growth which is expressed behaviourally” (Zhang, 2006: 110).

Since adult L2 learner do not have the rhythm of the TL, when learning a new language, they must pick up L2 rhythm as at the same time as picking up the lexical and structural content. Their main obstacle in the new language learning process is their native rhythm system. Therefore, to assist adult L2 learners to learn a new language, teacher needs to teach or enable them to pick up L2 rhythm system.

The implications of these rhythmic experiences for language learning are significant. As Zhang (2006) noted:

“Language acquisition processes, be it L1 or L2, always involves language use in rhythmic prone opportunities such as greeting someone with words and then with an embrace, handshake, or casual wave in a kind of dance. Therefore, it stands to reason that the teaching of language used in such social interactions should be taught in their rhythmic contexts” (Zhang, 2006: 107).

Rhythmicity is formed and cultivated through the experience of bodily locomotion and physical gesture (Todd, O’Boyle, & Lee, 1999; Todd, 1999; Doğantan-Dack, 2006). Rhythm is a phenomenon rooted in the physiology of our body, and our use of attention and perception
(Wundt, 1904; Ruckmich, 1913). The motion of the spine, legs, arms, fingers, eyes, inner ear and the tongue were all observed to play significant roles in the perception of rhythm (Ruckmich, 1913). The vestibular organs in the ear are tactile hairs that provide the sensory data (Condon & Ogston, 1966). “Rhythm must be perceived from within” (Vakhtangov, 1947: 121). With this view, SEA therefore tries to enable adult L2 learners to pick up the L2 rhythm by encouraging students feel their movements and synchronize it through rhythmicity within their bodies.

3.13. Review of therapeutic use of body movement

3.13.1. Verbotonalism

In 1960s, body movements in conjunction with rhythm had been used in the rehabilitation of the deaf in the work pioneered by the late Professor Guberina of the University of Zagreb. Professor Guberina pioneered Verbotonal system of Phonetic Correction (Renard, 1975) for treating deaf children. The Verbotonal method is originally derived from a method for the study of foreign language and was adopted for education of deaf children. This method proposed that rhythm and intonation are important to help us hear and understand the phonetic of a language well. Therefore, if rhythm and intonation are taught for handicapped children through body movement, these children can understand language and express it in natural way. By using body movements, he created proprioceptive stimulation to both hemispheres of the learner’s brain. He believed that body movements facilitate neuroplasticity which can be changed with optimal stimulation.

Guberina utilized System Universal Verbo-Tonal Audition Guberina (SUVAG) to enable deaf persons perceive sounds. There are two instruments of SUVAG. One is SUVAG I. It is used to transform a language into a low frequencies as low as 0.6 cycles in order to enable children who have hearing ability for low frequency or can perceive vibration can hear and speak. The other instrument is called SUVAG II. It is an auditory training unit which contains many combinations of acoustic filters.

“We can select different combinations of filters to transmit speech through selected bands, thus we can select combinations which give the best speech perception to a given hard of hearing or deaf person” (Guberina, 1969: 5).
The Verbotonal procedures follow the pattern of language development observed in infants who have normal hearing. Before infants learn to speak, they cry and babble in order to produce sounds. Their whole body participates in perceiving and producing sounds. This vocal activity is not a response to their sense of hearing. In fact, this vocal activity is a response to their proprioceptive sense (Asp, Guberina, & Pansini, 1981; Guberina & Asp, 1981).

This method has been successfully applied and adapted to other therapeutic and language learning contexts (DiJohnson & Craig, 1971; Asp, 1973). As described in DiJohnson and Craig’s project (1971), speech stimulations used include (1) body movement, (2) rhythm and musical stimulation, (3) implementation, and (4) individual work.

Body movement is used in the Verbotonal method to develop perception of the parameters of speech as well as to emission and correct articulation for the desired sound. These movements reflect the parameter of speech stimulus, especially tension. Zhang (2006: 112) gave an example of using tension to aid perception and correct articulation.

Zhang (2006) illustrated:

“To pronounce the sound of ‘p’ in ‘pop’, the teacher needed to work with the children from a relaxed position to a tense position. During the period of maximum tension as when the teacher and the children are stretching, the children and the teacher spoke the word ‘pop’. Because the sound of ‘p’ is a tense sound, it was always taught when the body assumed the position of maximum tension. However, when the teacher taught the voice consonant ‘b’, which is less tense, they were instructed from a tense position to a relaxed position. For the second activity, musical stimulation, the children and the teacher simultaneously clapped and spoke phrases in the rhythm which is functionally best for the syllables to be learned” (Zhang, 2006: 112).

Using musical stimulation can aid the prosodic and phonetic developmental progression in the early stages of language learning. In this stimulation, the Verbotonal uses nursery rhymes. The use of nursery rhymes facilitates both speech perception and production in learners (Asp, 2011). It also can be an effective tool for correcting errors in rhythm, intonation, pitch and articulation produced by learners. Nursery rhymes also aid children auditory memory (Bryant, Maclean, & Crossland, 1989).
For implementation, the teacher attempted to relate the therapy words to meaningful language concepts. In individual work stimulations, child is allowed to respond to the same stimulation without amplification.

The Verbotonal method postulates that a person with normal hearing experiencing difficulty with a particular foreign language sound cannot recognise an optimal of the foreign language sound. Thus, they are unable to reproduce the sound correctly they heard (Lian, 1980).

Lian (1980), Zhang (2006) and Buranapatana & Zhang (2008a, 2008b, 2012) suggested that each language sound carries all frequencies from about 50 Hz to about 16,000 Hz. At any rate, each sound can be heard in many various ways. However, learners’ ears seem to have a choice depending on the way in which the ears have been trained. Unsurprisingly, foreign language learners, therefore, automatically and unconsciously uses the familiar ‘phonological sieve’ (Trubetzkoy, 1939) of their L1 to analyse what has been said. With the ‘sieve’ of their L1, they do not appropriately select what is needed in perceiving the foreign sounds.

Zhang (2006) suggested that each sound, indeed, has a particular optimal frequency. The optimal frequency refers to the frequency band, or the combination of frequency bands at which native-speakers best perceives and recognizes the sound. Zhang (2006) suggested that, when listening to a sound, it is not necessary to catch all the elements in order to recognize it as recognition only requires some of the sound spectrum. Zhang (2006: 146) raised the example of the sound [i] in French. This sound was recorded and listened to successively through octave filters as shown below:

```
between 150 and 300 cps, we hear [u]
between 300 and 600 cps, we hear an intermediate sound
between [u] and [o]
between 400 and 800 cps, we hear [o]
between 600 and 1,200 cps, we hear [a]
between 800 and 1,600 cps, we hear [e]
between 1,200 and 2,400 cps, we hear [ɛ]
between 1,600 and 3,200 cps, we hear [ɛ]
between 2,400 and 4,800 cps, we hear [i] lax
between 3,200 and 6,400 cps, we hear [i] tense — Cf. R. Renard,
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L’appareil Suvaglingua, instrument de recherché et de correction phonétique”, R.P.A., 4, 1967, notes 13 and 14, pp. 62 and 63. Taken from (Renard, 1985)
Zhang (2006) further explained:

“The French [i] is made up of all those sounds, each sound occupying a different frequency. Yet when French speakers were asked to identify these sounds, all the sounds were identified by French speakers as productions of the phoneme [i]. This manipulation of the French [i] sound showed very clearly the superabundance of the acoustic reality. Through perception a distinction between what is necessary for [i] to be recognised ([i]is recognised between 3200 Hz to 6400 Hz, previously in cps: cycles per second) and what is superfluous in the plethora of information which comes through the vocalic timbre (the quality of the vowel) was made by French NSs.

However, when it comes to a L2 learner learning French, the learner would perceive a sound through hearing all the frequencies that are contained in a sound. As learner’s perception is likely to be mediated through the pre-established code based on his/her mother tongue, when it comes to perceiving a sound in L2, s/he is likely not to recognise the sound [i] at the frequency recognised by a French person. S/he is likely to recognise the sound [i] at a frequency dictated by his/her mother tongue such as between 300-600 Hz. Thus, s/he is in danger of confusing [u] (between 300-600 Hz) with [i] (between 3200 and 6400 Hz), or with [o] (between 400 and 800 Hz) as these sounds also occupies part of the spectrum that contains [i] at different frequencies” (Zhang, 2006: 146).

One of the ways in which students can be made to perceive the optimal of each sound is to remove (e.g. through electronic filtering) any interfering frequencies which might prevent it from being perceived. In this way it is possible, in theory, to bypass the L1 ‘sieve’ (Lian, 1980). For instance, in order to help L2 learners of French perceive [i], the sounds at frequencies above 300 Hz need to be eliminated. Only leave frequencies between 3200 and 6400 Hz through a process of filtering so that L2 learners can be exposed to the French [i] at the correct frequency (Zhang, 2006).

One more importance in the Verbotonal method is that this teaching method conducted in a highly interactive, relaxed and enjoyable atmosphere. The children tend to vocalize more after being treated with the Verbotonal method (Asp, 1972).
In FL teaching, rather than trying to teach deaf children hear and speak, using their residual hearing, teachers are teaching L2 learners who have already acquired their L1 to hear and speak. Procedures of SEA are similar to those of the Verbotonal method (Zhang, 2006). For a detailed discussion of SEA, please refer to section 3.18.

3.13.2. Speech-movement therapy based on sense physiology

Steiner (1996), the Austrian philosopher of Waldorf education proposed the concept of the system of sense physiology. There are 12 senses in Steiner’ concepts (1996). One of 12 senses is the sense of word. The sense of word is a sense that enables a child to have a direct sensory perception of speech sounds (Steiner, 1996).

Brüll (2003) further illustrated:

“The sense of word is quite different from the sense of hearing, as its function is to pick out speech sounds amongst other sounds, noises and tones” (Brüll, 2003: 60).

The function process in sense of word is not a cognitive process (Steiner, 1996). Steiner (1996) explained that the child could pick out speech sounds and practice them before having ability to judge their meaning.

Steiner (1996) also noticed the synchrono us nature of the dialogic conversation between two speakers. He suggested that the study on the effect of the listener on the speaker needs to be acknowledged as well.

Steiner (1996) also described the sensory process in the following terms:

“A speaks and B listens. When A speaks the larynx of B vibrates in exact synchrony with A’s speaking larynx. B then makes these movements of his larynx conscious through the appropriate nervous system” (cited in Brüll, 2003: 60).

The earlier statements of Steiner had been vindicated by Condon (1985). With the kinetic aspects, Condon argued that the speech of the speaker influences directly the body movements of the listener through interactional synchrony.
Condon and Ogston (1967) explained:

“When A speaks and B listens there exists an exact and flowing reaction of movement from listener in synchrony with the speaker in 40-50 milliseconds” (cited in Brühl, 2003: 60).

The voluntary muscles become a tool of reception and resonance (Condon, 1985). Condon (1985) proposed his view on the relationship between the listener’s muscles and the speaker’s movement. He argued that the listener’s muscles are the perceptive organs for the speaker’s muscle movements. He also assumed that the cause of speech dysfunction could be an asynchrony in the movement interaction between the listener and the speaker.

Steiner (1996) also proposed ‘eurhythmy’ as a new art of movement. The use of eurhythmy is a tool for gross motor therapy (Brühl, 2003).

Brühl (2003) described the use of eurhythmy as follows:

“Each consonant and vowel is expressed by a specific gesture of the arms. These gestures cannot be executed in a mechanical manner but need a ‘flowing awareness’ or an experience of the inner quality of the gesture. Steiner states that these are not ‘thought-out’ gestures, but that they correspond exactly to the air-movement brought about when a particular sound is spoken” (Brühl, 2003: 61).

However, Oordt (1980) expressed it:

“The movement that is invisible but audible in the sounding word is to be made visible in the movement of the whole body. Audible sounds transformed into visible movements, into visible speech: that is eurhythmy” (cited in Brühl, 2003: 61).

Based on the system of sense physiology described by Steiner, Dr. Annelise Brühl’s research used speech movement to treat two boys suffering from mild dyspraxia (Brühl, 2003: 61). Brühl (2003) carried out experiments to test the hypothesis ‘Can the use of movements induce and enhance speech?’

In the structured therapy sessions carried out by Brühl, she treated two boys suffering from mild dyspraxia who were unable to communicate using language. The sessions were conducted for half hour session two to four times a week in a well-sized room which allowed space for moving.
The room for her study was designed in a warm and relaxing atmosphere. Simple rhythmical poems were used as training materials.

The two boys initially practiced their gross motor movements. The practice involved movement control by walking, clapping rhythms, learning to differentiate ‘long’ and ‘short’ and learning to stop. Once these gross motor skills were mastered, finger games were used to transfer the function performed by the previous gross motor movements (such as stop) to finer motor skills (finger movements focused particularly on tongue movements).

Then the rhythmic nature of the verses was reinforced by marching to the beat of the rhymes and then lastly the eurhythmy gestures representing a particular ‘letter’ would be introduced. Once these gestures became familiar to the boys, they would do them each time they heard the corresponding letters in simple verses. Because of this, the perception of different sounds was sharpened.

The boys were then asked to make the gesture for the target sound each time they heard the sound. As Brüll (2003) described this process:

“Only at this point would I introduce eurhythmy gestures and these would always be accompanied by my sounding the specific ‘letter’. I would start with those consonants which come first in child development: B-MD. When the boys were familiar with the gesture, we would ‘do’ them each time that they were heard in simple verses. Thus the perception of different sounds was sharpened. I would ask the boy to make the gesture for ‘B’ each time he heard the sound” (Brüll, 2003: 62).

Brüll (2003) further noted:

“It has been my experience that intensive practice of eurhythmy gestures, large and small with their arms, feet and fingers, eventually helps the child pronounce the consonant. Even after years of practice, when the child has actually acquired the sounds but suddenly at the end of a word hesitates e.g. book is boo . . ., I only need to indicate the gesture for ‘K’ and the child, relieved by the visual stimulus completes the word ‘book’ (Brüll, 2003: 62).

Lastly, after the movement exercises, the therapy proceeded to put the sounds practiced back in their rhythmic context.
The two boys followed the normal speech development trend of periods of stagnation and a sudden leap forward. One of the boys began to use sentences and in the sixth year, he began to transfer practiced words to everyday situations outside therapy sessions and also picked up words that had not been practised. “This showed that the motor-memory for words was beginning to work” (Brüll, 2003: 62).

The therapeutic procedure described in Brüll’s (2003) experiment has much in common with the classroom procedure in SEA (Zhang, 2006). Both focus on the rhythm of the language rather than the target of the treatment. In the case of Brüll’s (2003) study, the target of the treatment was the consonant difficulties in English. In the case of SEA, it was the targeted treatment of tones. Both therapeutic procedures by Brüll and SEA initially practice the rhythm of the language through marching movement, then clapping to train gross motor movement. Then gestures were introduced to train the finer motor movement. Both of them use finer motor movement and gesture to reach the target. Then, the final step in both Brüll and SEA was to reintegrate the gestures and movement and sounds back into the rhythmic sentences.

Movement and gestures are very closely linked with rhythm and intonation of a language. When speaking, our body moves both consciously and unconsciously in such a way as to emphasise the stressed syllables or word of their utterances. Speech is an act which involves the whole body. Movement and gestures help to set up the overall body tensions for the production of the required speech. Each language has its own set of typical patterns.

One of the major problems encountered by foreign language learners is that they attempt to utter sentences in a foreign language while, at the same time, unconsciously preserving the set of movements which normally functions in their mother tongue. A synchrony with their mother tongue leads to failure to reproduce the appropriate stress patterns of the foreign language in question. To solve the solution, SEA, therefore, emphasizes the exploration of learners’ vocal range and the body in the process of language learning. SEA incorporates body movements and gestures in the foreign language classroom. In this way, students can internalise prosody pattern not only at the level of the ear but also at the level of the body. Body movements and gestures then develop synchrony of the body with the TL. Learners are able to experience the tensing of the body tension when pronouncing the prosody of a target language.
3.14. Multi-modality environment for L2 learning

Multi-modality environment (originally presented by Dunn & Dunn, 1978) can be used to stimulate both hemispheres. A multi-modality environment claims that information is processed and retained through the senses (Dunn & Dunn 1978). For example, if vocabulary is practiced always in one channel, such as visually learning it by heart, the left brain will be able to assess it mechanically. Without any emotion, affect, or real meaning from the right hemisphere, L2 students need to repeat several times which consequently takes much longer till it is possibly stored in the long-term memory (Maturana & Varela, 1987). Conversely, using different ways and different associations such as sound, body language, colours, images and feeling can help learners memorize and store a new vocabulary in their long-term memory quickly.

De Bot (1983) investigated visual pitch feedback with Dutch university students learning English. In a pretest-posttest design, auditory-visual (AV) versus auditory-only (A-only) feedback, and the amount of practice (one session of 45 minutes over 2 sessions) were investigated.

After a sentence was presented auditorily, the pitch contour was displayed. Learners, then, imitated the sentence. Their pitch contours then appeared on the display below the target. Learners were allowed to repeat the process a non-specified number of times.

The rating of these productions was done by three teachers of English using a five-point scale. Results indicated that AV feedback was significantly better than A-only, but the amount of practice time was not significant. The fact that the training under both conditions is short (one session of 45 minutes over 2 sessions) meant that the results were less generalizable to normal classroom conditions.

The benefits of AV versus A-only training (two channels of input versus one) have also been demonstrated in improving the perceptual accuracy of non-native sounds for learners of English as a second language with generalization to novel stimuli and transfer to production improvement (Hardison, 2003).

The findings suggest that multi modal learning which allow instructional elements to be presented in more than one sensory mode can facilitate students’ language learning.
According to Zhang (2006), the major cause of errors in the initial stages of learning is the first language (L1) interference rather than the physical difficulty of articulating particular phonemes (or any features of Universal Grammar). By integrating the senses of the body with movement and the process of ear training through working on a system of errors, it may be possible to considerably reduce the influence of learners’ L1. SEA provides students ways of learning foreign language through spoken, aural, and visual modalities involving movement as this multi-sensory environment is more efficient than only auditory input in listening exercises based on minimal pairs (Zhang, 2006).

3.15. Discovery learning

A child develops his/her language learning through sense and motor activities or by exploring their own bodies and senses (Biehler & Snowman, 1993; Hergenhahn & Olson, 1993). For example, as noticed, an infant explore their surroundings with their hands, reaching out, and grasping for a favourite toy. Then, they will begin to notice their hands and feet which will become a source of amusement. When acquiring a L1, a very young child learns it through the process of discovering his/her own physical environment. For instance, infants use sounds to reflect the characteristics of the different language they are learning. Learning a language occurs simultaneously with the development of motor skills and other sensory organs (Zhang, 2006). With process of discovering learning, the most children are successful in learning their L1s (Zhang, 2006).

When it comes to teaching a L2 to adult learners, the teaching is so constrained by what we are supposed to teach that we forget that language learning for any individual is essentially a process of discovery and not manufacture (Lian, 1985; Lian & Lian, 1997). In order to produce adult learners with good proficiency in learning a L2, a fundamental pedagogic move must be to bring the learning back to being a process of discovery by the learners themselves.

The environment also needs to involve the individualization of the teaching materials and different conceptualization and organization of space for learning (Zhang, 2006). SEA designed by Zhang (2006) meets this challenge. SEA creates a learning environment where it is possible for students to choose their own course and their individual learning styles and preferences.
Within this discovery environment, L2 learners can sustain their desire and develop their L2 learning.

3.16. Individualization and Rhizomatic

Lian and Lian (1997) and Lian (1985) argued the importance of individualization in language learning. They suggested that individualization is a necessity because each person may employ a variety of unknown and unknowable learning styles, experiences and understandings when s/he attempts to learn a language or deal with a task. Because of this, teachers cannot know exactly what is going on in their students’ mind. Indeed, students will be the person who ultimately decides what to utilize in order to include or exclude information from their systems. They make decisions as to what they feel is right and suitable for them.

Lian (2011) stated that the act of understanding is always individual. However, it is shaped by the practices of society through social interaction. It is formed internally through a process of convergence from multi-modalities and feedback. He also noted that with the attempts of individuals to deal with the tasks at hand, their needs can be predictable or unpredictable. Their need can involve infinite combinations of mutually reinforcing modalities. Their needs can also be unknown or invisible. Therefore, teaching methods for solving individual problems are likely to be different from person to person.

The individualization of the curriculum is inevitable and desirable (Lian, 2003; Zhang, 2006). Language learning environment needs to create opportunities for an individual learner to explore forms of legitimation which they construct and enact reality (Lian, 2003). The learning environment needs to allow each language learner to discover and exercise his/her internal systems of understanding. There is a need for teachers to take account of individual differences when they try to structure or develop learning experiences for students (McInerney & McInerney, 2002)

One of concepts to meet the individualization in SEA is a rhizomatic structure (Lian, 2003, Zhang 2006). As Lian (2011) stated:

“A rhizome is a term from botany which has made its way into the critical theory literature. Conceptually, it is like the root of a ginger plant whose parts have no obvious and clear
connecting points. Instead, every point is potentially connected to every other point” (Lian, 2011: 11).

The rhizomatic structure contains components in which each and every component is connected to each other. Because of this, the learning environment with the rhizomatic structure can allow each language learner to connect from any activity to any other activity based on his/her perceived need (Lian, 2011).

In such an individual learning environment in SEA, L2 learners are provided with a range of tools, both conceptual and physical, to enable them to open their minds to things in the target culture (Zhang 2006). For instance, L2 students were encouraged to learn a new language through interacting, often in groups with a wide range of authentic materials which can be interpreted in multiple ways and making demands on students' powers of creativity.

3.17. Pronunciation Pedagogy

3.17.1. Important of pronunciation

Communicative competence has recently been considered the first priority of both L2 learners and teachers. In this aspect, it is pronunciation that partially shapes the speaker’s success (Celce-Murcia 1987).

Celce-Murcia (1987) pointed out that:

“A threshold level of pronunciation in English is such that if a non-native speaker's pronunciation falls below this level, he or she will not be able to communicate orally no matter how good his or her control of English grammar and vocabulary might be” (Celce-Murcia, 1987: 5).

Pronunciation plays a crucial role in successful communication, and gives the first impression of a speaker’s language skills (Derwing & Munro, 2005).

The skills of listening comprehension and pronunciation are also interdependent (Gilbert, 1984). Gilbert (1984) stated:
“If they (learners) cannot hear English well, they are cut off from the language. If they (learners) cannot be understood easily, they are cut off from conversation with native speakers” (Gilbert, 1984: 1).

Trubetzkoy (1939) used a metaphor ‘phonological sieve’ to explain the reason why learners, especially adult language learners encounter difficulties in perceiving sounds of a foreign language.

According to Trubetzkoy (1939), each person is accustomed to analysing what is said with their phonological sieve in their mother tongue (L1). This analysis is carried out automatically and unconsciously. That means when s/he hears another language spoken, s/he intuitively uses the familiar ‘phonological sieve’ of his/her L1 to analyse what has been said. Since different languages have different ‘sieves’, the ‘phonological sieve’ of the L1 filter the foreign sound in perception. Therefore, when learners perceive foreign sound language sounds with the ‘sieve’ of their L1, they do not appropriately select what is needed in perceiving the foreign sounds. Thus, they become ‘deaf’ to the foreign sound sounds.

To help L2 learners improve their pronunciation for comprehension and communication purposes and to influence them to adjust their ‘filter’ or ‘a sieve’ in their speech perception, teachers should incorporate pronunciation into their courses (Lian, 1980; Zhang, 2006; Buranapatana & Zhang, 2008a, 2008b, 2012).

3.17.2. Tonal errors produced by Chinese students

There are many researchers investigating Thai tone perception by non-native Thai speakers (e.g. Wayland & Guion, 2004; Sathiansukon, 2005, 2007; Sittikesorn 2005; and Laphasradakul, 2010).

However, a few research studied on tonal errors produced by non-native Thai speakers. Yang and Wongpinunwatana (2012) recorded interview conversations between a teacher and students in order to identify speaking errors of Chinese students studying Thai language as a second language in Khon Kaen University, Thailand. Their findings show that students mispronounced High tone into Rising tone. Nevertheless, Chinese students had no problem with the other tones. However, Yang and Wongpinunwatana (2012) did not identify the cause of the tonal errors made by their participants. Moreover, the sample data collected in their article was in individual monosyllabic words rather than sentences or phrases.
Sittikasorn (2005) investigated the problems of Japanese learners producing Thai when reading monosyllabic word. Her finding only revealed Japanese learners of Thai had a problem to produce tones correctly. She did not reveal which tone was most problematic. Moreover, her investigation collected data through reading monosyllabic words rather than speaking.

Potibal (2005) examined Korean students who had been studying Thai for four years at Hankuk University of Foreign Studies, Seoul, Republic of Korean. She found that Korean students had difficulty pronouncing Thai tones. They mispronounced words by changing mid tones to high tones since they placed stress there. Potibal noted that Korean students showed the influence of their mother tongue. As mentioned in section 2.5.2.1, Potibal (2005) did not illustrate how the L1 had influence on Korean students’ Thai tone production. However, it can be assumed that her Korean students applied Low-High-Low-High pattern from their L1 to Thai.

Limited studies on the acquisition of Thai tones could not provide guidance for this study. This study, therefore, employed a pre-speaking test in the first week of TAP intervention in order to identify prosodic errors produced by Chinese students. The topics of the pretest were about students’ personal information such as ‘your family’, ‘your favourite activities’, and ‘your favourite place’. In the pretest, each Chinese student was to make a monologue without interacting with other speakers. Chinese students completed a 3 minute spontaneous speaking performance task including 1 minute preparation time.

3.17.2.1. Finding on Chinese students’ prosodic errors from the spontaneous speaking pretests

The result revealed that among a total of 1159 tones produced by the 22 Chinese students. 16.28 percent of these tones were Mid tone errors, 0.08 percent were Low tone errors, 2.14 percent were Falling tone, 11.76 percent errors were high tone. None tonal error was in Rising tone. Out of the total number of tones, 110 tonal errors occupying 9.49 percent of the total tones produced were made by Chinese students before the SEA treatment. Following figure shows the distribution of errors for each tone for the experimental group before the SEA treatment.
Figure 3.1: Distribution of tonal errors for the experimental group before the SEA treatment

The distribution of the five tones for the experimental group in the pretest indicated that the order of difficulty of tone was Mid tone, High tone, Falling tone, Low tone, and then Rising tone. The finding also indicated that Chinese students had difficulty pronouncing Mid tone and High tone.

There was only one tonal error in Low tone due to word confusion. For Falling tone, some Chinese students produced these tones incorrectly because of phonological and semantic variability of Thai particles. The particles in Thai can change their vowel, tone or even consonant of given forms (Chuenkongchoo, 1956). These sound changes can be used to indicate different sentence types. For example, some final particles in Thai have Falling tone when they occur in statements and High tone when they occur in the questions (Chuenkongchoo, 1956; Cooke, 1989). From the result of the pretest, some Chinese students mispronounced a particle [khâ] and [lâ] Falling tone to [khá] and [lá] High tone in their statements.

The results from the pretest concurred with Yang and Wongpinunwatana’s finding (2012). As Yang and Wongpinunwatana’s claim (2012), Chinese learners learning Thai do not have any problem producing Low, Falling and Rising tones.

The problematic tones for Chinese students in the study were Mid and High tones. This finding concurred with Potibal’s study (2005). Potibal’s finding reveals that L2 students learning Thai have problem producing Mid tone in Thai. However, unlike Potibal (2005), the participants of the study were Chinese students learning Thai not Korean students. Moreover, Chinese students in the study did not change Mid tone to High tone in words because of the interference from their...
L1 intonation pattern. Chinese students mispronounced the mid tone to high tone in the reduced form due to the syllable-timed rhythm of Mandarin Chinese.

3.17.2.2. Possible reasons of Thai problematic tones for Chinese students

Possible reasons why the problematic tones were Mid and High tones are as follows:

1. Tonal neutralization in unstressed syllables

As seen on Figure 3.1 on page 70, the most difficult tone to produce for the experimental group was Mid tone followed by High tone. The reason was the phenomenon of tonal neutralization in polysyllabic words. The data in the pretest contained many polysyllabic words. Some unstressed syllable needed to be reduced. However, the experimental group did not reduce the low and high tones to the mid tone in their speech production, perhaps, due to the influence from their syllable-timed rhythm of Mandarin. With their mother tongue’s influence, when Chinese students produced Thai polysyllabic words, they put a stress on all syllables. Consequently, the original low tone or high tones were not reduced to the mid tone.

2. Citation form influences pronunciation

Because data in the pretest consisted of monologue on one’s family details and hobbies, the data in this study contained many personal pronouns. The pronouns: ฉัน [chán] ‘I’, ฉัน [di 'chán] ‘I’, and เขา [kháw] ‘s/he’ were frequently used in the sentence. These pronouns, in fact, are pronounced by Thai native with High tone since normally these pronouns have a secondary stress in connected speech. However the citation form or full form of these words are [chăn], [diʔ chăn], and [khăw] because their initial consonant alphabets are in a rising consonant group.

There are 44 initial consonantal alphabets in the Thai language. They are classified into three groups, known as ‘Triyangsa’. ‘Triyangsa’ includes mid, low and rising consonants. ‘Triyangsa’ is one factor to determine the tone in each syllable.
When the rising consonant occurs in the syllable structure CV, CVS, or CVVS without the use of the tone mark, the syllable is pronounced with Rising tone (Poomsan, 1995; Smyth, 2002). S in CVS, or CVVS stands for sonorant in Thai: [m, n, ŋ, w, j] (sonorant means a sound that is produced without turbulent airflow in the vocal tract such as nasals and approximants).

As previously mentioned, fluent Thai speech is usually fast and not every word is clearly produced. Consequently, Thai tones are not actually pronounced in full forms but rather are generally spoken in reduced forms. As, secondary stress in connected speech, the pronoun ฉัน [ch n] ‘I’, ดิฉัน [di ‘chán] ‘I’, and เขา [kháw] ‘s/he’ needed to be in reduced forms.

Therefore, when a foreigner pronounces words in citation forms, it indicates she/he has not yet mastered Thai. Luangthongkum (1977) argued that when one speaks or reads without any feelings and emotions, it seems that the person is childishness and foolishness. Consequently, Thai native examiners judged the experimental group mispronounced these words.

3.17.3. Traditional methods in pronunciation training of L2 students
In Thai language teaching for non-native Thai speakers (L2 students), pronunciation has been widely considered to be an essential skill. Formal pronunciation instruction, therefore, was provided in the initial stage of Thai learning. The objective of formal pronunciation instruction was usually aimed at achieving accuracy pronunciation rather than intelligibility. The notion of communication is not usually focused upon at the beginning stage because second language or
foreign language learners are assumed to be incapable of communication in a foreign language at this stage.

However pronunciation training has been included with Thai speaking and listening lessons. Based on the researcher’s class observation and survey of Thai textbooks for L2 students, the traditional method of pronunciation training in Thai language are described as follows.

(1) Phonetic training

Phonetic training includes activities that make use of phonetic terminology and focus on physical articulation. This method relies on obtaining a description of the articulatory movements of all the sounds of a language. Students are then told how to produce the sounds, through a description of ‘tongue position’, ‘lip position’, and ‘position of soft palate’

For example, the following Thai tutorial 1(Pan De-Ding, 1991) used an articulatory diagram to explain how consonant sounds are articulated.

Figure 3.2: Articulatory diagram to explain how consonant sounds are articulate taken from Pan De-Ding (1991) (translated from Chinese language)

Lian (1980) argued that articulatory description is extraordinarily vague with respect to the precision required for articulation.
He stated:

“Students are generally unable to determine exactly, if at all, whether, for example, their tongues are raised at the back or not and, if so, whether they are in the open, half-open etc. ... positions” (Lian, 1980: 12).

By directing the students’ attention solely towards the articulatory movements of individual sounds, auditory perception is ignored. Students might succeed in producing only isolated sounds through a conscious process of articulation. However, in the case of connected speech, there will be no range of models to assist in sound production.

Teaching Thai language at an initial stage attempts to teach only spoken Thai. Teachers agree that the immediate need for L2 students is speaking rather than reading and writing. With this view, phonetic symbols and Romanization have been employed in most of Thai text books for non-native speakers in order to help students sound out words and phrases. Therefore, the comparison of English and Thai phonological systems and phonetic symbols are popular in pronunciation training in order to help L2 learners learn the pronunciation of native Thai words. For example, Luanwarawat (2007) represented Thai letter น with [g]. She explained this phonetic symbol can be pronounced as in ‘go’ in English. However, let us be reminded that comparing the phonetic systems of Thai and English or other L1 languages might activate the mother-tongue sieve in the task of learning Thai. Moreover, there is no standardized Romanization system for the Thai language. Many different systems are also in use by different texts and websites. For example, for the word ตื้อ ‘cloth’ [สุา], International Phonetic Alphabet (IPA) uses [สุา] but Poomsan (1995) used [sua]. Both Smyth (2002) and Luanwarawat (2007) used [sêu]. With different symbol systems, L2 students might be confused and need time to memorize the symbols before speaking Thai.

In TAP with SEA, therefore, Thai phonetic symbols or any kinds of Romanization with tone diacritics were deliberately and intentionally not used at all in order to reduce the mother-tongue sieve and encourage a direct experience of the TL.
(2) Ear training

Ear training can be one effective method to help L2 students get used to whole accents and language varieties (Diehl, Lotto, & Holt, 2004). Sound discrimination with a set of minimal pairs is a technique that has been suggested as “helpful for students to learn the pronunciation of words and sentence easily” (Baker, 2006: 7). It has been suggested that this technique helps students differentiate the sounds of words that can cause trouble if they are not well pronounced and also help students to be intelligible (Richards & Renandya, 2002; Tuan, 2010). Effective ear training exercises can elicit the student’s perceptual problem areas and aid them to build awareness of the sound contrasts in Thai. Minimal pair training also can help students be more conscious of their own pronunciation and aware of ways in which their pronunciation differs from the model provided (Rajadurai, 2001).

However, minimal pairs used in Thai pronunciation training seem not to be effective. This is because minimal pairs used in Thai pronunciation training consist of two words pronounced alike except for a single phonemic. Meaning is usually not provides at all. With this activity, when beginning students do discrimination exercises, they are basically mechanically listening to the contrasting pair without relating them either to their existing knowledge or anything that resembles Thai language that they would hear in real life. Consequently L2 students cannot improve their speaking intelligibility and fluency.

Ear training method will become more useful when sentences are used because they can meet the goal of meaningful communication (Diehl, Lotto, & Holt, 2004). Such training can further assist learners’ improvement on accuracy, intelligibility and fluency. In addition, the teaching of pronunciation isolated from normal intonation patterns might be helpful as additions to the sort of practices utilized in SEA, but not as the mainstay of a teaching method.

(3) Imitation and drilling

Imitation and drilling are key features of the audio lingual approach to language teaching which placed emphasis on repeating structural patterns through oral practice (Celce-Murcia & Olshtein, 2000; Larsen-Freeman, 2002; Harmer, 2006). The classroom activity, which focuses on pattern drills allows the teacher to give brief explanation, and focus on oral skills leading to good pronunciation and speech (Larsen-Freeman, 2002).
Imitation and drilling have maintained their status as an all-time favourite in Thai pronunciation teaching and most Thai textbooks still rely on them. A teacher, as a role model, asks students to repeat minimal pairs (with or without meaning). Students need to imitate teacher’s model as quickly and accurately as possible. Imitating and drilling sounds over and over again through minimal pair work often leads to discouraging results. Consequently, both teachers and students end up wanting to avoid pronunciation altogether. Furthermore, pronunciation training for Chinese students in PRC, the input model is a non-native Thai teacher with the aim of using L1 for articulation explanation. With this role model, a ‘system of errors’ can be formed. Lian (1980) argued that errors in the acquisition of foreign language sounds would form a system of errors for each individual learner. This causes a student to be hard of hearing of foreign language sounds. Errors could be caused by mother tongue conditioning but also by the quality of teachers.

More importantly, suprasegmental contexts have been ignored using drills. Because of this, even if Chinese students master the drill, they cannot adequately perform those segments in conversation. That is because there is no link between the drills they practiced and the native-like prosody which they need to be intelligible.

According to Skinner (1957), language learning is a process of habit formation. The more often something is repeated, the stronger the habits and the greater the learning. Therefore repeating imitation and drilling spoken patterns might help L2 learners form good habits. With this view, SEA does not deny how useful imitation and drilling. However, to make this pronunciation method more effective, suprasegmental and meaningful context should be employed. In addition, enjoyable atmosphere should be created in Thai pronunciation training to encourage students to engage in such activity.

(4) Reading aloud

Reading aloud is also popular in Thai language classroom for non-native Thai speaker. However, the objective of this activity seems to focus on language learners’ literacy development rather than pronunciation skill. Through this activity students read every single word in a sentence as clearly as they are pronounced in isolation.

Thai language is stress-timed rhythm (Luangthongkum, 1977). However, Thai language has a syllable timed rhythm as well when we pronounce every word as an individual one. Syllable
timing is not normally used in ordinary everyday speech (Noss, 1972; Luangthongkum, 1977). Its usage is rather limited to some styles of speech such as, reading nonsense utterance; reading aloud of children or grown up people who do not read well; reciting lines of unskilful actors; and reading aloud without feelings and emotions (Luangthongkum, 1977). As mentioned before, the more often something is repeated, the stronger the habits (Skinner, 1957). Therefore with reading aloud or recitation activity, Chinese students might maintain their L1 which is a syllable timed language to produce Thai prosody.

3.17.4. Why should we teach pronunciation at suprasegmental level?

‘Suprasegmental features’ refers to a vocal effect that extends over more than one sound segment in an utterance (Crystal, 2003). Suprasegmental features in Thai include tone, stress, intonation and rhythm (Luangthongkum, 1977).

3.17.4.1. Evidence from L1 acquisition

Very young children of all language backgrounds begin perceiving and internalizing their intonation system shortly after birth (Nakazima, 1962; Weir, 1966). Babies synchronize to adult speech rhythms within two weeks of birth. A pioneering study by Weir (1966) explained that babies begin to develop productive control over the patterning of native language intonation during their babbling stage before the beginnings of selective control of articulation of phonemes. L1 acquisition researches on the acquisition of spoken language have provided evidence that the prosodic aspects of speech play a critical role in language acquisition. For example, it allows infants to bootstrap other aspects of language. Within the prosodic bootstrapping account, infants acquire considerable information about possible word boundaries in their native language through different types of perceptual cues provided by speech signals (Gleitman & Wanner, 1982; Morgan, 1986).

Infants are sensitive to syntactic structures cues such as pausing and final-syllable lengthening at the boundaries of clauses (Fisher & Tokura, 1996; Soderstrom, Blossom, Foygel, & Morgan, 2008). Among the different types of perceptual cues, its rhythmic characteristics have been shown to be extremely salient to infants. Mehler, Jusczyk, and Lambertz (1998) provided evidence that infants use rhythmic information to discriminate between languages in different rhythmic classes. Their finding suggests that French infants can discriminate their native
language from other languages that belong to a different rhythmic class even if the language samples are low-pass filtered (400 Hz) to remove segmental information from speech.

Nazzi, Bertoncini and Mehler (1998) provided additional evidence on the role of the prosodic aspects of speech in language acquisition. They showed that French neonates are capable of discriminating between languages that differ in their rhythmic classes (i.e. between stress-timed languages such as English and Dutch and syllable-timed languages such as Italian and Spanish). At the same time, infants are unable to discriminate between two languages in the same rhythmic class (English and Dutch). Christophe and Morton (1998) also claimed that English-learning 2-month-olds do not discriminate between English and Dutch. This claim supports the view that discriminating between two languages belonging to the same rhythmic class is difficult for infants.

However, the evidence provided by Nazzi, Jusczyk, and Johnson (2000) does not support Christophe and Morton’s claim (1998). Their studies found that English-learning 5-month olds can discriminate between their native language and another language in the same rhythmic class (e.g. Dutch and English). However, infants cannot discriminate between two unfamiliar languages belonging to a rhythm class which differs from their native language (e.g. Italian and Spanish). This finding indicates that infants are possibly able to discriminate between two languages in the same rhythmic class if both of them belong to the native rhythmic class.

“Infants sensitivity to rhythm at the utterance/supra-supra-segmental level will allow them to specify the type of rhythm of their native language, and develop the procedure appropriate to its segmentation” (Nazzi & Ramus, 2003: 236).

Infants may use prosody to form representations of syntax. Picking up of the rhythm of a language also enables infants to pick up the syntactic structures of their L1. This explanation has been supported by studies in which babies less than one week old are able to discriminate (Mehler, Dupoux, Nazzi, & Dehaene-Lambertz, 1995) and listen longer to speech in their mother’s native language than to speech in other languages even when both are produced by unfamiliar speakers (Moon, Cooper, & Fifer, 1993). Based on findings such as these, Morgan (1996) investigated role of prosody on parsing by using English sentences as a stimuli. He pointed out that the root processes of parsing such as syllable segmentation, grammatical
categorization and phrase bracketing are all acquired by children through the context of prosody. Morgan (1996) concluded that babies may use prosody to form representations of syntax that are much richer than would otherwise be possible.

In conclusion, these studies suggest that the root processes of parsing such as syllable segmentation, grammatical categorization and phrase bracketing are all acquired by children through the context of prosody. This phenomenon refers to the bootstrapping of language. The phenomenon of prosodic bootstrapping might be one of the reasons why all children acquire their L1 in the same length of time and with relative ease (Morgan, 1996).

Jansma (1987) suggested that a young child’s repertoire of speech tunes allows him or her to extract salient prosodic chunks associated with a particular meaning, facilitating a gradual discovery of language structure. To illustrate this process, Jansma used the common phrase, ‘Time to go night night’, typically uttered with a special intonational pattern by a caretaker, which a child associates as a whole with going to bed. As the young child gradually hears similar intonational patterns, ‘Time / to get dressed’; ‘Time / to eat dinner’; ‘Time / to go home’, the features of stress, rhythm and syllable duration provide segmentation cues representing ‘topic-comment’ or ‘given-new’ relationships. This internalized prosodic context allows a young child to acquire new words.

With understanding of the role of prosody on the first language acquisition, materials in pronunciation trainings in SEA for foreign language learners are based on sentences with all the aspects of intonation preserved. It is feasible the phenomenon of prosodic bootstrapping might even occur in L2 language learning.

3.17.4.2. The Importance of suprasegmental features to intelligibility

Nowadays, the goals of foreign language communication are for speech to be comprehensible and intelligible to listeners. To achieve intelligibility in communication, teaching only phonemes is not enough (Cohen, 1977). Therefore, mastery of prosody of a L2 is much more important for intelligibility than producing native-like vowels and consonants (Cohen, 1977).

“Teaching isolated forms of sounds and words fails to address the fact that in communication, many aspects of pronunciation are determined by the positioning of elements within long
stretches of speech, according to the information structure and the interactional context of the discourse as determined by speaker and hearer” (Pennington & Richards, 1986: 218).

Jenkins (2000) suggested that pronunciation training should shift from the segmental to the suprasegmental. She stated that suprasegmental features contributes far more than segmental features to intelligibility for the native listener.

Suprasegmental features also play a positive role on listening comprehension. For example, intonation is one of suprasegmental features which can help listeners overcome grammatical misunderstandings of an utterance (Rost, 1991). Celce-Murcia (1996) went further in claiming that intonation can overrule grammar in many cases. She outlined the function of intonation as “conversation management function” (Celce-Murcia, 1996: 200). With this function, the speaker could subtly signal to the interlocutor. The speaker could respond, quit talking or pay particular attention to a piece of highlighted information.

Mastery of suprasegmental features in discourse will also be helpful. Suprasegmental features in discourse convey meaning (Gumperz, 1992; Brazil, 1997; Chapman, 2007). For example, a prominent stress can be used as an information marker. Intonation can serve as a discourse marker to make coherence and tell given/new information. Intonation, pitch and pause can be a grammatical or syntactic marker to tell listeners the clause and sentence boundaries (Gumperz, 1992; Chapman, 2007). Prosodic cues such as pause and intonation constitute a major source of information on discourse segmentation (Grosz & Hirschberg, 1992; Ostendorf, Wightman, & Veilleux, 1993; Bruce, Granström, Gustafson, & House, 1993; Horne, Strangert, & Heldner, 1995).

Therefore, if L2 students are familiar with suprasegmental features of the TL, they might better perceive the logical prominence of key items, and understand the propositional content of the message better.

3.17.4.3. Evidence from pronunciation training with suprasegmental features

Derwing, Munro and Wiebe (1998) undertook a study comparing the implementation of three conceptions of pronunciation teaching for 11 weeks: the first taught with a segmental focus, the
second taught with a global focus, and the third that received no specific pronunciation instruction.

In this study, the global group received approximately 20 minutes per day of instruction in which the teacher focused on features such as speaking rate, intonation, rhythm, projection, word stress, and sentence stress. The instructor used commercial materials in novel ways. For instance, the teacher would have the students count the number of syllables and the number of stresses in each line of the teaching materials. The students would tap out the beats and use nonsense syllables to focus on rhythm without any attempt to focus on individual consonant and vowel sounds. Rather than attempting the impossible feat of trying to cover every stress or intonation pattern in English, the teacher taught her students a set of skills such as paying attention to the rhythm of the language which they could use in real face-to-face communication.

The segmental group used language-lab materials in conjunction for approximately 20 minutes per day. These exercises were designed to improve their productions of individual sounds. Activities included identification and discrimination tasks as well as repetition tasks featuring individual sound contrasts, particular pairs of consonants and vowels.

Students’ performances in ESL were collected before and after the training. The training process lasted for 11 weeks. They were asked to read sentence-length utterances as well as to produce extemporaneous narratives. The listeners who were English native speakers evaluated the speech samples by rating them for accentedness, comprehensibility and fluency in blind tasks.

The dimensions of accentedness, comprehensibility and intelligibility have already been previously defined by research (Nelson 1985; Munro & Derwing, 1994, 1995; Derwing & Munro, 1997). Accentedness refers to the extent to which a listener judges L2 speech that differs from native speakers’ norm. Research has repeatedly shown that even heavily accented speech can be highly comprehensible. Munro and Derwing (1990, 1997) stated that comprehensibility as a dimension of oral proficiency means the perception of a listener understand what a speaker said.

Intelligibility means what a listener has actually acoustically processed. Smith and Nelson (1985) also defined comprehensibility as the listener’s ability to understand the meaning of the word utterance in its given context. Smith and Nelson (1985) defined intelligibility as the ability of the listener to recognize individual words or utterance. Since this thesis focused on speech
production in sentence and discourse levels, fewer errors in prosody production (including stress, rhythm and intonation) were regarded as sign of intelligible long production.

The results of the study indicated that for sentence reading task, the segmental group showed the greatest overall improvement in accent after the training process. However, after analysing the extemporaneous narratives produced by the three groups, it was found that there was no evidence that the training had any effect on the accent scores. Only the global group exhibited significant improvement in comprehensibility and fluency after the training.

This study conducted by Derwing et al (1998) suggests that pronunciation instruction with emphasizing prosodic features such as rhythm, intonation, and stress enable L2 students to transfer their learning to spontaneous production. It also provides some proof that the teaching of suprasegmentals benefits the learners in the long run.

From the findings, it can be argued that a key factor for the long lasting effect of the training on students’ production might be that multi-modalities of learning had been provided by the global group teacher. As previously mentioned, in Derwing’s study (1998), the students in the global group were involved in a multi-modal experience which involved the audio, visual (tapping), movement, and listening modalities. This experience is likely to be more long lasting and profound in terms of conditioning the body to the English language than just letting learners passively listen to minimal pair contrasts (segmental group). It can also be argued that the effect of the training might not depend on the number of prosodic patterns or minimal pairs the students had been exposed to. Rather it would probably depend on how many modalities did the students activate during the training process in order to better perceive the language.

3.17.5. The importance of focusing on rhythm and stress in pronunciation training

Infants learn the rhythm of their L1 very early in life. By the time they reach the age of one, infants appear to discriminate native from non-native languages on the basis of rhythmic structure (Nazzi, Bertoncini, & Mehler, 1998; Nazzi, Jusczyk, & Johnson, 2000). This ability may facilitate subsequent language learning (Cutler, 1994).

Their L1 rhythm is deeply familiar to them, and they would unconsciously apply it to any L2 that they learn (Aoyama et al. 2007 cited in Gilbert, 2008). As L2 adult learners, students’ L1 rhythm is deeply rooted in the minds. Then it has a huge influence on L2 rhythm. Therefore, it is
common for L2 students to feel uneasy when they speak L2 or hear someone speaks with the rhythm of L2 (Luangthongkum, 1977). Consequently, this uneasiness can be a major barrier to improve intelligibility in the L2 (Luangthongkum, 1977).

Stress is considered as a cue to word segmentation. Infants listen to higher-level rhythm patterns in order to aid them identify word boundaries (Gleitman & Wanner, 1982; Gleitman, Gleitman, Landau, & Wanner, 1988; Echols, 1993; Jusczyk, Cutler, & Redanz, 1993).

Like English, Thai language is a stress-timed syllable. Stress rules in Thai are fixed (Luksaneeyanawin, 1983, 1998). The last syllable of the polysyllabic word is accented and always realized as a stressed syllable (Potisuk, Gandour, & Harper, 1996; Thubthong, Pusittrakul, & Kijsirikul, 2000). A pause is always placed after the stressed one (Luangthongkum, 1977). The role of prosodic features such stress and pause in spoken language is similar to that of punctuation in written language (Potisuk, Gandour, & Harper, 1996). Stress and pause help listeners identify word and sentence boundaries (Potisuk, Gandour, & Harper, 1996). For example,

Table 3.2: A sample effect of stress and pause in sentences on the meaning

<table>
<thead>
<tr>
<th>แม่น้ำแห้งแล้ว</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 'mê: (pause) 'ná:m lót 'lé:w</td>
</tr>
<tr>
<td>Mom! water is going down</td>
</tr>
<tr>
<td>b) mê 'ná:m lót 'lé:w</td>
</tr>
<tr>
<td>Water level of this river is going down</td>
</tr>
<tr>
<td>'mê: (pause) 'ná:m mê: = “mother”</td>
</tr>
<tr>
<td>mê 'ná:m = “river”</td>
</tr>
</tbody>
</table>

Luangthongkum (1977) also suggested that rhythm and stress are very important prosodic features of Thai language because it is the cause of sound change. When the monosyllabic words are put together into a sentence, the syntactic function of the words determines whether or not it will be realized with stress. Content words always are stressed whereas grammatical words are unstressed (Luangthongkum, 1977). For instance, ฉันจะกลับบ้านในกรกฎาคม ‘I am going home this July.’ in Table 3.3.

When it is pronounced in connected speech, it is unstressed and its tone is reduced to the mid tone. For example, สั่งจะกลับบ้านในกรกฎาคม ‘I am going home this July.’ in Table 3.3.
Table 3.3: Sample comparison of sounds between in citation form and connected speech

<table>
<thead>
<tr>
<th></th>
<th>ขั้น</th>
<th>จฉะ</th>
<th>กลับบ้าน</th>
<th>ㄱɮ 的东西</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citation form</td>
<td>'ชาน'</td>
<td>'คำ?'</td>
<td>'klàp' 'บั'n</td>
<td>'kà? rá?' 'kà?' 'da:' 'khom'</td>
</tr>
<tr>
<td>Connected speech</td>
<td>'ช่าน'</td>
<td>'ca'</td>
<td>'klàp' 'บั'n</td>
<td>ศาสตร์ 'da:' 'khom'</td>
</tr>
</tbody>
</table>

I’m going back home this August.

Although stress is very important in Thai language, it has been ignored in Thai lessons. “As a stress-timed language, stress is an important aspect of the Thai language. However, that is nearly 100% ignored by today's Thai learning texts, which is a shame because it leaves many students struggling to recognize, and look up, common Thai words they hear” (Pirazzi, 2010: 2).

With rhythm and stress playing significant roles on segmentation and sound changes especially tones, pronunciation training in Thai classroom should shift its focus from only consonants, vowels, and tones to rhythm and stress in order to prioritise, in the mind of students, the essential role of rhythm and stress in Thai.

3.17.6. Should we teach connected speech?

Crystal (1997: 81) defined connected speech as “a term used by linguists to refer to spoken language when analysed as a continuous sequence, as in normal utterances and conversations”. Connected speech is a phenomenon in spoken language that collectively includes phonological processes such as reduction, elision, assimilation, and contraction (Celce-Murcia, Brinton, & Goodwin, 1996).

In Thai pronunciation training, teachers usually try to adjust their pronunciation of words to help L2 learners in understanding them. Noss (1972) regarded teachers who teach pronunciation with citation forms as an unskilled teacher since they do not exactly realized that in fact citation form is relatively rare in real life Thai speech. By using citation forms, L2 learners of Thai lack exposure to the spoken language which would stands as a barrier for understanding natural speech. Consequently when L2 learners come up to situations where they listen to Thai native speakers, the natural speech would sound unfamiliar for them and they would not be able to understand it.

Mortimer (1985) described the aspect of connected speech of English. He noted that in connected speech, some syllable especially grammatical words are not usually stressed except
when the speaker wants to indicate or emphasize something. The use of reduced forms is also considered as one aspect of connected speech which plays a crucial role in both speech production and reception.

As for the aspects of connected speech, unfamiliarity with weak forms is considered as a major source of difficulties for foreign learners when they listen to native speakers (Peterson, 1991). Research studies indicate that non-native speakers have a problem understanding or producing the features of connected speech of L2 (Kim, 1995; Kweon, 2000; Ito, 2001) since sound changes happen in connected speech (Kweon, 2000). Gilbert (2008) suggested that structure words are commonly reduced when occurring in connected speech. Learners often do not notice these words when they listen to others speak. In order to better pronunciation and listening comprehension, L2 students need to practice grasping of the reduced forms in connected speech (Mortimer, 1985).

Several research in English teaching as a second language demonstrate using connected speech in teaching materials enable L2 learners comprehend fast speech produced by native speakers (Brown & Hilferty, 2006; Matsuzawa, 2006). Moreover, the use of connected speech features can make L2 learners sound more comprehensible and intelligible with less their L1 interfered accent (Dauer & Browne, 1992; Brown & Kondo-Brown, 2006). “The understanding of connected speech can help language learners understand aural language input” (Brown & Kondo, 2006: 5).

Like any language, connected speech is a very real part of Thai language. Indeed, it may be part of all living languages. Rhythmic or logical stress is autonomous and always present in connected speech (Laungthongkum, 1977).

In Thai language, rhythm and stress in connected speech have influence on sound changes in tones and vowels (Noss, 1972). In the unstressed or reduced form, vowel change and vowel reduction are common. Short vowels remain short but long vowels are shortened. Vowels become centralized and diphthongs become monothongs (Laungthongkum, 1977; Phinicharom, 1991).

Moreover, in connected speech stress may shift depending upon the speaker’s interpretation of particular statement, style of speech, the position of the word or syllable in utterance, tempo and
so on. Therefore, to be able to adjust their styles and registers in using the language, and the ability to understand and use connected speech is essential for making such adjustments. In Thai language, rules about word-stress which are based on citation form have to be kept separate from rules about phrase and sentence stress in connected speech (Noss, 1972).

From the production point of view, foreign learners who want to speak as naturally as native speakers, the learning of rhythm, stressed and reduced forms becomes obligatory. Rost (1990) and Lynch (2009) considered the ability to discriminate strong and weak forms, and the phonemic change at word boundaries as an enabling skill in the process of listening to running speech.

From the perceptual point of view, the knowledge which listeners have about reduced forms facilitates perception and comprehension. As Kelly (2000, 2003) pointed out that working on rhythm, stress, and intonation in connected speech can help students better understand spoken L2. Moreover, focusing more on rhythm and stress of Thai might be able to remedy errors in Mid tone and High tone produced by Chinese students. Therefore, the effective way to enable Chinese students to understand Thai spoken, they should be exposed to connected speech using authentic Thai speech.

3.18. Review of research in the effectiveness of Somatically-Enhanced Approach (SEA)

The design of SEA (Zhang, 2006) is based on: (1) the usefulness of prosody on infants’ speech perception and production and their language development (Mandel, Jusczyk, & Nelson, 1994; Mandel, Nelson, & Jusczyk, 1996); (2) the effect of training after optimum period (Neufeld, 1977, 1978, 1979; McCandliss, Fiez, Protopapas, & McClelland, 2002); (3) the ‘Less is More’ hypothesis in language learning helps learner superior ultimate competence at the language (Newport, 1990); (4) formulaic sequences in foreign language learning improves fluency of L2 learner’s foreign language production (Wood, 2009, 2010); (5) therapeutic uses of movement for speech and hearing impaired children (Brüll, 2003); and (6) learning through multi-modalities is more effective than a single modality (Derwing, Munro, & Wiebe, 1998).
In 2006, SEA’s efficiencies were first investigated on Zhang’s PhD thesis: The Teaching of Mandarin Prosody: A Somatically-Enhanced Approach for Second Language Learners (Zhang, 2006). The aims of the study are to identify the principal problems encountered by adult English speakers studying Mandarin (Modern Standard Chinese), in order to discover the causes of error patterns and, to find out how SEA influences the acquisition of Mandarin prosody in these areas. Zhang’s study evaluated the efficiency of SEA for Mandarin Chinese language learning for a group of Australian students who are at the beginning level by using both quantitative and qualitative analysis (Zhang, 2006).

The experimental component of Zhang’s study consisted of an evaluation of SEA on Mandarin tone learning using data collected from two groups of students’ oral conversations. The experiment involved 22 adult Australian students studying Mandarin in the first three months of language training. The experimental component of the study consisted of an evaluation of two groups of students’ oral conversations. The control group was trained in a non-multi-sensory but communicative approach in 2001 and 2002. Their results are compared with those of a test group and with a group of students trained in the multi-sensory communicative approach (SEA) in 2003 and 2004.

The comparison of the quality and quantity of the oral performances from both experimental and control groups demonstrated that the experimental group produced 1.68 times more language than the control. Besides, the experimental group made only slightly more tonal errors than the control group. The order of difficulty of the four Mandarin tones was found to be similar for both the experimental and control groups of students. Tone 4 was the most difficult, followed by Tone 3, Tone 1 and Tone 2. The quality of the oral performances is different with both groups. The experimental group produced longer sentences and more interesting data than the control group.

A qualitative analysis of interview and question data obtained from this research also revealed that the extensive use of computer enhanced language learning and SEA work well together, not only efficiently conditioning students to the phonology of Mandarin, but dramatically changing students’ strategies in learning and increasing their learning opportunities.

Zhang (2006) suggested that the input and the type of task used to collect data might exert a significant influence on the learning of tones. One important aim of the course in beginning
Chinese is to weaken the phonological sieve of one’s native language, so comparison of new sounds in Mandarin with sounds in English is avoided. Therefore, the language material in Zhang’s class used was not accompanied by any kind of Romanization.

The major cause of errors was first language (L1) interference rather than the physical difficulty of articulating particular phonemes. Using a multi-sensory approach (SEA) to the learning of Mandarin may be possible to lessen the influence of learners’ L1 from the outset (Zhang, 2006). Moreover, the finding also suggests that the use of movement and gesture in the early stages of learning could enhance students’ perception and production of Mandarin. With opportunities for students to observe their own production of a target language (TL) and then experience how physically, students could find ways of reducing a L1 interference (Zhang 2006).

3.18.1. The Somatically-Enhanced Approach (SEA) in the teaching of Thai prosody
Buranapatana and Zhang (2008b) investigated the effectiveness of SEA in the teaching of the Thai language to a group of Vietnamese learners in Vietnam. Researchers used relaxation techniques to relax students; humming, clapping and physical gestures to emphasize the rhythm of the Thai language; and the provision of all learning materials on CDs. The results of this study showed that after 12 face-to-face contact hours, 10 Vietnamese students who undertook a course in learning Thai using SEA were able to speak Thai, in the limited contexts covered in the course, as fluently as students who had been studying Thai for more than one year using the traditional approach.

In another their study, Buranapatana and Zhang (2012) used SEA in teaching of the Thai language to a group of Chinese, Lao and Vietnamese learners. The aims of the study were to investigate the effectiveness of multiple sources of feedback in teaching Thai as a foreign language. Strategies used were similar to those in the 2008 study.

The experimental component of Buranapatana and Zhang (2012)’s study consisted of an evaluation of two groups of students’ oral conversations. The two groups of students were divided into a control group and an experimental group. The control group consisted of 22 Chinese students who studied Thai language at Guangxi University for Nationalities in China in 2011. The control group was taught with a traditional method. On the contrary, the experimental
group, Chinese, Lao and Vietnamese students in Thailand in 2011, was trained with teaching practices of SEA.

The results of the 2012 study showed that after 24 face-to-face contact hours, with effectiveness of multiple sources of feedback in SEA, students in the experimental group achieved higher average perceptual rating scores than those of the control. This means students in the experimental group performed significantly better than the students in the control group. The quality of the conversations produced by both groups was also measured by the average number of words produced per person. Students in the control group produced an average of 67 words with per person whereas students in the experimental group produced an average of 158 words per person.

The studies of Zhang (2006) and Buranapratana and Zhang (2008b, 2012) indicate that SEA can be a helpful teaching approach for any foreign language learners since it allows learners to make progress rapidly in the target language. However, these studies focused on foreign learners learning Thai at the beginning level. This approach could also be an effective tool for improving the language proficiency of foreign language learners at higher level as well.

3.18.2. General principles of the Somatically-Enhanced Approach (SEA)

The general principles of the Somatically-Enhanced Approach (SEA) derived from Zhang (2006) are as follows:

1. More emphasis should be placed on pronunciation by teachers.

SEA believes that pronunciation training encourages L2 students to develop an intermediate system which will be neither mother tongue nor foreign language but a combination of certain aspects of each. Each student will therefore develop his own personal system. Instead of perceiving the foreign language sound with his mother tongue system, the new system is employed. The new system then takes over the filtering process. As learning proceeds, the new system will modify itself until it comes near to the foreign language system. To enable such modification, pronunciation training is essential in SEA.
2. Need to increase the exposure to new language input


From literature reviews, several factors contribute to the ultimate achievement of L2 learners proficiency. Such factors are: high motivation (Bongaerts, 1999; Bongaerts, Susan, & Slik, 2000); unlimited access to L2 speech (Bongaerts et al, 1997; Bongaerts, 1999; Zhang, 2006); frequency of exposure and input (Bybee, 1995; Bongaerts et al., 1997; Bongaerts, 1999; Ellis, 2002; Zhang, 2006); feedback (Merrill, 2002; Zhang, 2005, 2006; Buranapatana and Zhang, 2008a, 2008b, 2012); individualized practice (Hill, 1970, Neufeld, 1977); and the use of exaggeration in training (McCandliss et al., 2002; Zhang, 2006). With these factors, massive and continued exposure to new language input is necessary instrumental in improving L2 learners’ perception and production of prosody of the new language.

3. Emphasizing the exploration of learners’ vocal range and the body in the process of language learning

Body movement and gestures are very closely linked with rhythm and intonation of language. When speaking, our body moves both consciously and unconsciously in such a way as to emphasise the stressed syllables or word of their utterances. Speech is an act which involves the whole body. Movement and gestures help to set up the overall body tensions for the production of the required speech. Each language has its own set of typical patterns.

One of the major problems encountered by foreign language (FL) learners is that they attempt to utter sentences in a foreign language while, at the same time, unconsciously preserving the set of movements which normally functions in their mother tongue. A synchrony with their mother tongue leads to failure to reproduce the appropriate stress patterns of the foreign language in question. To solve the solution, teacher should incorporate body movements and gestures in the foreign language classroom. In this way, L2 students will internalise prosody pattern not only at the level of the ear but also at the level of the body. Body movements and gestures will develop synchrony of the body with the target language (TL). L2 learners are able to experience the body tension when pronouncing the prosody of a TL.
4. Provision of new language input through a multi-sensory environment

Section 3.14 described a series of extremely useful ways of providing input through a multi-sensory environment such as the use of visual feedback to improve both levels of the spoken language with evidence of generalization to novel stimuli (de Bot, 1983; Hardison, 2004); therapeutic use of movement for speech and hearing impair children (Brüll, 2003); and the correction of pronunciation errors with multi-modal experiences (Derwing, Munro, & Wiebe, 1998).

According to Zhang (2006), the major cause of errors in the initial stages of learning is the first language (L1) interference rather than the physical ‘difficulty’ of articulating particular phonemes (or any features of Universal Grammar). By integrating the senses of the body with movement and the process of ear training through working on a system of errors, it may be possible to considerably reduce the influence of learners’ mother tongue. SEA provides students with ways of learning L2 through spoken, aural, and visual modalities involving movement as this muti-sensory environment is more efficient than only doing passive listening exercises based on minimal pairs (Zhang, 2006).

5. Focusing on prosodic features such as rhythm, intonation and stress to improve learners’ speech perception and production

The SEA method is designed from findings on the usefulness of prosody in speech perception and production of infants. For example, rhythm affects infants’ ability to discriminate speech sounds (Jusczyk et al., 1978). Prosodic cues facilitate infants’ discrimination of a phrase boundary (Jusczyk et al., 1992). Infants use their sensitivity to the correlated acoustic cues which mark linguistic boundaries to discover information about the syntactic structure of their language (Gleitman & Wanner, 1982; Gleitman et al., 1988; Kemler Nelson et al., 1989; Mandel et al., 1996). Infants use prosody to form representations of syntax (Mehler et al., 1995). The root processes of parsing such as syllable segmentation, grammatical categorization and phrase bracketing are all acquired by infants through the context of prosody (Morgan, 1996). Very young infants use prosodic packaging of clausal unit to facilitate their memory for speech information (Mandel et al., 1994; Mandel et al., 1996; Jusczyk and Hohne, 1997; Jusczyk et al., 1999).
With understanding of the positive role of prosody on L1 acquisition, material used in pronunciation training in SEA for L2 learners are based on sentences with all the aspects of intonation preserved.

6. The Importance of output

The review of the cognitive explanation implies that the attainment of native like proficiency is possible in foreign language adult learners. Moreover as illustrated in the output hypothesis of Swan (1985) in section 3.8 that output plays an active role in the SLA processes. Learners could not reach beyond a functional level of target if they lack opportunity to engage in adequate language production. To assist L2 learners achieve higher level of proficiency in TL, providing learner with sufficient output, therefore, is acknowledged as an important method in SEA.

Zhang (2006) provided the evidence that producing output or speaking in the TL is extremely beneficial for improving learners’ fluency and accuracy in the TL. Speaking is essential in allowing L2 learners to interrogate their interlanguage development. Moreover speaking is one way of testing one’s hypothesis about the TL. L2 learners can judge the comprehensibility and linguistic well-formedness of their inter-language utterances against feedback obtained from their interlocutors.

In TAP with SEA, fluency is regarded as an indispensable component of oral proficiency. Rehbein (1987:104) suggested that fluency means “the activities of planning and uttering can be executed nearly simultaneously by the speaker of the language”. Schmidt (1992: 358) also stated that fluent speech “is automatic, not requiring much attention or effort”. Therefore, in order to become a speech fluency speaker, L2 students have to be able to produce long strings of their utterance with their exceed capacity for encoding and decoding speech (Schmidt, 1992).

Lewis (1997: 15) pointed out that “fluency is based on the acquisition of a large store of fixed and semi-fixed prefabricated items”. Along with Lewis’s statement, Thornbury (2000: 4) agreed that fluency is dependent on having ‘a stored bank of memorised chunks and having the ability to retrieve these chunks at speed’. “If a speaker can pull these formulas readily from memory, that is if these utterances are automatized, fluency is enhanced” (Buranapatana & Zhang, 2008b: 208).
These perspectives on fluent language imply that to enhance the fluency of language production should start with sentences rather than syllables through minimal pairs exercises. TAP with SEA primarily is concerned with how meaningful communication could be achieved in teaching pronunciation. Therefore, teaching pronunciation by starting with sentences seems to meet the goal of meaningful communication. To assist learners’ improvement on accuracy, intelligibility and fluency, TAP prioritises phrases and sentences rather than individual words in pronunciation trainings. Moreover, TAP with SEA’s principles aims to help Chinese students comprehend academic contents. Therefore, key contents from academic lectures were chosen as materials in TAP.

7. Catering for the predictable and unpredictable needs of learners

The review of the socio-psychological factors in language learning in section 3.16 reminds us that the classroom is an extremely complex site of learning with different learners’ individual inhibition and needs. Therefore, Zhang (2006) suggested that instead of adopting the strategy of attempting to cater for everyone’s predictable and unpredictable needs, the teaching environment which is based on SEA creates a learning context in which learner’s level of inhibition is reduced. To this end, SEA promotes a relaxed atmosphere, and learning through a community of practice.

3.19. The use of drama techniques in Thai teaching for L2 learners

Guiora et al. (1972) used the term ‘language ego’ to describe language barriers which become firmer and less permeable with age. Adults’ L2 learning process is influenced not only by their age, but also by their experiences. Through their experiences, L2 adult learners have formed a stronger sense of self than children or teenagers, and their ego-permeability is usually lower (Guiora, 1983).

In order to gain control of what they are learning, adult learners prefer to acquire a fair amount of grammar-oriented and written language skills (Freeman & Long, 1991). They often come to a class ready to assimilate the subject material by listening and taking notes. When they are suddenly asked to produce, they are inhibited and highly self-conscious. They lose their ego permeability and flexibility. As a result, they find it difficult to produce fluent, natural, and spontaneous speech (Guiora, 1983).
If L2 learners are successful in getting rid of their inhibitions, they can become empathic, which is hypothesized to be an important factor in language learning. Empathy means giving up these ego-boundaries and feeling the emotional state of someone or something outside of one’s own ego. In other words, empathy is an ability to be flexible and take on a new identity (Stern 1983).

A high degree of empathy for another person or a situation depends on the ability “to partially and temporarily suspend the functions that maintain one’s separateness from others (usually called ego-boundaries)” (Guiora et al., 1972:142). This type of flexibility may also be necessary for developing a native-like pronunciation in the second language. Drama techniques seem to foster empathy by inducing flexibility and by lowering L2 students’ inhibitions (Stern, 1983).

Drama allows L2 learners to ‘leave’ their L1 identity behind in order to decrease their shyness when speaking a foreign language (Holden, 1981; Donahue & Parsons, 1982; Taylor, 2000). While carrying out a drama activity, L2 students need to work on their self-ego, their identity and their shyness in order to ‘open up’ and be able to speak their roles well (Brown, 1994; Champoux, 1999, 2000, 2001; Mockler, 2002; Nissley, 2002; Weiss, 2003). Drama techniques, therefore, help L2 adults develop a new identity. As a result, L2 learners can utilize some of the same strategies to deal with those obstacles.

“Drama encourages the operation of certain psychological factors in the participant, which facilitate self-esteem, motivation, spontaneity, increased capacity for empathy, and lowered sensitivity to rejection” (Stern, 1981: 81).

A person with a high degree of empathy is also more likely to be highly acculturated (Brown, 1980). Acculturation is defined as “the social and psychological integration of the learner with the target language (TL) group” (Schumann, 1986: 379). Schumann (1978: 29) hypothesized that “acculturation is the major causal variable in L2 acquisition”.

Schumann (1978) stated that:

“Second language acquisition is just one aspect of acculturation, and the degree to which the learner acculturates to the target language group will control the degree to which he acquires the target language” (Schumann, 1978: 384).
Schumann (1986) suggested that a chain of causes in learning a second language naturally can exist. Acculturation as a remote cause brings the learner into contact with TL speakers.

“Verbal interaction with those speakers as a proximate cause brings about the negotiation of appropriate input which then operates as the immediate cause of language acquisition. Acculturation then is of particular importance because it initiates the chain of causality” (Schumann, 1986: 385).

Gardner (1979) also argued that the success with which an ESL student can achieve linguistically depends on how much that individual can incorporate cultural elements into the process of acquiring his second language.

Jiang, Green, Henley and Masten (2009) examined the process of acculturation in relation to the acquisition of an English as second language on 49 Chinese international students. All participants were enrolled in graduate programs at a large Texas University. The Stephenson Multigroup Acculturation Scale (SMAS) (Stephenson, 2000) was used to measure participants’ acculturation progress towards ethnic and dominant society, respectively.

A sentence reading task was used to measure one element of participants’ L2 attainment, pronunciation. To evaluate the pronunciation performance, pronunciation standards under the Stanford Foreign Language Oral Skills Evaluation Matrix (FLOSEM) was used as the rubric.

Oral speaking proficiency was assessed in the L2 proficiency interview. It consisted of two picture-based, one topic-based and one situation-based task. The American Council on the Teaching of Foreign Language (ACTFL) proficiency guidelines provide 10 levels of judgements from one ‘Novice Low’ (unable to fulfil any communicative tasks) to 10 ‘Superior’.

Their findings suggest that the more a L2 student is acculturated, the more the likelihood this student would acquire the second language.

The review of the cognitive explanation implies that the attainment of native like proficiency in L2 is possible for adult learners. Moreover as illustrated in the output hypothesis of Swan (1985), output plays an active role in the SLA processes. Learners could not reach beyond a functional level in the target language (TL) if they lack opportunity to engage in adequate language
production. To assist learners achieve higher level of proficiency in TL, providing learners with sufficient output is acknowledged as an important strategy in SEA.

Zhang (2006) provided evidence that producing output or speaking in the TL is extremely beneficial for improving learners’ fluency and accuracy in the TL. Speaking is essential in allowing learners to interrogate their interlanguage development. Moreover providing L2 learners with speaking practices is one way to allow them to test their hypothesis about the TL. L2 learners then could judge the comprehensibility and the linguistic competence in their inter-language utterances against feedback obtained from their interlocutors.

Moreover, adult learners learning a foreign language and children learning their mother tongue differ in the amount of cognitive strategies they use in the process of learning. While there is little communicative demand on children learning new language as a L1, the communicative demand on adults is enormous. Therefore, adult learners need to produce output in the TL as quickly as they can. The use of drama techniques is a particular effective tool to provide L2 learners with output opportunity for developing automaticity in language (O'Neil & Lambert, 1982; Savignon, 1983).

The activities of drama techniques provide L2 learners with possibilities to work with language at the discourse level. L2 student could learn about cohesion and coherence (Larsen-Freeman, 2000). The aim of these activities is the development of the ability to use the language as a whole.

Cohesion and coherence teaching in SEA is implicit. TAP with SEA does not ignore raising students’ awareness about cohesion and coherence. Thus discussions about the role of the cohesion and coherence and how to use them were carried out during the subsequent tutorials. As Zhang (2006) suggested, explanation and illustration of grammatical patterns in SEA should always conducted in their relevant contexts in order to tell when and how a particular sentence pattern is used and how the meaning of that sentence is particularly influenced by the particular grammar patterns.

A discourse marker is one tool to make cohesion and coherence in the discourse (Schiffrin, 1987).
Fung and Carter (2007) stated:

“Discourse markers have a number of functions in spoken interaction. They signal transitions, they index the relation of an utterance to the preceding context and indicate an interactive relationship between speaker, hearer and message” (Fung and Carter, 2007: 411).

Discourse markers which are utilized in formal situations (i.e., firstly, and after that) are relatively clear to listeners. When L2 learners could not recognize the signals that the speaker is using to move from one point to another, they might not be able to fully understand the message (Underwood, 1989).

Again, the use of spoken language in the activities of drama techniques also provides possibilities for the learner to learn and practice discourse markers (Siskin & Spinelli, 1987; Larsen-Freeman, 2000; Kodotchigova, 2002). Knowing discourse markers could assist Chinese students to improve their speaking and listening performance in Thai.

Within meaningful contexts through drama techniques, L2 learners can build up communicative competence, and therefore be able to use the language spontaneously and communicatively (Stern, 1980; O'Neill & Lambert, 1982; Savignon, 1983; Via, 1987).

Spoken texts in textbooks differ from natural language use in textbooks. In natural language use, there are lots of pauses, and filled pauses (Buck, 2001). The discourse structure is organized in a loose way by adding more information and following on from one idea to the next (Ur, 1984). In order to be able to communicate effectively in the real world, students’ awareness of these characteristics of real life language use should be raised by using drama activities (Holden, 1981; Martika-Discekici 1999; Maley & Duff 2005; Mattevi, 2005; Desialova, 2009). For instance, when L2 learners are reading the drama scripts with acting and emotion, they can practice when they should pause and when should not (Weber, 2006).

As previously discussed, reading aloud is popular used in Thai language classroom for non-native Thai speaker in order to practice both learners’ pronunciation and reading skills. Unfortunately, during the reading aloud activity, students read a text very carefully and without emotion. Every word is pronounced in its citation form. In other words, every single syllable and word is expressed in full form with stress. As syllable-timed language speakers of Mandarin
Chinese, by using this reading aloud activity, Chinese students might revert back to their L1 rhythm.

To reduce their L1 sieve, drama techniques such as expressive reading aloud with natural pronunciation, acting and emotional expressions can benefit the learning of a foreign language (Walker, 1996; Lengeling, Malarcher, & Mills, 1995).

In SEA, rather than having teachers promote the need to have good pronunciation by telling students that pronunciation is important, an environment is set up so that learners realize themselves that good pronunciation facilitates comprehension. Activities in drama techniques create learning environment in which L2 learners focus on doing pronunciation activities rather than listening to explanation on the benefits of practicing pronunciation.

One of the main benefits of drama activities is that they create a class atmosphere with a low affective filter (Dougill, 1987; Omaggio Hadley, 1993; Guida, 1995; Taylor, 2000; Ting, 2005). This enjoyable learning environment can help reduce anxieties and inhibitions connected with the language learning process. With nonthreatening interaction among the students, L2 learners are able to store the new learning material faster in the long-term memory (Omaggio- Hadley, 1993, 2001). With less affective filters, they are able to gain a sense of confidence in their ability to learn the target language (Stern, 1980; Dougill, 1987; Maley & Duff, 2005).

As Lian’s suggestion (2004) about the importance of learning discovery and individualization, adult learners should be provided with a chance to discover their learning process by themselves. Drama technique such as role-play and improvisation can create a learning environment where it is possible for students to choose their preference role, their own script, and their learning styles and preferences (Bolton, 1993). Drama is "a wide range of oral activities that have an element of creativity present" (Hubbard, 1986: 317). With creating a positive learning environment in which students cooperate, and which fosters a sense of achievement and enjoyment will encourage self-confidence and motivation to learn a new language (Taylor, 2000). Among discovery learning environment through drama activities, L2 learners can sustain their desire and develop their learning strategies to acquire a new language.

To sum up, SEA puts priority on speaking and listening rather than reading and writing. As mentioned before, listening has been regarded as the most frequently used language skills in the
classroom. It plays even more important role in one’s academic success than reading skills (Conaway, 1982; Powers, 1985; Mendelsohn, 1994; Ferris, 1998; Gilbert, 2005).

With SEA’s priority, as adult learners, Chinese students need to have more opportunities to produce and perceive speech. That leads Chinese students to improve their oral proficiency to a level sufficient to cope with academic lectures rapidly. Moreover, adult learners learning a foreign language and children learning their mother tongue differ in the amount of cognitive strategies they use in the process of learning. While there is little communicative demand on children learning their mother tongue, the communicative demand on adults is enormous. Therefore, adult learners need to produce output in the TL as quickly as they can.

Teaching language through drama has such potential because it provides a context for listening and meaningful language production, in which learners need to use their language resources (Chauhan, 2004). The use of drama techniques provides communicative environments in which learners have to extend their language resources beyond sentential level to the discourse level. Through doing drama activities, L2 students could get a glimpse of what it feels like to use language in semi realistic settings (Maley & Duff, 2005). L2 students also could inject their own identities and personalities into the language activity (Maley & Duff, 2005). Thus, they gradually overcome the language shock, culture shock, and culture stress in the process. Successful completion of drama activities in semi-realistic classroom settings would also increase motivation on the part of the learners as well as making their mother tongue egos more permeable (Guiora, 1983).

As mentioned before, adult L2 learners are somewhat different from children learning the first language. They have come to the L2 language with established phonological sieve. The ‘sieve’ of the mother tongue is not suited to the phonological structure of the target language. This can cause pronunciation errors and listening difficulty. Because of this, as adult L2 learners, Chinese students need more training their Thai pronunciation on suprasegmental features. With Drama activities, the acquisition of the language sounds, and the exploration of the syntactic system of the new language can be facilitated.

Adult L2 learners need more learning motivation to weaken the mother tongue phonological sieve than children learners do. Therefore with relaxed atmosphere in learning environment
through drama techniques, Chinese students will reduce their affective filter and increase their motivation to improve their pronunciation. Then students’ good pronunciation would develop their listening performance.

Instead of adopting the strategy of attempting to cater for everyone’s predictable and unpredictable needs, the teaching environment which is based on SEA create a learning context in which learner’s level of inhibition is reduced (Zhang, 2006). L2 learners are provided with multiple points of connection so that they can establish different styles of learning through interaction with different elements within the environment. Drama techniques constitute one of the elements in this environment.

In addition, drama techniques such as role play, voice training, dramatic reading aloud, and so on can provide several forms of biofeedback and proprioceptive stimulation methods. Furthermore, SEA promotes learners to experience and feel the target language through body movements and gestures. With drama techniques, body movement and gesture in communicative interaction can be implemented.

3.20. Listening

3.20.1. Definition

Unlike reading, listening needs to deal with spoken language that is often unplanned and typically exhibits short idea units (Vandergrift, 2006). Listening takes place in real time and is temporary. A listener, therefore, does not have the option of reviewing the information presented and has little control over the rate of speech at which the speech is spoken. Listening, an important part of the second language learning process has also been defined as an active process during which the listener constructs meaning from oral input (Bentley & Bacon, 1996). Rubin (1995: 51) conceived listening as “an active process in which a listener selects and interprets information which comes from auditory and visual clues in order to define what is going on and what the speakers are trying to express”. Imhof (1998: 83) described listening as “the active process of selecting and integrating relevant information from acoustic input and this process is controlled by personal intentions which are critical to listening”.

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3.20.2. The process of listening

Studies indicate that listening comprehension consists of several procedures. First, listeners have to distinguish the sound, stress, intonation and pitch of the language. After being aware of the entire information that a speaker said, they have to hold that information in their memory until it could be understood. Then listeners have to unscramble the information from what they heard (Brown, 1995).

Clark and Clark (1977) and Anderson (1985, 1995) proposed a model of listening comprehension, namely perceptual processing, parsing and utilization. The perceptual processing stage of listening involves segmenting phonemes from the continuous speech stream. During this phase of listening, the listener recognizes sounds, then segments those sounds into words. During the input process, the listener makes an effort to segment phonemes from the continuous speech stream. Then, the sounds distinguished are retained in short-term memory.

Parsing refers to the encoding input to establish a meaningful representation in short-term memory. In the parsing stage, the listener parses the sounds into the combined meaning of the words. During this stage, the listener needs to assign recognized words into grammatical categories. The listener also needs to combines cue from the syntax of the sentence and meaning of words to interpret a sentence. In this parsing stage, a meaning representation is moved to long-term memory.

Utilization means using background knowledge to interpret input. In the utilization stage, once a sentence or utterance has been parsed, the listener then makes connections between this newly-parsed information and their world knowledge. In other words, the listener makes an effort to comprehend the new information by relating it to old information.

While listening, listeners are not just involved in one of these stages. Anderson (1985, 1995) notes that that these phases are ordered, by necessity, in time but also partly overlap. If listeners are able to carry out the three processes of perception, parsing and interpretation without any difficulty, listening should be a straightforward process.

Anderson’s (1985, 1995) three-phase model of language comprehension is not specific to L2 listening comprehension; while the underlying processes remain the same for both L1 and L2 listeners.
3.20.3. Listening difficulties for foreign language learners

Listening skills in a foreign language is essential to academics studies, professional success, and personal development. Some authors (Underwood, 1989; Thompson & Rubin, 1996; Goh, 2000) indicated that problems with foreign language listening may be either listening problems or language problems, depending on the listeners’ learning abilities and skills.

Considering various aspects of listening comprehension in English, Underwood (1989) organized listening problem as follows: (1) lack of control over the speed at which speakers speak; (2) not being able to get things repeated; (3) the listener’s limited vocabulary; (4) failure to recognize signals; (5) problems of interpretation; (6) inability to concentrate; (7) and established learning habits.

Underwood (1989) saw these listening problems as being related to their L1 language background. L2 students whose native language possesses stress and intonation features similar to those of English are likely to have less trouble than the learners whose L1 is based on different prosodic features.

Goh (2000) investigated listening comprehension problems in students in college EFL studies. The data were collected from learner diaries, small group interviews, and immediate retrospective verbalization. The reported difficulties partially reflect Underwood's (1989) categorization on L2 listening problems.

Goh’s findings (2000) include ten listening comprehension problems in relation to three cognitive processing phases: perceptions, parsing, and utilization, proposed by Anderson (1983, 1985). First, in the perception stage, learners reported most difficulties as: ‘do not recognize words they know’; ‘neglect the next part when thinking about meaning’; ‘cannot chunk streams of speech’; ‘miss the beginning of texts’; and ‘concentrate too hard or unable to concentrate’ (Goh, 2000). Second, in the parsing stage, Goh (2000) found that listeners complained of problems such as ‘quickly forget what is heard’; ‘unable to form a mental representation from words heard’; and ‘do not understand subsequent parts of input because of earlier problems’. Third, in the utilization stage, ‘understand the words but not the intended message’ and ‘confused about the key ideas in the message’ were often mentioned.
Goh (2000) explained possible reasons for the listening problems in perceptual processing. The first reason is an underdeveloped listening vocabulary. The students could not match the sounds they heard with any script in their long-term memory. Therefore, although they knew certain words by sight, they could not recognise them by sound. This underdeveloped listening vocabulary could have been directly related to the way the students learnt new words. Many of them said they learnt by memorizing the spelling of words and often neglected to remember how the words sounded. Another possible cause of this problem is that word-referent relationships might not be automatized. Goh (2000) revealed that her EFL students knew the words but were slow when activating this knowledge since they were trained to be good at reading and remember words by watching. Some pronounced the word incorrectly. Therefore, they could not automatically activate their knowledge with the word they heard.

Richards (1983) stated the basic problems that English as second language (ESL) students encounter in general conversational listening tasks would cause problems in academic settings. Students have trouble processing reduced forms, colloquialisms, and prosodic features even at higher proficiency levels. Richards (1983) further pointed out main factors of difficulties for listeners are speech rate, recognizing redundancies, hesitations, false starts, and pauses. Brown (1995) also stated that a new word, an unfamiliar pronunciation or complex sentence structure can cause challenges EFL students in understanding academic lectures. These general listening problems as pointed out above, however, are only the beginning for the academic listener.

From Richards (1983), Goh (1998), and Brown (2001) suggestions, it can be seen that factors of difficulties for foreign language learners in listening to English texts are unfamiliar pronunciation, speech rate, recognizing redundancies, hesitations, false starts, and pauses. These basic problems that EFL students encounter in conversational listening task would also cause problems in academic settings (Richards, 1983). Because Thai, like English, is also a stress-timed language, similar difficulties might be encountered by Chinese students in this study.

L2 Learners in the present study are Mandarin speakers. Mandarin is syllable-timed rhythm. When they listening to Thai language, their listening processes need to be adjusted to the stress timed rhythm in Thai. Therefore, Chinese students might face lots of difficulty in listening comprehension.
From these possible explanations, the listening difficulties in the perceptual process might originally start from students’ mother tongue sieve (Trubetzkoy, 1939).

3.20.4. Academic listening

Academic listening has been regarded as the most frequently used language skill in the classroom. It plays even more important role in one’s academic success than reading skills (Conaway, 1982; Powers, 1985; Mendelsohn, 1994; Ferris, 1998; Vandergrift, 2004; Gilbert, 2005).

In fact, academic listening differs from conversational listening. Researchers (Richards, 1983; Dunkel, 1991; Flowerdew, 1994) have pointed out that academic listening has features which distinguish it from general conversational listening thus placing additional burdensome demands on the listener. When focusing on content understanding, academic listening places high demands upon listeners (Flowerdew, 1994). It also requires the listener to be able to distinguish more important information from less important ones, and to make predictions about where the lectures are heading (Jordan, 1997; Vandergrift, 2004).

In academic lecture, listeners require knowledge of the specialist subject matter and must distinguish between what is relevant and what is less important to the main purpose. Emphasis in lectures is generally assumed to be on the content conveyed. Particular skills that are associated with lecture listening are as follows:

- ability to concentrate on and understand long stretches of talk without the opportunity of engaging in the facilitating functions of interactive discourse, for example asking for repetition;

- ability to note-take;

- ability to integrate incoming messages with information derived from other media such as handouts, textbooks, the blackboard and the overhead projector.

3.20.5. Academic listening teaching in Thai classroom for L2 students

Most L2 students have difficulty coping with Thai lecture. The problem seems to become prominent when they enter university in Thailand, especially in the area of listening comprehension. In the academic setting, L2 students would not understand the lectures or tutorials delivered by Thai lecturers. Lecturers do not regularly deliver their messages in a slow
manner. In fact L2 students are not treated differently from native speaking students. International students usually are not able to comprehend any content delivered throughout the whole one-hour or two-hour period of the lecture. The problem becomes more severe outside the classroom because students would again not understand the language used in real life situations. When they meet native speakers, they find themselves unprepared for the variety of accents. They find it difficult to understand Thai if it is spoken at natural, normal speed. They lack confidence about their Thai language competence because they have had inadequate practice in listening and speaking. L2 students cannot grasp the meaning of listening texts or understand the content of listening texts. To overcome these listening difficulties, listening skills, especially academic listening skills, therefore, clearly deserve more attention as a part of Thai language teaching and learning process.

In order to help students adjust their filter or ‘a sieve’ in their speech perception, pronunciation training was more emphasised in TAP with SEA. TAP with SEA emphasised the exploration of learners’ vocal range and the body in the process of language learning by incorporating body movements and gestures. Body movements and gestures encourage students to develop synchrony of the body with the target language (TL). In TAP, Chinese students can experience the tensing of the body tension when pronouncing the tone, as well as making stress and intonation. Using spoken, aural, and visual modality with body movement and gestures is more efficient than doing passive listening exercises based on minimal pairs. Furthermore, with the understanding of the positive effect of speech production on listening comprehension, SEA not only places more emphasis on pronunciation training, but also on speaking practices.

### 3.20.6. Traditional methods in teaching Thai listening for L2 students
Teaching listening in Thai tends to be neglected because most teachers regard the listening skills as receptive and passive skills. Most teachers believe that students would eventually acquire this skill if they are taught to read passages and comprehend grammatical rules.

In the traditional listening teaching method which has been popular in Thai language classroom, L2 students including Chinese students would listen to short simplified listening passages or dialogues read out by the teacher at slow speech rate. This method is similar to dictation which provides foreign learners with a controlled situation in which s/he can easily and smoothly
practice listening and spelling (Hill, 1971; Shani, 1977). The listening texts or conversations used in the tradition method are very contrived and artificial. Moreover, dictation involves the teacher reading out a passage at least 3 times at slow speed. Again in this dictation practices, citation form is used. In other words, every single syllable and word is pronounced as a full form in order to provide them with an opportunity to write down every single word what they have heard. L2 students are usually provided only with complete sentences in simple and short discourses. The sentences that learners usually listen to are broken down into small phrases and they are provided with long pauses when they listen. When students finish the exercises, teachers check the answers and if they find that students get the wrong answer, they would let the students listen again and again without any explanation. Consequently, students easily get tired of such listening exercises. The traditional methods are not motivating. They also tend to teach bad listening habits to L2 students such as one should try to understand every single word of incoming speech. In the parsing stage of listening, less effective listeners with bad listening habit are more concerned with individual words and tend to heavily rely on translation (O’Malley & Chamot, 1989; Butt, Sharif, & Naseer, 2010).

These kinds of simplified and unnatural input in listening texts are not available for them in real life situations where they have to listen to incomplete phrases, complex sentences and often there would be no long pauses for them to process the sentences. Thus, when Chinese students are exposed to more complex or authentic texts such as authentic academic lectures, television programs, or radio programs, they usually cannot understand or grasp the main ideas or the details of the texts. They tend to feel frustrated and lose confidence in, and enthusiasm for learning Thai.

Short-term memory (STM) is a part of the memory which receives information. STM stores the received information for short periods of time while it is being analyzed and interpreted. If the information in STM is not processed, it will become faded (Richards, Platt and Platt, 2000). If the received information is understood, it will come to be stored in the long-term memory (LTM). STM is often overloaded with inefficient processing mechanism because L2 students encounter the difficulty in their bottom-up processing (Call, 1979).

The capacity of STM is limited (Baddeley, 1990; Robinson, 1995). According to Miller (1956) and Call (1979), the capacity of STM accommodates seven (plus or minus two) ‘chunks’ of
information. With its limitation, if L2 students listen to every word of incoming speech, the short-term memory could be overloaded (Ohata, 2006). Consequently, L2 listeners could not establish a meaningful representation in STM and move it to LTM. In order to avoid overloading STM, L2 learners need to know how to chunk the incoming utterance (Call, 1979).

Call (1979) suggested that in order to improving L2 students’ listening performance, L2 learners should know how to chunk the incoming linguistic data before they are asked to respond to the significance of the utterance. Chunking or coding single units into larger units is a tool to transfer received information from STM to LTM. Chunking helps to reduce the number of items in STM. Consequently, the capacity of STM can increase. The better L2 learners are at chunking, the higher amount of received information they can deal with (Call, 1979; Ohata, 2006). In addition, chunking helps L2 students recall received information. When incoming speech enters STM, L2 listeners will automatically chunk the sounds into meaningful units according to their previous knowledge. This received information is then located in LTM while its meaning is retained.

With benefit of chunking on listening comprehension, TAP with SEA training Thai prosody in sentences rather than individual words in order to encourage Chinese students to group words of incoming speech. In other words, with chunking skills, the students could avoid listening to every single word. It also assists Chinese students practice ‘chunking’. Consequently Chinese students can improve listening comprehension in Thai. Furthermore, because ‘chunking’ is done according to syntactic boundaries, L2 students’ understanding of grammar is also enhanced.

3.20.7. Developing listening by teaching pronunciation

The difficulty in L2 listening comprehension might stem from pronunciation (Brown, 1977; Rixon, 1986; Field, 2003). For example, Brown (1977) claimed that English language learners going to Britain to study have problems understanding academic lectures because of lack of competency in pronunciation. They could not naturally pronounce reduced forms in connected speech. Then, it leads them to fail to recognize words and converting their meaning. Brown further suggested that the best way to help learners understand normal spoken speech is teaching pronunciation with connected speech so that L2 students learn to perceive reduced forms in running speech. Brown (1977) assumed speaking and listening as related. He argued the relationship between tone units and other linguistic units.
He stated:

“The most general and important function of tone group division then must be seen to be the marking off of coherent syntactic structures which the listener must process as units” (Brown, 1977: 87-88)

Rixon (1986) and Field (2003) listed problem areas stemming from pronunciation in listening comprehension in English. These are (1) may not recognize a phonetic variation of a known word; (2) may know the word in reading but not in spoken vocabulary; and (3) may not segment the word out of connected speech. In order to overcome these difficulties, training pronunciation on prosodic features in connected speech can promote development of listening comprehension (Rixon, 1986; Field, 2003).

Gilbert (1995) also asserted that L2 learners complain that native speakers speak too fast. This problem arises because learners fail to recognize grammatical and discourse signals because they do not receive pronunciation training regarding the reduction or intonation patterns of English language speech.

Evidences of difficulty in listening comprehension is caused by pronunciation problems indicate that the teaching of each skill helps improve other skills of the language.

Most perception and production theories in L1 learners assume that perception must necessarily precede production (e.g. Best, 1995; Flege, 1995; Rochet, 1995; Flege, Bohn, & Jang, 1997). However, recent studies show that perception does not have to occur first in order for production to take place. In fact, production can precede perception (e.g. Goto, 1971; Sheldon & Strange, 1982; Underbakke, 1993; Beach, Brunham, & Kitamura, 2001; Baker & Trofimovich, 2006).

In studies on the acquisition of the English [r] and [l] by Japanese students, many researchers found that learners’ production accuracy actually outstripped their perception accuracy (Goto, 1971; Sheldon & Strange, 1982; Underbakke, 1993; Baker & Trofimovich, 2006). In one of these studies, Underbakke (1993) trained 39 Japanese speaking subjects to listen to pairs of stimuli to identify the distinction of [r]-[l] in synthetic speech perception and natural speech perception. Training involved nine sessions of 20 minutes each. The tasks were discriminatory. In the study, students had to decide whether the initial sound was the same or different. They
participated both pre and post tests in perception and production. The treatment group improved more than the control and they did better at identifying the difference when listening to synthetic speech than listening to natural speech. All six subjects who achieved more than 98% on producing the distinction [l]-[r] achieved 82 percent in perception, which shows that students “can learn to produce what cannot be heard” (Underbakke, 1993: 87).

One of the ways in which production training may help perception is that when L2 learners are trying to pronounce a new word, they go through a stage in which they have to exaggerate the sounds of the new word. Beach, Brunham, & Kitamura (2001) carried out a study with Greek/Australian English bilingual speakers perceiving unfamiliar speech contrasts in Thai in order to investigate if their speech production had any relationship to their speech perception. They found that “bilinguals who exaggerate the voicing differences between sounds when speaking, best perceive these differences when listening” (Beach, Brunham, & Kitamura, 2001: 232). They noted that “some people are more sensitive or attentive to phonetic features either in perception or production, and that this sensitivity generalizes from one to the other” (Beach, Brunham, & Kitamura, 2001: 232). According to Beach, Brunham, and Kitamura (2001), learners’ perceptual ability is related to the way they produce the L2, which reinforces the theory that production training can help L2 learners have more accurate perception.

3.20.8. Developing listening by discourse markers training
Discourse markers are cohesive ties that act as connectives and explicitly signal the structure of a piece of discourse. They are regarded as “organizational signal[s] that appear at the beginning and/or end of a unit of talk and [are] used by the speaker to indicate how what is being said is related to what has already been said” (Hansen & Jensen, 1994: 143). A unit of talk can be syntactic- the phrase or clause; or semantic- the proposition which means two speakers can say the same thing by uttering different sentences. Schiffrin (1987: 315) defined discourse markers as “proposing the contextual coordinates within which an utterance is produced and designed to be interpreted”.

Schiffrin (1987) and Carrier (1999) also claimed that discourse markers are related to syntactic and morphological modifications which can facilitate listening comprehension and help smooth spontaneous interaction between speakers through different roles. Both macro and micro discourse markers can facilitate on comprehension of academic lecture (Chaudron & Richard,
1986; Rubin & Thompson, 1994; Thompson, 2003). The micro-discourse markers (e.g. ‘and’, ‘so’, ‘well’) indicates links between sentences with the lectures (Chaudron & Richards, 1986). Macro discourse markers are essential for aiding students understanding about the subject matter (Chaudron & Richards, 1986; Thompson, 2003). The macro-discourse markers (e.g. ‘what I’m going to talk about today…’) of a lecture highlight the major information in the lecture and the sequencing or importance of that information.

Sadeghi and Heidaryan (2012) investigated the effect of teaching pragmatic discourse markers on EFL learners’ listening comprehension. This study was conducted with 50 EFL students in BA Level of University in Iran. The participants were randomly assigned to two groups: the experimental and control groups. Listening session was conducted for twelve weeks. In the Experimental class, discourse markers were taught but in the control class, discourse markers were not taught.

In designing of Sadeghi and Heidaryan’s intervention program, it included 12 weeks, 14 lecture sessions (reference: the Enemy stage 6, short stories). The duration of each session was 45 minutes. Each chapter was started by mentioning and discussing the particular discourse markers used in that specific lecture. The structures of the lecture as well as transition stages in the lectures were often indicated through the use of discourse markers such as ‘let us look at the following’. These devices work at a discourse level and are not dependent on the smaller units of talk (sentences) of which discourse is composed.

Pre and post tests were taken from TOEFL listening tests. Means of the pre and post tests were used to investigate whether teaching of discourse markers has an effect on EFL learners listening comprehension. Based on analysis and description of data, results showed that the two experimental and control groups had a performance difference from each other in the pretest and posttest of this study.

The mean scores in the posttest of listening comprehension for the experimental and control were 63.40 and 44.60 respectively. The experimental group outperformed the control group on the posttest of listening comprehension.

Their findings reveal the fact that discourse awareness affects the learners' language comprehension. This finding concurs with studies of Cheng and Steffensen (1996) and
Intraprawat and Steffensen (1995) who have come to the conclusion that students’ listening is improved when they listen to a text with an awareness of discourse makers.

3.21. Summary

The literature review conducted in this chapter contains a great deal of information from a number of fields of study on a number of mechanisms or procedures that might benefit learners in their attempt to learn a foreign language (FL) or second language (L2).

Reviews of characteristic of academic listening and listening difficulties encountered by foreign language students when listening to an academic lecture suggest that the basic problems that foreign language students encounter in general conversational listening tasks would cause problems in academic settings (Ferris & Tagg, 1996; Ferris, 1998). English is considered as a stress-time language. In stress-timed languages, vowel and tone reduction occur in an unstressed syllable (Dauer, 1983; Roach, 1983). Foreign language students could encounter difficulty in perceiving English rhythm. They could face a trouble in processing reduced form and prosodic levels in English (Richards, 1983).

Thai is classified as stress-timed (Luangthongkum, 1977; Dauer, 1983). Like English, as a stress-timed language, Thai rhythm can cause difficulty to foreign language learners, especially syllable timed language speakers. As mentioned in the background chapter, fluent Thai speech is usually fast and not every word is stressed and clear pronounced. Consequently, Thai tones are not actually pronounced in complete forms but rather are generally spoken in reduced forms (Teeranon, 2002). This phenomenon could cause L2 learners of Thai have difficulty perceiving these reduced tones.

As a foreign language learner, Chinese students might encounter unfamiliar pronunciation difficulty when listening to Thai texts. This difficulty comes from their phonological sieve in their mother tongue (Trubetzkoy, 1939). Therefore, when learners perceive foreign language sounds with the ‘sieve’ of their mother tongue, they do not appropriately select what is needed in perceiving the foreign sounds (Trubetzkoy, 1939). TAP with SEA, therefore aims to help Chinese students reduce the sieve from their mother tongue. Otherwise, Chinese students would remain ‘deaf’ to Thai sound system.
TAP with SEA employed teaching practices based on SEA’s principle designed by Zhang (2006) to train Chinese students’ Thai prosody in order to improve their listening and speaking performances in Thai.

SEA is an active approach to teach and learn a foreign language. SEA (Zhang, 2006) benefitted from research findings from diverse fields such as cognitive psychology, socio-psychology, L1 acquisition, Second Language Acquisition, neurology, biology, and Verbotonal system of phonetic correction (VTM) (Renard, 1975).

Underlying the method is the conviction that all language use has evolved from spoken language, and that speech is a social event. Furthermore, the ‘meaning’ of speech is transmitted not only by linguistic elements, but also by the auditory and visual information present in the rhythm, intonation, loudness, tempo, pauses, the tension, and gestures of the speaker.

The SEA method is designed from findings on the usefulness of prosody in speech perception and production of infants. For example, rhythm affects infants’ ability to discriminate two speech sounds (Jusczyk, Copan, & Thompson, 1978). Prosodic cues facilitate infant’s discrimination of a phrase boundary (Jusczyk et al., 1992). Infants use their sensitivity to the correlated acoustic cues which mark linguistic boundaries to discover information about the syntactic structure of their language (Gleitman & Wanner, 1982; Gleitman, et al., 1988; Kemler, et al., 1989; Mandel, et al., 1996). Infants use prosody to form representations of syntax (Mehler, et al., 1995). The root processes of parsing such as syllable segmentation, grammatical categorization and phrase bracketing are all acquired by infants through the context of prosody (Morgan, 1996). Infants use prosodic packaging of clausal unit to facilitate their memory for speech information (Mandel, et al., 1994; Mandel, et al., 1996; Jusczyk & Hohne, 1997; Jusczyk, Goodman, & Baumann, 1999).

With understanding of the positive role of prosody on first language (L1) acquisition, the material used in pronunciation trainings in SEA for foreign language learners are based on sentences with all the aspects of intonation preserved. Moreover, SEA suggests that teachers should also employ authentic sentences with the intonation and stress in pronunciation training. For the reason that, pronunciation training on suprasegmental features of the new language not only would facilitate the acquisition of the language sounds, it would also facilitate the exploration of the syntactic system of the new language as well. Focusing on prosodic features
not only can enable the transfer of learning gained in the classroom to spontaneous speech production but also to speech perception.

This thesis contends that classroom methodology based on SEA principles is more likely to achieve better results in learners’ L2 speech production and perception than the traditional training (such as minimal pairs, reading aloud with a citation form, and listening to simplified texts at slow speed). The aims of this thesis are first of all to construct such a learning environment and then to investigate the efficacy of such an environment. In the next chapter, a detailed description of the study is presented including a detailed description of TAP with SEA method.
Chapter 4 Toward a Somatically-Enhanced Approach (SEA) in intensive Thai course for academic purposes (TAP)

4.1. Introduction

This chapter consists of the following sections: (1) the characteristics of SEA in TAP; (2) classroom method for TAP; and (3) a discussion of the use of course data CD.

4.2. Characteristics of the Somatically-Enhanced Approach (SEA) in Thai course for academic purposes (TAP)

The characteristics of the Somatically-Enhanced Approach (SEA) in Thai course for academic purposes (TAP) are as follows:

1. TAP with SEA aims to weaken the phonological sieve of one’s native language in a target language (TL). Therefore comparison of phonetic systems of Thai and Mandarin which seems to be highly detrimental as it activates the mother tongue sieve (Zhang, 2006; Buranapatana & Zhang, 2008a, 2008b, 2012) is avoided. Any kind of Romanization Thai phonetic symbols or Royal Thai General System of Transcription are deliberately and intentionally not used at all in TAP.

Moreover, with different rules between Thai phonetic symbol and Pinyin, Chinese students inevitably activate their intellectualization to memorise the description of each phonetic symbol in Thai before starting learning Thai language. For example, Thai phonetic symbol [b] is a voiced consonant sound in Thai. Conversely, Pinyin, one type of Romanization in Mandarin [b] is a voiceless consonant sound. Students being untrained in hearing differences between voiced or voiceless sounds upon seeing [b] in Thai Romanization would immediately pronounce it as the voiceless [b] in Chinese, their mother tongue.

2. TAP with SEA emphasises on pronunciation practices in order to improve students’ speech production and perception.

A possible reason for slow recognition in listening comprehension is that L2 students could not match the sounds they heard with any script in their long-term memory. This inability might start
from the way L2 students learn a new word. L2 students had learnt by memorizing the spelling of words and often neglected to remember how the words sounded. ‘Sound-to-script relationships’ (Goh, 2000) in L2 students’ long-term memory might not be fully automatized.

Another possible explanation for this problem is that ‘word-referent relationships’ (Goh, 2000: 21) might not be automatized. That is L2 students knew the words but were too slow when activating this knowledge.

Pronunciation practices that were derived from research in English language learning as a foreign/second language used in teaching Thai as a foreign language in recent years has hampered not just the students’ ability to pronounce words, but also their fundamental physical capacity to process the language through perception. Pronunciation should be taken more seriously, not just for its own sake, but as the basis for speaking and listening comprehension.

3. The design of SEA is to encourage a direct experience of TL. To this end, TAP with SEA motivates L2 students by using physical movements and gestures in the teaching of prosody of a L2. Students learn how to physically, not just mentally produce language in its optimal prosodic contexts. “The exaggerated nature of the movements and gesture certainly created very strong memory traces in the students” (Zhang, 2006: 297). This would also lead Chinese students individually to discover new strategies in dealing with texts in both spoken and written academic lectures.

4. Prosody training activities in this course focus on phrases, sentences rather than individual words or lexical tones.

In Thai language, rhythm and stress in connected speech have influence on sound changes in tones and vowels (Noss, 1972). The unstressed or reduced form has an effect on sound changes, especially in tones. Therefore, Prosody training activities in TAP focus on rhythm and stress in phrases, sentences in order to prioritise, in the mind of students, the essential role of rhythm and stress in Thai.

5. TAP with SEA believes that training Thai prosody in a discourse level can assist Chinese students to practice ‘chunking’ thus leading to improve Chinese students’ listening comprehension (refer to section 3.20.6).
The SEA method is designed from findings on the usefulness of prosody in speech perception and production of infants in L1. For example, rhythm affects infants’ ability to discriminate two speech sounds (Jusczyk, et al., 1978). Prosodic cues facilitate infant’s discrimination of a phrase boundary (Jusczyk, et al., 1992). Infants use their sensitivity to the correlated acoustic cues which mark linguistic boundaries to discover information about the syntactic structure of their language (Gleitman, et al., 1988; Gleitman & Wanner, 1982; Kemler Nelson, et al., 1989; Mandel, et al., 1996). Infants use prosodic packaging of clausal unit to facilitate their memory for speech information (Mandel, et al., 1994; Mandel, et al., 1996; Jusczyk & Hohne, 1997; Jusczyk, et al., 1999). With understanding of the positive role of prosody on first language acquisition, the material used in TAP with SEA for Chinese students were based on sentences with all the aspects of intonation preserved.

With training prosody in discourse levels, Chinese students could practice their chunking process. Besides, through the discourse, Chinese students could practice how to identify phrase and sentence boundaries with prosodic cues.

Prosodic cues help segment the speech stream into syllables, words, phrases and sentences (Cutler, Dahan, & van Donselaar, 1997). They also emphasise salient information to facilitate understanding (Bolinger, 1978). Chunking by using prosodic clues help listeners reduce their memory load. That is because they could retain the received information until more complex syntactic and semantic interpretation processes occur (Speer, Crowder, & Thomas, 1993).

6. Grammar teaching in SEA is implicit.

Zhang (2006) explained:

“With prosodic features such as intonation patterns, stress, and intensity preserved and taught in relevant contexts, students not only learned the correct tones they also learned rules about stress, pauses, intonation and grammar implicitly” (Zhang, 2006: 290).

Thus, discussions about grammar are carried out during the subsequent tutorials, not in the sensitization session. Explanation and illustration of grammatical patterns in TAP with SEA are always conducted in their relevant contexts in order to tell when and how a particular sentence
pattern is used and how the meaning of that sentence is particularly influenced by the particular grammar patterns.

7. Speaking and listening are considered as priority. TAP with SEA puts priority on speaking and listening rather than reading and writing. As mentioned before, listening has been regarded as the most frequently used language skill in academic lectures. It plays even more important role in one’s academic success than the reading skills (Conaway, 1982; Powers, 1985).

8. To train students’ perception in TL in their individual study outside class, TAP with SEA used CD-ROM technology in the provision of learning materials.

Not only Chinese students in TAP were provided with the printed version of the text file for their own note taking, they were also provided with a data CD and audio CD. The provision of data and CD and audio CD was designed to make the preparation and review of the specific learning content each week in their individual study outside class easier by allowing them to meet their personal learning needs and allows learners to follow their goal. Data CD and audio CD used in TAP contained a number of multimedia objects such as sound files, texts, interactive exercises created with the hot potatoes software (https://hotpot.uvic.ca/) and accompanying worksheets. The detail of course data CD will be presented in section 4.4.

4.3. Classroom procedure for the intensive Thai course for academic purposes (TAP)

4.3.1. Classroom procedure

Activities in TAP were concerned with focusing on prosody such as tone, rhythm, and intonation of Thai language not on consonant or vowel. All linguistics items were presented in commonly occurring situation contexts so that students were engaged in meaningful and useful language practices. The smallest unit of the language being presented in TAP was a sentence rather than individual syllables, words or compounds. This is because in Thai language, the acoustic characteristics of the words change when they are in a sentential environment. For instance, when a word is read in isolation, the tone of the word is different from when the word is part of a sentence (Luangthongkum, 1977; Luksaneeyanawin, 1983, 1998). Concentrating one’s effort in mastering the tones of individual syllables, words or compounds does not guarantee success in producing the sentences containing those words (Zhang, 2006).
As the aim of this study is to aid intelligibility in Chinese students’ oral production and reinforce their listening comprehension to a level sufficient to grasp the subject matter of academic lectures, SEA in TAP emphasised more on prosody and discourse level than on a word level. Discourse markers could be both implicitly and explicitly taught. Chinese students could raise their awareness on the role of discourse markers in listening comprehension. As cues, these discourse markers would help the learners form a coherent mental map and comprehend lectures (Chaudron & Richards, 1986; Flowerdew & Tauroza, 1995; Jung, 2003; Thompson, 2003).

Based on evidence from (i) Verbotonal system of phonetic correction; (ii) relaxation technique in Suggestopaedia; (iii) therapeutic uses of movement for speech; (iv) exaggeration in pronunciation training; (v) learning through multi-modalities; (vi) learning language through interactions; and (vii) SEA for teaching foreign language prosody, TAP with SEA was conducted in three phases: (1) the sensitization phase; (2) the consolidation phase; and (3) the utilization phase.

4.3.1.1. The sensitization phase

Zhang (2006) used the sensitization session to teach Mandarin prosody during the first two hours of her five hour class contact every week. She pointed out that the prosodic aspects of Mandarin are highlighted in the sensitization session.

Zhang (2006) stated that activities in this session would give students opportunity to “practise intensively their newly-learnt articulatory patterns in order to develop a ‘feel’ for them and at the same time fixing in their long-term memories acoustic models of the sound(s) being learnt” (Zhang, 2006: 149).

The intensive Thai courses for academic purposes was conducted three times a week (1 hour every Tuesday and Wednesday and 2 hours every Friday). The sensitization session in TAP was conducted in the 1st hour of the 4-hour-class contact every week. Based on Zhang’s study (2006), the sensitization session in TAP was conducted as follows:

Step 1: Relaxation

According to Lian (1980), one of the major problems encountered by foreign language learners is that they attempt to produce utterance in the foreign language while, at the same time
unconsciously, employing set of movements which normally functions in their mother tongue. As a result of this, they fail to reproduce the appropriate stress patterns of the foreign language in question. Zhang (2006) argued the way to reduce such muscular conditioning.

She stated:

“Relaxation techniques appear to be an effective way of reducing, if not eliminating, such conditioning so that it can be replaced with another set of muscular tensions and movements” (Zhang, 2006: 153).

As Lian (1980 cited in Zhang, 2006) noted:

“Relaxation of the body will bring about a lowering of conscious and unconscious resistance to the learning of a FL. Speech and the productions of sounds appear to be the result of the muscular behaviour of the body as a whole which, with appropriate reinforcement, has given rise to a number of set patterns of muscular contractions. If these still operate when one attempts to learn the articulatory patterns of a FL, then the resulting articulatory sequences will be deformed, sometimes beyond recognition” (cited in Zhang, 2006: 152).

The first step of the sensitization session in TAP, therefore, is the relaxation procedure. Bancroft (1978 cited in Zhang, 2006) pointed out that with relaxation, the rate of learning is 2.5 times better than under ordinary teaching conditions. Since the classroom is a social site of learning, lowering the learner’s level of inhibition can also make the learners’ egos more permeable (Guiora, et al., 1972). Zhang (2006) also suggested that relaxation can bring a lowering of conscious and unconscious resistance to the learning of a FL. It can reduce the language shock experienced by many learners especially when they are required to speak in the FL as well.

The relaxation step in TAP followed the method used in Zhang’s study (2006). By following Zhang’s study (2006), in the first step of the sensitization session, the teacher asked students to relax by lying on their backs on the floor. Then, the teacher carried out mind-calming exercises for some five minutes.

The following is a description of the relaxation phase of the sensitization session conducted in the study:
It was 10.00 am in a medium size lecture room where tables and chairs were removed to the back of the room in order to leave as much space as possible. Teacher first greeted the class cheerfully students ‘สวัสดี’ [sa wàt di] (Hi every one!). To assure whether Chinese students understand the teaching process, the teacher asked an interpreter to give the first instruction in Mandarin language to the class.

“Now, everyone lies comfortable on the floor and listen” The audio file ‘little white cloud’ was played in Chinese.

The following is a description of the ‘little white cloud’ exercise which Zhang (2006) used in her class.

“Imagine that you are lying on your back on the grass on a warm summer day and that you are watching the clear blue sky without a single cloud in it (pause). You are lying very comfortably, you are very relaxed and happy (pause). You are simply enjoying the experience of watching the clear, beautiful blue sky (pause). As you are lying there, completely relaxed, enjoying yourself (pause), far off on the horizon you notice a tiny white cloud (pause). You are fascinated by the simple beauty of the small white cloud against the clear blue sky (pause). The little white cloud starts to move slowly toward you (pause). You are lying there, completely relaxed, very much at peace with yourself, watching the little white cloud drift slowly toward you (pause). The little white cloud drifts slowly toward you (pause) (Bancroft, cited in Zhang, 2006: 152)

You are enjoying the beauty of the clear blue sky and the little white cloud (pause). Finally the little white cloud comes to a stop overhead (pause). Completely relaxed, you are enjoying this beautiful scene (pause). You are very relaxed, very much at peace with yourself, and simply enjoying the beauty of the little white cloud in the blue sky (pause). Now become the little white cloud. Project yourself into it (pause). You are the little white cloud, completely diffused, puffy, relaxed, very much at peace with yourself (pause). Now you are completely relaxed, your mind is completely calm (pause), you are pleasantly relaxed, ready to proceed with the lesson (pause)” (Zhang, 2006: 152).

The audio file ‘little white cloud’ used in TAP was played in Chinese.
“请想象一下，在一个温暖的夏日，你正躺在草地上，看着纯净的蓝蓝的天空，空中没有一片云彩（停顿）。你很舒服地躺着，你感觉非常轻松和快乐（停顿）。你尽情享受这一过程，看着洁净的、美丽的蓝天（停顿）。当你躺在那里时，你完全地放松下来，感到很愉快（停顿），在遥远的地平线处，你发现了一朵小小的白云（停顿）。你被它深深吸引，干干净蓝天下的一朵小小的白云有着一种简单的美丽（停顿）。白云开始向你慢慢地飘来（停顿）。你躺在那儿，完全放松，内心非常平静，看着白云向你缓缓飘来（停顿）。白云向你缓缓飘来（停顿）。

你正欣赏着干干净蓝天和白云的美丽（停顿）。终于白云在你的头顶上方停住（停顿）。非常轻松，你欣赏着这美丽的画面（停顿）。你完全放松，内心非常平静，静静地欣赏着蓝天白云的美丽（停顿）。此刻你变成了一朵白云。把自己变成它（停顿）。你是一朵白云，完全散开，蓬松，放松，内心非常平静（停顿）。现在你已经完全放松，你的内心完全平静下来（停顿），你感到轻松快乐，准备好开始上课（停顿）。”

**Step 2: Humming**

As the input and output of the language uttered mutually reinforce each other, Zhang (2006) suggested that three factors must be considered to maximize the benefit of production and perception. First, such a structure should be relatively easy to produce. Second, humming allows learners to develop a much better perception of the prosody patterns concerned with exposure delay of consonant and vowel. Humming is of the utmost importance in the acquisition of the tones, intonation and rhythm (Lian, 1980). Zhang (2006) suggested that the removal of vowel sounds is particularly important for foreign language learners because it forces learners to prioritise tones, intonation and rhythm of TL.

Similar to Zhang’s study (2006), during this step in TAP, consonants and vowel sounds were removed so that Chinese students were forced to prioritise the tones, intonation and rhythm of Thai. During this procedure, Chinese students and the teacher walked around in circles and hummed along to the intonation of the sentences without vowels and consonants. Students were asked to listen to the hummed model by the teacher. Then they were asked to repeat by ‘humming along’ to the intonation. This was done 5 times.
Miller (1956) suggested that most people can remember seven items. Some people can remember more, usually eight or nine items. Others, on the other hand, can remember less, usually five or six. Newport’s ‘Less is More’ principle (Newport, 1990) was also implemented in each humming sentence in order to enhance students’ aural experience of the TL speech stream. Miller (1956) and Newport (1990) suggestions, the structure of each sentence in TAP’s materials contained no more than 7 syllables in length so as not to overwhelm students’ short term memory.

During this step, the teacher must not start by modelling or reciting the target sentence. As a result of this, L2 learners would pay attention to only prosody features without the interference of consonants and vowels. This was particularly important in this study because as intermediate L2 learners learning Thai, some entrenched tonal errors in students’ perception and production of Thai needed to be explicitly addressed.

**Step 3: clapping to the rhythm of the sentences**

In this step, the teacher clapped to the beat and rhythm of the sentences according to the stress and discourse features of the sentence, and then asked students to follow.

In teaching the sentence ‘คุณชื่ออะไร’ [khun chūː? raj] (What is your name?) in Thai, if L2 learner only learns this through reading then it is highly likely that he/she would always introduce a pause in between [ʔa] and [raj]. However, in prioritising the spoken over the written language in this course, the teacher would demonstrate the beat of this sentence by providing a beat for that group of words [ʔa raj], thus indicating that these words go together in normal speech. Moreover, as a stress-timed language, not only the teacher needed to demonstrate the number of beats in the sentence ‘คุณชื่ออะไร’ [khun chūː? raj] (What is your name?), she also needed to show a rhythm of each syllable in this sentence with soft (unstressed syllables) and loud (stressed syllables) beats. Here is how the teacher demonstrated the sentence:

<table>
<thead>
<tr>
<th>กู๋น</th>
<th>ชื่อ</th>
<th>อะไร</th>
</tr>
</thead>
<tbody>
<tr>
<td>[khun]</td>
<td>[chūː?]</td>
<td>[ʔa]</td>
</tr>
<tr>
<td>1 beat</td>
<td>1 beat</td>
<td>2 beats</td>
</tr>
<tr>
<td>Loud beat</td>
<td>Loud beat</td>
<td>Soft beat</td>
</tr>
</tbody>
</table>
Clapping allows students to experience the rhythm of the sentence and observe different groupings of the words in a sentence (Zhang, 2006). This also enables them to observe the key words in a sentence and realize that not all words are of equal value. Thus, clapping to the rhythm of the sentences is essential in equipping foreign language learners with the strategies of prediction and advanced planning in listening comprehension.

**Step 4: Incorporation of movement and gesture**

When a person speaks, it would appear that his/her body moves both consciously and unconsciously to emphasise the prosody of the utterances (Lian, 1980; Zhang, 2006). Body movement cannot be excluded from the speech production. Movement and language therefore appear inextricably linked with one another (Lian, 1980; Zhang, 2006).

Each language has its set of typical patterns of body movement. The patterns of body movement in a language relate to how tense the muscles in one’s body are when producing that language. Therefore, in order to overcome the difference in the fundamental frequencies (F0) of tones and the difference between the average frequency range of Thai and Mandarin tones (Coster & Kratochvil, 1984), Chinese students’ bodies would require extensive retraining when speaking Thai.

For example, since the average frequency range of Thai tones is narrower than that of Mandarin when producing Thai tones, the vocal ligament might be less tensed than when producing Mandarin tones. Therefore, it would be necessary for Chinese students to decrease the general body tension of students through relaxing their muscles when speaking Thai. With incorporation of movement and gesture, the students need not rely wholly upon their auditory perception in order to locate and analyse errors. Chinese students would be able to see if body tensing movements occurred when they should not or whether self-synchrony was lacking. By allowing learners to learn through body movement and gesture, Chinese students could change the way they carry themselves and their proprioception. Zhang (2006) argued that learning through body movement and gesture, L2 students have managed to lessen the impact of the mother tongue ‘sieve’.

The gestures have been developed to produce the various tensions of the five tones of Thai as described below:
**Mid tone:** requires the vocal cords to be lax and to be kept lax.

As mentioned in Chapter 3, section 3.17.2.1, Thai tone error analysis of Chinese students’ speech production in TAP revealed that Chinese students made most errors with the mid tone. Therefore, it seemed necessary to correct the production and perception of the mid tone in the training process.

In order to emphasize the relaxed nature of mid tone in Thai, when training learners to produce this tone using the correct tension in the muscles, teacher used only words with mid tones in the whole sentence. This way, L2 students would undergo prolonged training of relaxing the requisite muscles when speaking the mid tone.

**Table 4.1: A sample training sentence for the mid tone**

<table>
<thead>
<tr>
<th>เย็น</th>
<th>วัน</th>
<th>แดง</th>
<th>ไป</th>
<th>ชื่อ</th>
<th>เงิน</th>
<th>คุณลุง</th>
<th>มา</th>
</tr>
</thead>
<tbody>
<tr>
<td>[yen]</td>
<td>[wa:n]</td>
<td>[deːŋ]</td>
<td>[paj]</td>
<td>[yuː:m]</td>
<td>[ŋɔn]</td>
<td>[khun]</td>
<td>[luŋ]</td>
</tr>
<tr>
<td>Mid</td>
<td>Mid</td>
<td>Mid</td>
<td>Mid</td>
<td>Mid</td>
<td>Mid</td>
<td>Mid</td>
<td>Mid</td>
</tr>
</tbody>
</table>

*Daeng borrowed money from his uncle in yesterday evening.*

**Low tone:** Require the vocal cords to be lax first and then suddenly tense.

To produce the low tone, the vocal cords need to be lax and suddenly tense in order to keep it level. To change from lax to tense muscle very quickly, students were instructed to adopt a forward slumping of the shoulders as the production of the low tone. Then suddenly students needed to lower their hands down about 15 degree. To allow students to undergo prolonged low tone training, the teacher used only low tones in a whole sentence.

**Table 4.2: A sample sentence used in training to perceive and pronounce the low tone**

<table>
<thead>
<tr>
<th>บ่ำยหนึ่ง</th>
<th>ไก่</th>
<th>ออกไข่</th>
</tr>
</thead>
<tbody>
<tr>
<td>[bà:j]</td>
<td>[nünk]</td>
<td>[ʔkàj]</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

*A hen laid eggs at one o'clock in the afternoon.*

The mid and low tones are the most difficult to discriminate, even for native speakers of Thai (Wayland & Guion, 2004; Sathiansukon, 2005, 2007; Sittikesorn, 2005). To aid students’ perception between mid and low tones, teacher also used both words with mid and low tones in the whole sentence after students knew how to produce each tone separately. Normally, the final
syllable or word in a sentence is stressed thus making it louder. Therefore, to aid L2 learners’ perception of low tone, the stressed form of a word with low tone was used as the final syllable to illustrate the difference between mid and low tones.

Table 4.3: A sample sentence contrasting mid and low tones

| แดง | คืน | เงิน | ตอนบ่ำย |
| [dɛŋ] | [kʰuːn] | [tɔn] |  bà:j |
| Mid | Mid | Mid | Low |

*Daeng returned money in the afternoon.*

It seemed to be necessary to reemphasize the perceptual differences in mid and low tones in the training process by using a tone pattern ‘mid-low tone pair’ in a whole sentence. A word with the mid tone was placed as the first word of a sentence, followed by the word with low tone.

Table 4.4: Another sample sentence contrasting mid and low tones

| แดง | บอก | ตอนบ่ำย | คุณตี่ | ไข่ |
| [dɛŋ] | [bɔːk] | [tɔn] | [bà:j] | [kʰun] | [tʰː] | [kʰuːn] | [khàj] |
| Mid | Low | Mid | Low | Mid | Low | Mid | Low |

*Daeng told Mr. Te returned an egg in the afternoon.*

Producing these words side by side repeatedly was a strategy to allow students repeated opportunities to perceive the pitch differences in these tones and produce them experientially.

**Falling tone:** Require the vocal cord tense, and to be kept tense.

When pronouncing the falling tone of Thai, the teacher asked Chinese students to raise their hands up high, then quickly bring down their hand and arm. Similar to other tones, to allow students to practice this tone repetitively, the teacher used word only with the falling tone in the first sentence. Then, in the second sentence of the falling tone training, the teacher used a tone pattern ‘mid-low-falling tones’ in a whole sentence.

Table 4.5: A sample sentence used in training the falling tone of Thai

| แดง | บอก | ว่ำ | ฝำก | พี่ | คำ | ไข่ | ป้า |
| [dɛŋ] | [bɔːk] | [wâː] | [fà:k] | [phȋː] | [kʰuːn] | [khàj] | [pâː] |
| Mid | Low | Falling | Mid | Low | Falling | Mid | Low | Falling |

*Daeng told he asked his elder brother to return money to his aunt.*
**High tone:** The vocal cords are at first neither tense nor lax, then become tense rapidly. Both the high tone of Thai and Tone 1 of Mandarin are a high level tone. That means to produce a high tone in Thai, a speaker needs to adopt a forward slumping of the shoulders, then needs to slightly tense their hand pointing upwards. In order to emphasise this relax muscle while producing the high tone, the teacher used only words with a high tone in the whole sentence. The teacher used at least 3 sentences with only high tone words in order to allow students to undergo prolonged the high tone training. For example:

<table>
<thead>
<tr>
<th>Table 4.6: A sample sentence used in training the high level tone of Thai</th>
</tr>
</thead>
<tbody>
<tr>
<td>น้ำนิด</td>
</tr>
<tr>
<td>[ná]</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>Aunty Nit asked Aunty Ja to wash the car.</td>
</tr>
</tbody>
</table>

**Rising tone:** The vocal cords become lax immediately after tense, and then tense up again. To produce the rising tone, the vocal cords become lax immediately after tense, and then tense up again. This is similar to Tone 3 in Mandarin. Most Chinese students can pronounce this tone properly. To allow students to practice the rising tone repetitively, the teacher used word only with the rising tone in the first sentence.

<table>
<thead>
<tr>
<th>Table 4.7: A sample sentence used in training the rising tone of Thai</th>
</tr>
</thead>
<tbody>
<tr>
<td>หน่งหนิง</td>
</tr>
<tr>
<td>[nūŋ]</td>
</tr>
<tr>
<td>Rising</td>
</tr>
<tr>
<td>Nung-Ning sells movie tickets.</td>
</tr>
</tbody>
</table>

Then, in the second sentence of the rising tone training, the teacher used a tone pattern ‘mid-low-falling-high-rising tones’. For example,
Throughout this step, sentence translation was not needed. Moreover, comparing the phonetic systems of Thai and Chinese and English might activate the mother-tongue sieve in the task of learning Thai. In TAP with SEA, therefore, Thai phonetic symbols or any kinds of Romanization were not used.

Furthermore, sentences given in the exercises were not read, but repeated after they had been heard 5 times each in order to give valuable practice in listening comprehension.

**Step 5: Mouthing the words**

In this step, the teacher asked students to mouth the sentences along her. The teacher instructs students by saying “Continuing with the movements, now mouth the sentences while I say them out loud.” Zhang (2006: 162). During this procedure, students were asked not to say anything but merely to mouth the words.

Zhang (2006) pointed out that mouthing the words gives students the opportunity to practise the articulation of the sounds of the words without, in fact, placing them on a melodic background actually produced by themselves. This step should lead to a reduction in the number of articulation errors (Zhang, 2006). However, it is not implied that the prosodic elements of the sentences are no longer being practised. On the contrary, they are very much preserved and actualised, though not vocalised, through gesture.

**Step 6-7: Adding words to the intonation patterns and repetitive exercises**

Repetition exercises obviously provide reinforcement at both the perceptual and articulatory levels. The teacher then said “Now repeat after me, and then add word to the intonation”. The prosodic patterns were hummed again by the teacher for 5 times, and students were asked to say the sentences at the same time as they heard the prosodic patterns. The teacher then instructed each individual to repeat the sentence by themselves; checking that each student could reproduce the sentence correctly.

**Step 8 Checking for meaning**

During this procedure, translation and writing down the sentences were not needed. That is because translation could call for the conscious recall of the TL by comparing the two different grammatical systems (Zhang, 2006). Students might produce more errors in their spontaneous
speech due to the differences in the grammatical structures of the students’ mother tongue and TL. In teaching students to speak a L2, students have always been advised to ‘think’ in the TL. L2 students trained with SEA would be much more capable of ‘thinking’ in Thai language while speaking than students trained with translation exercises only. This is the reason why in SEA, translation is seldom used as a learning activity. However, at the end of the lesson, students were instructed to sit down and write down the meaning or whatever notes they wanted to make for themselves. At the end of each lecture, the whole class engaged in pair or group work in conversation activities using the materials covered in the lesson.

Before moving forward to the consolidation phase, the teacher ensured that every Chinese student was developing the necessary ‘feel’ for the language and self-synchrony. If incorrect perception of the prosodic structures had been detected, Chinese students or the teacher needed to take immediate corrective action. During this process, the teacher was in a position to help Chinese students correct their production and perception of the prosodic structures by exaggerating the model sentences or by using corrective gestures.

4.3.1.2. The consolidation phase

As previously mentioned, one aim of TAP is to improve Chinese students’ oral proficiency in Thai to achieve academic goals. To this end, TAP used communicative activities based on SEA’s principles in the consolidation phase. The consolidation phase was conducted every 2nd and 3rd hour of the 4 hour-class contact every week.

Littlewood (1981) suggested following activities to promote language acquisition.

- Using activities that engage students in real communication and promote learning
- Using activities where language is used in order to perform meaningful tasks and encourage learning
- Instilling a passion for the language in order to motivate them in the learning process

Based on Littlewood’s suggestion (1981) and SEA’s principles, TAP included a wide range of drama activities in order to reinforce Chinese students’ improvement on both pronunciation and oral skills.
1) The use of SEA through drama techniques

As mentioned before, this study focuses on using SEA for foreign learners in Thai at an intermediate to upper intermediate level in the intensive Thai course for academic purpose. With the Thai language proficiency of foreign learners being higher than Zhang’s subjects in her studies (Zhang, 2006; Buranapatana & Zhang, 2008a, 2008b, 2012), it is necessary to find effective pedagogical techniques to help develop Chinese students’ speaking and listening skills. Therefore, this research shifts from prosody training on a sentence level to prosody at a discourse level through drama.

In TAP, dramatic techniques were used to:

- address language at a discourse level;

- integrate speaking and listening skills;

- offer learners opportunities to re-cycle known language;

- engage learners in social interaction through pair and group works;

- promote collaborative learning;

- expand learners’ cognitive structures;

- create a relaxed atmosphere thus lowering their affective filter and build up their confidence;

- restore the balance between physical and intellectual aspects of their learning through body movement and gestures;

- create a multi-sensory environment to help learners retain and expand their memory.

2) Types of drama techniques used in TAP

In TAP, only four types of drama techniques were used. The drama activities in TAP are as follows:

2.1) Drama games

According to Wright, Betteridge, and Buckby (1983), games can be used to practice all four macro skills at all stages of the teaching or learning sequence and for many types of
communication. They also noted that games promote active student-centred learning. In other words, games provide opportunity for students to experience and practise using the language. Through games, students also can learn either through their own discovery or from the interaction with their friends.

Drama games as ‘minimal pair game’, ‘breathing to pause’, ‘rhythm and intonation games’, and ‘listening to pauses’ were used in TAP.

(2.1.1) Minimal pair game

According to Celce-Murcia, Brinton, and Goodwin (2010), minimal pair practice can be made contextualised in order to make the practice more meaningful. Cohen (1977) also claimed that to achieve intelligibility in communication, teaching only phonemes is not enough. TAP, therefore, used a minimal pair game in a sentence level. In this game, Chinese students were given a chance to do ear training for tone contrasts and choosing the correct alternative in sentences. The meaning of these sentences was also provided. For example,

<table>
<thead>
<tr>
<th>Pair 1: Minimal pairs between Mid tone and Low tone [pa:] – [pà:]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) พ่อบอกให้หยุดปำ [phò: jùt pa:] (A father stopped throwing something away.)</td>
</tr>
<tr>
<td>B) พ่อบอกให้หยุดป้ำ [phò: jùt pà:] (A father stopped an aunt to do something.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pair 2: Minimal pairs between Mid tone and Low tone [kaw]- [kàw]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) อย่ำใช้ไม้แขวนเสื้อเกำ [jà: châj màj khwâ:n sùnَ kaw] (Don’t use an old coat hanger to scratch it.)</td>
</tr>
<tr>
<td>B) อย่ำใช้ไม้แขวนเสื้อเก่ำ [jà: châj màj khwâ:n sùnَ kàw] (Don’t use an old coat hanger.)</td>
</tr>
</tbody>
</table>

(2.1.2) Breathing to pause

This game was used to increase students’ awareness of the breathing mechanism and ability to pause in the Thai language appropriately in long sentences.

Chinese students were given a set of sentences differing in length. Then, students had to produce each sentence in a single breath.
Table 4.10: A sample set of sentences differing in length used in TAP for pause training

<table>
<thead>
<tr>
<th>(i) เด็กชำยคนหนึ่ง</th>
<th>[dêk cha:l khon nûŋ] (One boy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ii) เด็กชำยน่ำรักคนหนึ่ง</td>
<td>[dêk cha:l náː rak khon nûŋ] (A lovely boy)</td>
</tr>
<tr>
<td>(iii) เด็กชำยน่ำรักคนหนึ่งใส่เสื้อสีแดง</td>
<td>[dêk cha:l náː rak khon nûŋ sàj sî dêːŋ] (A lovely boy is wearing a red shirt.)</td>
</tr>
<tr>
<td>(iv) เด็กชำยน่ำรักคนหนึ่งใส่เสื้อสีแดงและกำงเกงขำสั้นสีน้ำตำล</td>
<td>[dêk cha:l náː rak khon nûŋ sàj sî dêːŋ le kà:ŋ kʰâː sàn sî nām tâːn] (A lovely boy is wearing a red shirt and a brown short.)</td>
</tr>
<tr>
<td>(v) เด็กชำยน่ำรักคนหนึ่งใส่เสื้อสีแดงและกำงเกงขำสั้นสีน้ำตำลที่แม่ซื้อให้</td>
<td>[dêk cha:l náː rak khon nûŋ sàj sî dêːŋ le kà:ŋ kʰâː sàn sî nām tâːn tʰîː mēː sûː hâːj] (A lovely boy is wearing a red shirt and a brown short which his mom bought.)</td>
</tr>
<tr>
<td>(vi) เด็กชำยน่ำรักคนหนึ่งใส่เสื้อสีแดงและกำงเกงขำสั้นสีน้ำตำลที่แม่ซื้อให้จากห้างสรรพสินค้า</td>
<td>[dêk cha:l náː rak khon nûŋ sàj sî dêːŋ le kà:ŋ kʰâː sàn sî nām tâːn tʰîː mēː sûː hâːj càːk hâːŋ sàp pha sîn kʰâː] (A lovely boy is wearing a red shirt and a brown short which his mom bought from a shopping mall.)</td>
</tr>
<tr>
<td>(vii) เด็กชำยน่ำรักคนหนึ่งใส่เสื้อสีแดงและกำงเกงขำสั้นสีน้ำตำลที่แม่ซื้อให้จากห้างสรรพสินค้ากำลังกินไอศกรีม</td>
<td>[dêk cha:l náː rak khon nûŋ sàj sî dêːŋ le kà:ŋ kʰâː sàn sî nām tâːn tʰîː mēː sûː hâːj càːk hâːŋ sàp pha sîn kʰâː kàm lân kîn ?aj sa khriː:m] (A lovely boy who is wearing a red shirt and a brown short which his beautiful mom bought from a shopping mall where is near his house is eating an ice-cream.)</td>
</tr>
<tr>
<td>(viii) เด็กชำยน่ำรักคนหนึ่งใส่เสื้อสีแดงและกำงเกงขำสั้นสีน้ำตำลที่แม่ซื้อให้จากห้างสรรพสินค้าที่อยู่ใกล้บ้านกำลังกินไอศกรีมและเค้กหนึ่งชิ้น</td>
<td>[dêk cha:l náː rak khon nûŋ sàj sî dêːŋ le kà:ŋ kʰâː sàn sî nām tâːn tʰîː mēː sûː hâːj càːk hâːŋ sàp pha sîn kʰâː kàm lân kîn ?aj sa khriːːm le kʰê:k nûŋ tɕîn] (A lovely boy who is wearing a red shirt and a brown short which his beautiful mom bought from a shopping mall where is near his house is eating an ice-cream and a piece of cake.)</td>
</tr>
</tbody>
</table>

Then the teacher asked Chinese students to read these sentences again. This time, the teacher asked Chinese students to notice what happened when they were about to run out of breath. Then
the teacher asked the students to mark such pauses in the sentences with a single slash mark (/) in the places where it would make sense to pause. After the students put a single slash mark to indicate their pause location, the teacher explicitly taught an appropriate location of pause. The teacher also related the location of pauses to meaning and grammar.

(2.1.3) Listening to pauses:

The transcript of a listening text containing no spaces between words, phrases, clauses, or sentences was provided to students. Chinese students were then asked to listen to the listening text and put a single slash (/) at clause and sentence boundaries. This activity was to raise Chinese students’ awareness on the placement of pause and its role on syntactic and discourse structures of sentences. At the end of this exercise, the teacher explicitly taught an appropriate location of pause.

(2.1.4) Prosody games with exaggerated voice

Prosody games with exaggerated voice were used to practise stress, rhythm and intonation. For example, ‘emphasis-shift activities’ were used to practice shifting the intonation focus of utterances depending on the new/given status of intonation during the development of discourse.

In this game, Chinese students worked in pairs. Student A received a mission card which had several interrogatives (who, where, when, what, etc.) written on it in a specific order-and a sentence card-on which was printed one sentence which included several adverbial elements. An example is ต้นนั่งรถเมล์ไปโรงเรียนตอนเช้า [tôn nâŋ rót me: paj roːŋ rian tɔːn chá:w] (Ton went to school by bus this morning). Student A’s task was to repeat the sentence several times, varying the position of intonation focus each time according to the order of interrogatives on the mission card. For example, if student A’s card read "Where-Who-How-When" in that order, she would utter:

| [tôn nâŋ rót me: paj roːŋ rian tɔːn chá:w] | Ton went to **SCHOOL** by bus this morning. |
| [tôn nâŋ rót me: paj roːŋ rian tɔːn chá:w] | TON went to school by bus this morning. |
| [tôn nâŋ rót me: paj roːŋ rian tɔːn chá:w] | Ton went to school by **BUS** this morning. |
| [tôn nâŋ rót me: paj roːŋ rian tɔːn chá:w] | Ton went to school by bus this **MORN**ing. |

Student B’s task, then, was to write down the appropriate interrogatives in the correct order as suggested by A’s delivery (and, of course, to practice saying the sentence appropriately). If
student B matched the order of interrogatives correctly, the pair could earn a point. Play continued with other sentences. The pair with the most correct matches in the end would be the winner.

2.2) Poem

Few language materials can give a better sense of rhythm and melody of a language than poems. Moreover, a marked rhyme or an emphatic rhythm tends to stick to their minds (Maley & Duff, 2005).

Holmes and Moulton (2001) suggested that poems should be used in language teaching. First language children are often introduced to poetry early in their lives by parents, grandparents, and other caretakers who chant nursery rhymes before the children have any consciousness of linguistic forms. Many children learn their first words from poems because the sounds of poetic language. The patterns of rhythm and rhyme in poems attract children’s interest and make them listen carefully. When children hear nursery rhymes, they hear the sounds vowels and consonants that are made. They could learn how to put these sounds together to make words. They also have the opportunity to practice pitch and rhythm of language (Holmes & Moulton, 2001).

In TAP, the 40 poems composed by the researcher were used as comprehensive practice of pronunciation in order to improve the prosody of students’ speech. When reading poems aloud, students need to know where to pause in sentences. If pauses are not put in the right places, the listener would have difficulty processing the meaning of the sentences, even if the individual words are pronounced well. Rhymes in a poem also provide clear examples of rhythm in Thai words and sentences. In order to say rhyme well, students also have to stress certain words and weaken others. Thus, Chinese students practiced how to produce reduced forms.

Falioni (1993: 98) stated that “Many people often remember rhyme, rhythm or melody better than ordinary speech”. Moreover, with the use of repetitive structure in poems, students were provided with opportunities to do pattern practice drills. Constant repetition is vital for the successful learning of a foreign language. Then learner will be able to memorise chunks of language and develop their formulaic language.
Buranapatana and Zhang (2012) stated:

“If a speaker can pull these formulas readily from memory, that is, if these utterances are automatized, fluency is enhanced” (Buranapatana & Zhang, 2012: 208).

SEA was designed from the benefit of research finding on the usefulness of prosody on infants’ speech perception and production and their language development (Mandel, et al, 1996). Prosodic cues also facilitate infants to discriminate a phrase boundary (Jusczyk & Derrah, 1987; Jusczyk, Hohne, & Bauman, 1999). Moreover, Mendelsohn (1994, 1995) suggested that when teaching L2 listening, teacher should encourage L2 learners to employ the same strategies that they use when listening in their L1. Therefore, TAP with SEA promoted the use of authentic contexts with the intonation, stress, and other prosodic patterns in order to enable Chinese students to discriminate a phrase, sentence and discourse boundary.

Three main cues that speakers across languages use to signal a prosodic boundary are a lengthening of the word before a prosodic boundary, a change in the fundamental frequency (F0), and/or the presence of a silent pause (Lehiste, 1975; Brazil, Coulhard, & John, 1980; Wightman, Shattuck-Hufnagel; & Ostendorf, 1992; Zvonik, 2003).

The poems used in TAP consisted of 4 lines and was composed by the researcher. Each line had 1 or 2 sentences with 6-10 syllables. Again, Newport’s ‘Less is More’ principle (Newport, 1990) was applied in each poem. That means each poem allowed Chinese students to process fewer sources of information than usual in order to enhance students’ aural experience of the TL speech stream.

During reading the poem aloud, Chinese students needed to put short pause at the end of a phrase or a clause. When finished with each line of the poem, Chinese students needed to use a longer silent pause and falling intonation. By using the poem, prosodic cues for identifying sentence boundary are explicitly taught.

Table 4.11: A sample poem used in TAP

<table>
<thead>
<tr>
<th>Line 1: เย็นวานแดงไปยืมเงินคุณลุงมามา</th>
<th>yen wa:n (SHORT SILENT PAUSE) de:n paj yu:m nan khun lu:j ma: (LONG SILENT PAUSE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Daeng borrowed money from his uncle last night.)</td>
<td>(Daeng borrowed money from his uncle last night.)</td>
</tr>
</tbody>
</table>
2.3) Guided role-plays and improvisation

Role play is used for enhancing oral skills in TAP. In this activity, students were assigned to take different character’s roles. In order to take a role, students were required to interpret the situation and the character’s feeling, thought, or action in order to take on their role properly. Then they had to write a drama script based on the situation and the character’s feeling. By working into a scenario and drama script, students were able to learn language used in different situations, with different types of register and formality (Livingstone, 1983; Cook, 2000; Ladouse, 1987, 2004).

Through doing role play, learners can use their previously learned language and use it in more authentic ways (Ladouse, 1987, 2004). In some role play activities of TAP, teacher provided Chinese students with a script written by the teacher. Then Chinese students needed to memorize, rehearse and perform. While rehearsing, the students needed to make sure their pronunciation was correct, and the teacher always walked around the classroom to help individuals. These students also needed to add proper intonation and gestures in order to convey the message more vividly. In some activities, students needed to design their roles and make their own scripts, then, rehearsed them before the presentation stage. In some activities, Chinese students were asked to perform simultaneously, without rehearsal and script. However, to lessen the students’ anxiety, before the presentation stage, a short preparation time was provided. Both dramatic dialogue and monologue were used in role play. However, script memorization was not a priority in role play.
The content of role plays provided L2 students opportunities to practice the use of discourse markers in conversations. The correct use of discourse markers are important for listeners because discourse markers are generally assumed to signal relations among propositions or among sentences (Fraser, 1999; Knott & Sanders, 1998); they serve to link discourse structure (Schiffrin, 1987), or to indicate a return to a previous topic (Grosz & Sidner, 1986); they are indicators of topic continuation (Chaudron & Richards, 1986), and signs of the point at which there is a change from one topic to another (Hansen & Jensen, 1994).

To this end, discourse markers should be explicitly taught (Yoshimi, 2001; Hernández, 2008). Various discourse markers were used through poems and role-plays in order to allow Chinese students to experience first-hand the use of discourse markers in the utilization phase.

**Table 4.12: A sample role-play activity used in TAP**

<table>
<thead>
<tr>
<th><strong>Student A</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>This week is the first week for you in the university in Thailand. You want to attend an Academic English writing course for international students. This special course will be arranged every Saturday. You need to enquire the university secretary about:</td>
<td></td>
</tr>
<tr>
<td>- cost of the course/ payment</td>
<td></td>
</tr>
<tr>
<td>- lessons/ pre requisite/ levels/ number of lesson/ materials/ activities/ etc.</td>
<td></td>
</tr>
<tr>
<td>- teachers</td>
<td></td>
</tr>
<tr>
<td>- procedure to enrol</td>
<td></td>
</tr>
<tr>
<td>Thank the university secretary and close the conversation in an appropriate way.</td>
<td></td>
</tr>
</tbody>
</table>

**Student B**

You work as a university secretary at the university in Thailand. This week is the first week. A student wants to enrol Academic English writing course for international. You need to be prepared to answer questions about:

- cost of the course/ payment (where, how, etc.)
- lessons/ pre requisite/ levels/ number of lesson/ materials/ activities/ etc.
- teachers
- procedure to enrol (forms to complete, proof of identification, photograph, etc.)
2.4) Dramatic reading aloud by 2 or 3 persons

In this activity, L2 learners are provided with opportunities to experience how the language works in different contexts, with different purposes and audiences, and how to manipulate the language to serve each of those conditions (Hill, 1990).

This activity also provides a good opportunity for L2 learners to practice both speaking and listening as it allows L2 students to learn to project their voices, articulate better and use their voices expressively with intonation and inflection (Liu, 2000).

In TAP, dramatic reading aloud was not a spontaneous speaking activity. This activity aimed to encourage Chinese students not only to learn and experiment using Thai language in contexts but also to project their voices. When reading the drama scripts with acting and emotion, they could practice when they should pause and when should not.

Each group had 10 or 15 minutes to write and rehearse the script. The rehearsal process would improve accuracy and automaticity in word recognition (Barchers, 1993). While, one group did dramatic reading aloud, other groups needed to listen to the reading text in the performance. After one group finished dramatic reading aloud, as an audience, other group summarised the story. At the end of each activity in the consolidation phrase, teacher’s feedback was provided. For example, prosodic correction moved away from the traditional verbal correction such as “No, it’s wrong”, “This syllable should be the first tone and unstressed” to include provision of feedback through movement and gesture in the appropriate prosodic contexts. Throughout this feedback process, students are able to develop the ability to self-diagnose errors in prosodic features and in synchrony using steps practiced in the SEA classroom procedure.

4.3.1.3. Utilization phase

As discussed in Chapter 3, section 3.20.4, unlike conversational listening, academic listening is an act of listening that requires the skills of identifying the purpose and scope of a lecture, relationships among units within the discourses, and deducing meaning of words from contexts (Richards, 1983). Jordan (1997) agreed with Richard (1983) that listening and understanding, note-taking and asking questions are the most needed study skills in academic lectures.
TAP not only needs to help learners improve their speech production ability and lessen phonological sieve of their first language, it also needs to help them comprehend content matters in lectures. Moreover, it also assists Chinese students deal strategically with difficult tasks or texts in academic lectures. To this end, utilization phase with academic oral skills practices was conducted every 4th hour of the 4 hour-class contact. The Utilization phase in TAP classroom methodology involved Academic Listening Practice (ALP).

(1) **Academic Listening Practice (ALP)**

(1.1) ALP aims to enable Chinese students to practice the following academic listening skills:

- ability to identify the purpose and scope of a lecture;

- ability to identify the topic of a lecture and follow topic development;

- ability to identify relationships among units within discourse (e.g. major ideas, generalizations, hypotheses, supporting ideas, examples);

- ability to grasp detailed information;

- ability to make inferences;

- ability to take notes

To achieve the objectives of ALP, ALP employed audio files in monologue forms with academic contents. Listening texts in ALP were both semi-authentic and authentic materials. At the beginning of this phase, Chinese students were provided with semi-authentic listening materials. Semi-authentic materials refer to simplified listening texts with completed sentences in simple discourse. Once, Chinese students were more familiar with the nature of academic lectures, they started to listen to authentic lectures.

(1.2) Each ALP listening texts has the following characteristics:

- The length of each listening text in ALP was 2.5-5 minutes.

- All listening texts (both in semi-authentic and authentic materials) were recorded at normal speaking rate, with appropriate intonation and pauses. All listening passages also contained many false starts, redundancies and repetitions.
- 50 percent of vocabularies in each listening text had already been introduced in the sensitization and consolidation phrase phases.

- Discourse markers or signposts were used in all listening texts.

- Close question types such as multiple-choices, true-false and matching were not used in ALP.

- Summarization was used as the final task of ALP

(1.3) An example of ALP lesson plan

There were three stages of each ALP lesson plan: pre-listening, while-listening, and post-listening stages.

-Pre-listening task

The lack of vocabulary has been a main obstacle to listening comprehension (Underwood, 1989; Kelly, 1991; Hansan, 2000; Buck, 2001; Rost, 2002) thus causing anxiety (Noro, 2006). Anxiety impairs one's ability to comprehend the intended message (Elkhafaifi, 2005; Mills, Pajares, & Herron, 2006).

The pre-listening task is the preparation stage for the next task conducted while listening. It helps learners become conscious of the purpose of the upcoming listening input. In TAP, therefore, it prepared the students for the comprehension task by activating the students' vocabulary and background knowledge of the text.

The teacher would also provide the purpose for the listening task so that students became aware of it. In order to integrate speaking and listening practice, interactive class such as vocabulary games, brainstorming, and discussing the topic of the listening text were used in this session.

-While-listening task

Learners were asked to do activities such as listening to main idea and specific information of the listening passage, summarizing, answering provided questions, and taking notes while listening to the listening text. The while-listening task in TAP was used to develop their academic listening skills.
-Post-listening activities

There were two activities in the post-listening stage.

(1) Check students’ listening comprehension

The teacher asked Chinese students listen to the text one more time and then work in a group so that the students could compare and share their answers together. Group activities enable L2 express a wider range of language and fuller answers than in whole-class work with a teacher (Long, et al., 1976; Pica & Doughty, 1985; Tatar, 2005). Moreover, Altay and Ozturk (2004) noted that cooperation in groups contributes to a more relaxed atmosphere in the classroom. Peer feedback among a group is less threatening than teacher feedback. This is because students are more comfortable with their group. Getting corrected by their friends also evokes less anxiety. As a result, it leads to an increase in both the quantity and quality of practice. Moreover, peer feedback helps learners become more self-aware since they can notice the gap between how they and others deal with the task (Saito & Fujita, 2004; Ferris & Hedgcock, 2005).

After finish group discussion, the teacher used a ping pong game to choose a student. In the ping pong game, a ping pong ball was thrown around the group. The person holding the ping pong ball plays the role of student A. S/he then thrown the ball to another student who plays the role of B after asking the information related to the listening text. For example, student A said: ‘เขาไปกับใคร?’ (Whom was he going with?). When student B caught the ball, s/he needs to answer the question asked with the appropriate answer. In this case, B said: ‘เขาไปกับเพื่อนไทย’ (He was going with his Thai friend). After replying, student B needed to throw the ball to another student.

Through this game, every student had a chance to ask and answer the question. After finishing this questioning and answering process, every student was asked to write a summary about the listening text. Then, two or three students were asked to do oral summarizing of the listening text in front of the class. According Kirkland & Saunders (1991) and Yu (2013), summarizing is a high-skill practice to reinforce students’ academic listening skills. Summarizing requires listeners to form and re-organize the ideas that they had heard from the listening text. At the end of this activity stage, the teacher provided feedback.
(2) Teacher’s explicit instruction phase

According to Richards (1983) academic listening as opposed to conversational listening has its own distinctive features. For example academic lectures are in monologue forms. The principal characteristic of a monologue is that the turn is ‘suspended’ (Thompson, 1994: 59). Instead the speaker would use cohesive devices to help listeners predict and interpret the content. An awareness of the role of markers in structuring academic discourse would equip listeners to become actively involved in listening and recalling information (Thompson, 1994; Khuwaleih, 1999). Discourse markers in chunks or phrases such as ‘for example’, ‘Today we are going to talk about’, and ‘finally’ play a crucial role on students’ comprehension of academic lectures (Khuwaleih, 1999). Chinese students in TAP, therefore, were explicitly encouraged to become aware of the role discourse markers play in denoting the structural turns in spoken lectures.

4.4. The use of course data CD

The provision of data CD and audio CD was designed to make the preparation and review of the specific learning content each week in their individual study outside class easier. It was also used to create a private, stress-free environment for students which they can access to unlimited input, practice at their own pace and receive immediate feedback. That could enable Chinese students to meet their personal learning needs and allow them to follow their learning goal.

Lian and Lian (1997), Lian (1985), and Puakpong (2005) suggested that L2 students should be able to choose the activity that best fits their interests and their style of learning in order to become involved in a way that is most comfortable for them. To this end, three main sections with different purposes were provided in the CD. Three main sections were (1) intensive Thai course for academic purposes (TAP) textbook in PDF format; (2) some listening texts derived from the TAP textbook and their audio files; (3) and listening tasks with hot potatoes exercises (https://hotpot.uvic.ca/).

Once Chinese students opened the main page of the CD, they could explore the provided contents and choose whatever they want to do by clicking a specific icon in the main page of the CD.
The ‘listening passages from our class with audio file’ section allows Chinese students to review the lesson which they learnt in the class. That is one way to promote both memory and cognitive strategies. Moreover, sound files in this section were in WAV and MP3 formats. If students wanted to listen to the sound files in MP3 player or save them in their mobile phone, they could easily do so. This way the direct experience of Thai language could be increased.

To facilitate language learning, Chinese students could listen to a sound file of a whole passage by clicking the big listening icon. They also could select to listen to the sound file in each sentence by clicking the icon after the sentence.
Listening tasks with hot potatoes exercises were also provided in the data CD. Hot Potatoes software (https://hotpot.uvic.ca/) is a free software application with educational purposes that generates online exercise website. It is a set of six tools with which you can make crossword puzzles, cloze passages, matching exercises, multiple choice questions, quizzes and sentence rearranging exercises. However, in this course data CD, only matching exercises, multiple choice questions were used.

Figure 4.3: A sample listening exercise with multiple choices

Figure 4.4: A sample listening exercise with matching answers
Forty listening exercises were provided in the course data CD. Ten listening texts were about campus life such as ‘campus tour’, ‘getting to know our new friends’, and ‘going to a library’. These listening texts were a dialogue form. Since Chinese students in the study were of international business major, thirty listening texts were designed to mimic the international business lectures in order to prepare students for the real life lectures that they might listen to in their chosen major in the Thai university”. The listening texts in the course data CD were not used in the paper-based tests of the study.

Five topics of international business lectures in the course data CD were ‘Import and export’, ‘Banking’, ‘Small business in Thailand’, ‘Business negotiation’, and ‘Tourism’

Flowerdew and Miller (1997) noted that the real academic lectures are structured at the micro-level of discourse. In the discourse, there are lots of pauses, and filled pauses. Recognizing pause, redundancies, hesitations, and false starts are the main factors of difficulties for listeners (Richards, 1983). With this understanding, all listening passages in the course data CD were delivered by both female and male Thai native speakers. All listening passages were recorded at a normal speaking rate, with normal and appropriate intonation. Some listening passages also contained many false starts, redundancies and repetitions. While doing the listening exercise with hot potatoes, student can listen to the whole text as often as they want. Moreover, students could read the script later. Questions in the listening exercises were designed to focus on academic listening skills. It aims to promote micro-skills in academic listening. After submitting answers, the score for the exercise revealed to them with accompanying feedback.
4.5. Summary

Based on understanding of the significant role of listening on academic lectures and learners’ academic success, TAP employed teaching practices based on SEA’s principle (Zhang, 2006) to train Chinese students’ Thai prosody in order to improve their listening and speaking performances in the Thai language.

A possible reason for difficulties in listening comprehension is that L2 students could not match the sounds they heard with any script in their long-term memory. That is because L2 students have known certain words by sight but they could not recognize them by sound. Consequently, L2 students thus could not store the sounds of lexical items efficiently in their long-term memory. TAP with SEA, therefore, emphasised on pronunciation practices in order to encourage students to produce and perceive the Thai sounds correctly. This led them to be able to store new words both by sight and by sound.

The activities in TAP were concerned with focusing on prosody such as tone, stress, intonation and rhythm of Thai language not on consonant or vowel or lexical tone. The smallest unit of the language being presented was a sentence rather than individual words or compounds. All linguistics items were presented in the situation context so that students were engaged in meaningful and useful language practices. Chinese students were trained to recognise some of
the expressive patterns in naturally occurring situations in order to improve their speaking and listening performance. To meet academic purposes, TAP used a sentence on a discourse level with academic contents through drama techniques.

TAP with SEA also used highly exaggerated stimuli and feedback and highlighted the relevant units in the speech input through humming, body movement, gestures and drama techniques in order to help adult L2 learners achieve mastery of the target language (TL).

The learning environment in TAP with SEA involved the individualization of the teaching materials and different conceptualization and organization of space for learning. TAP with SEA created a learning environment where it is possible for students to choose their own course and their individual learning styles and preferences. Students' desire was encouraged and stimulated via the provision, in terms of environmental design, of a wide range of different sorts of practices, tasks, apparatus and materials. Chinese students in TAP were encouraged to learn a new language through interacting, often in a group with a wide range of authentic materials which can be interpreted in multiple ways and making demands on students' powers of creativity. Within this discovery environment, Chinese students could sustain their desire and develop their learning strategies to acquire the Thai language.

TAP with SEA encouraged Chinese students to do self-access learning at home. For instance, relaxation exercise, humming, body movement and gestures, mouthing the words and then repetition are all present. These nine steps of the learning sequence could offer Chinese students a range of physical ways for recalling tones. Chinese students could internalise Thai prosody not only at the level of the ears but also at the level of the body. As Zhang’s suggestion (2006), body movements and gestures could develop synchrony of the body with the TL. L2 learners could experience the tensing of the body tension when pronouncing the prosody of a TL.
Chapter 5 Study

5.1. Introduction

This research deals with Chinese students learning Thai as a second language (hereafter Chinese students) in an intensive Thai course for academic purposes. This research employs communicative activities based on Somatically-Enhanced Approach (SEA)’s principles to train Chinese students’ perception and production of Thai. It also employs drama techniques to extend the effectiveness of SEA. There are two aims of this research. The first aim is to identify difficulties encountered by students when they are listening and speaking in a Thai medium academic setting. The second is to investigate the effectiveness of SEA in an intensive Thai course for academic purposes on learners’ listening and speaking skills in the Thai language. This chapter presents the hypotheses, research questions that guide the study, and the research design, data collection methods and a summary of the chapter.

5.2. Research questions and hypotheses

The primary hypothesis of this study is that SEA in the intensive Thai course for academic purposes (TAP) could significantly improve listening and speaking performances in the Thai language for Chinese students. Chinese students’ performance in listening and speaking skills are measured by the scores of their performances in the SEA group (experimental group) in both listening and speaking tests before and after undergoing SEA and drama treatment. The scores would be higher after the SEA treatment.

There were six research questions that were under investigation:

Research question 1:

“What problems were encountered by Chinese students in the experimental group during their listening in academic lecture before and after the SEA treatment?”

This is demonstrated by the analysis of students’ immediate written recall protocols before and after the SEA treatment. It aimed to identify the problems encountered by Chinese students in Thai when they were listening to texts in the Academic Listening Test (ALT).
Research question 2:
“Does prosody training with SEA on both a sentence and discourse level change Chinese students’ strategy use after the SEA treatment?”

This is demonstrated by the analysis of students’ immediate written recall protocols before and after the SEA treatment. It aimed to identify the students’ strategy use when they were listening to texts in the Academic Listening Test (ALT).

Research question 3:
“What speech errors, involving prosodic features such as tone, stress, and pause were made by students during their speech production before and after the SEA treatment?”

This is demonstrated by auditory and acoustic analyses of Chinese students’ spontaneous speech in the spontaneous speaking tests before and after the SEA treatment.

Hypotheses:
1) After the SEA treatment, Chinese students in the experimental group will demonstrate a decrease in number of errors in Thai tones when compared to that before the treatment.

2) The average number of stress errors produced by the experimental group in spontaneous speaking tests is significantly lower after the SEA treatment when compared to that before the treatment.

3) The average number of misplaced pause produced by the experimental group in the spontaneous speaking tests is significantly lower after the SEA treatment when compared to that before the treatment.

Research question 4:
“Does prosody training with SEA on both sentence and discourse levels improve Chinese students’ listening ability to grasp the subject matter of academic lectures?”

Hypotheses:
1) The average score of the experimental group in the Academic Listening Test (ALT) is significantly higher after SEA treatment than when compared to the average score achieved in ALT before the SEA treatment.
2) The average score of the experimental group in the posttest of ALT is significantly higher than that of the control group.

3) The average score of the experimental group in the Summarizing test is significantly higher than that of the control group.

4) The average score of the experimental group in the public Thai exit test is significantly higher than that of the control group.

Research question 5:
“Does prosody training with Somatically-Enhanced Approach (SEA) on both sentence and discourse levels improve students’ speaking fluency in their spontaneous speech?”

Hypotheses:
1) The average score of students’ spontaneous speech is significantly higher after SEA treatment for the experimental group compared to that before the treatment.

2) The speech rate per minute produced by the experimental group is significantly higher after the SEA treatment when compared to that before the treatment.

3) The mean length of run produced by the experimental group is significantly higher after the SEA treatment when compared to that before the treatment.

4) The phonation time ratio produced by the experimental group is significantly higher after the SEA treatment when compared to that before the treatment.

5) The number of pauses per minute produced by the experimental group is significantly lower after the SEA treatment when compared to that before the treatment.

6) The number of filled pauses per minute produced by the experimental group is significantly lower after the SEA treatment when compared to that before the treatment.

7) The number of long sentences produced by the experimental group is significantly higher after the SEA treatment when compared to that before the treatment.
Research question 6:
“How did prosody training with Somatically-Enhanced Approach (SEA) on both sentence and discourse levels improve students’ listening and speaking proficiency?”

This is demonstrated by qualitative data collected in students’ end of course questionnaires and face-to-face interviews.

5.3. Research design

5.3.1. Subjects
The subjects consisted of a voluntary group of 57 Chinese students. All participants were full-time undergraduate Chinese students who had been studying Thai language as a second language in Guangxi University for Nationalities (GUN), PRC. The participants ranged from 20 to 23 years old. These students had been studying Thai in China for one year and a half or about 110 hour or two hours per week for 50 weeks. They participated in the study as part of a 2+2 program between GUN and a university in Thailand. After Chinese students finish their second year in GUN, they need to complete their third and fourth year in the undergraduate program of the international business degree taught in Thai language at Thai universities, namely, Dhurakij Pundit University (DPU), Kasem Bundit University (KPU), Chiang Mai Rajabhat University (CMRU), and Huachiew Chalermprakiet University (HCU). Chinese students can choose to study at a Thai university of their choice in semester 2 of their second year. After successfully completing another two years of Bachelor degree program in a Thai university, they would graduate with a Bachelor degree in International Business from a Thai university.

1) Listening and speaking Thai course for sophomores (here after TL&S II) provided by GUN
Since 2008, Chinese students in the 2+2 program in GUN had been required to study the ‘listening and speaking Thai course for sophomores’ (here after TL&S II) without any credit at GUN.

TL&S II used the traditional method which required students to memorize dialogues and repeat words and sentences after the teacher. Memorizing dialogue did not seem to encourage the students to create new sentences on their own. By emphasising the memorization of dialogues,
TL&S II focused on reinforcing students’ reading skills rather than their listening and speaking skills. In such activities, the students read the academic texts and choose optional answers in the task papers. This is the usual way in which students learn vocabularies, grammar and some contextual clues. However, such activities seemed not to provide students with opportunities to engage in language production. According to Swan (1985) language learners could not reach beyond a functional level of the target language if they lack opportunity to engage in adequate language production.

TL&S II also used dictation to help students develop their listening and spelling skills. It is claimed that through dictation, students could develop all language skills including their short-term memory (Montalvan, 1990). However, dictation in TL&S II did not seem to be effective. This activity in TL&S II was only conducted using single words not full dictation. During the word by word dictation, the teacher used a certain number of isolated words, wrote them on the board and then asked the learners to practice them at home. Next day the teacher read each word twice with unnatural speech which native speakers do not use. The teachers tried to pronounce words in their citation forms slowly and clearly. Then, the teacher asked learners to write the word down. This teaching method tended to train the students only to distinguish between the sounds of isolated word and memorize its spelling. Because of this, Chinese students in TL&S II might not be able to gain advantages advocated by Montalvan (1990).

In 2012, there were 120 Chinese students in the 2+2 program in GUN. All students in the 2+2 program were required to study TL&S II without any credit. TL&S II was taught by Thai native speaker teachers.

2) Intensive Thai course for academic purposes (TAP) provided by the researcher

In 2012, only 36 students of 120 Chinese students volunteered to study in the intensive Thai course for academic purposes (TAP) with SEA treatment. Another 84 Chinese students participated in TL&S II.

TAP used the same core text as TL&S II but different teaching methods. It was agreed with GUN that students, who volunteered to study in TAP did not need to study TL&S II as well. As a volunteer, the students had the right to withdraw from this research at any time without penalty.
on their grades, or loss of benefits to which they were otherwise entitled. Students who dropped out could go back to study in TL&S II in order to complete the curriculum requirement.

Thirty-six students initially volunteered to participate in TAP. They constituted the experiment group. However, 4 of them dropped out later on while another two students missed more than half of the course. Therefore, the data obtained from these 6 students were excluded from the data of the experimental group. Finally only 30 participants’ data, consisting of 25 women and 5 men were used.

This course was conducted for 4 hours per week within two and a half months. The 30 Chinese students were trained in TAP through communicative activities and drama techniques which were created according to SEA’s principles. The details of classroom method based on SEA’s principles for TAP are presented in Chapter 4.

5.3.2. Experiment on students’ listening performance

The hypothesis of this study was whether SEA in TAP could significantly improve Chinese students’ listening performance to grasp the subject matter of academic lectures. To address this hypothesis, this research employed paper-based tests in order to measure the participants’ listening performance for understanding the subject matter of academic lectures before and after the SEA treatment.

Listening assessments involved 57 Chinese students: 30 students in TAP (experimental group) and 27 students in the TL&S II (control group). The instruments used were listening paper-based tests.

The listening paper-based tests were as follows:

1. Academic Listening Test (ALT) provided by the researcher
2. Summarizing test provided by the researcher
3. Public Thai exit test provided by GUN

The Academic Listening Test (ALT) was administered before and after the TAP intervention. Both the Public Thai exit test and the Summarizing tests were only administered after the SEA
treatment due to time constraints of students. Details concerning each paper-based test will be discussed in detail as follows.

5.3.2.1. Academic Listening Test (ALT)

When creating appropriate test materials, test validity needs to be considered. Hughes (1989: 76) noted that “a test is said to be valid if it measures accurately what is intended to measure”. According to Jordan (1997), academic listening requires listeners to have relevant background information on the lecture delivered. It also requires the listener to be able to distinguish more important information from less important ones, and make predictions about where the lectures are heading. Moreover, listening and understanding, note-taking and asking questions are the most needed study skills in academic lectures (Richards, 1983; Chaudron & Richard, 1986; Flowerdew, 1994; Ferris & Tagg, 1996; Buck, 2001). Therefore, to measure accurately ‘what is intended to measure’ (Hughes, 1989), two paper-based tests: Academic Listening Test (ALT) and the Summarizing test conducted by the researcher were specifically designed in order to accurately assess the ability of test-takers to comprehend academic lectures.

Academic Listening Test (ALT) in this research was conducted before and after the TAP intervention. The pretest was conducted in the first week of TAP. The posttest was conducted at the end of the TAP course.

To ensure ALT is valid, the characteristics of these tests, both pre and post intervention tests needed to be based on characteristics of academic lectures to which learners would be subjected in real life.

The characteristics of ALT therefore are as follows:

1. ALT employed audio files in both dialogue and monologue forms with academic content.

Pre and post tests of ALT consisted of five audio passages. The first passage in the test was a dialogue concerning a campus issue. Listening passage 2 to 5 were in a monologue form on an academic subject.

The dialogue was used to assess learner’s ability to listen for gist and for specific factual information. The monologues were used to assess listener’s ability to distinguish main and
supporting ideas, to differentiate relevant and less relevant points, and to identify topics of lectures and follow topic development.

Regarding the length of a listening text, Carrell, Dunkel, and Mollaun (2002) suggested that the lecture text needed to be longer than 2.5 minutes in order to validly assess learner’s academic listening ability. Therefore, each listening passage was 3-5 minutes in length.

Recognizing pause, redundancies, hesitations, and false starts in real academic lectures are the main factors of difficulties for L2 listeners (Richards, 1983). All listening passages in ALT were recorded at a normal speaking rate, with normal and appropriate intonation with many false starts, redundancies and repetitions.

2. Lack of vocabulary is reported to be the main obstacle to listening comprehension (Kelly, 1991; Rost, 2002). Sun (2002) also suggested that a lack of vocabulary makes L2 listeners unable to automatically associate sounds with words stored in their long-term memory. The relationship between vocabulary size and listening comprehension was considered when selecting listening passages.

This research does not aim to measure Chinese students’ vocabulary size. Therefore, too many unfamiliar vocabularies in the listening passages were avoided in order to ensure that ALT could accurately measure the effect of SEA. With this aim, the definition of ‘too many unfamiliar vocabularies’ needed to be clarified. Nation (2006) and Schmitt (2008) suggested that L2 learners need to be familiar with 95 percent to 98 percent of the vocabulary for ease of reading. Unlike reading, little research is available on what percentages of familiar vocabularies should be in a listening text in order to enable successful listening. Because of this limitation, this research employed 95 percent to 98 percent of familiar vocabularies in a reading passage in each listening.

To decide which vocabulary is familiar or unfamiliar for students, word list survey from the Chinese students’ core text books and the research on ‘Basic lexicon for beginning of learners Thai’ (Plaengsorn, 2008) were used as guides. Then all words in these materials were considered as familiar vocabularies.
For listening texts in the pretest, three core text books compulsorily used by the Chinese students in GUN were employed to identify which vocabulary was familiar or unfamiliar. These three core textbooks were ‘Introduction to Thai 1’, ‘Introduction to Thai 2’ and ‘Thai reading 1’.

For listening texts in the posttest, not only were the three core textbooks used, but also the ‘Thai for academic purposes’ textbook which was used in both TAP and TL&S II was also employed. Moreover, ‘Basic lexicon for beginning of learners Thai’ (Plaengsorn, 2008) was also checked against.

3. The test format in ALT was designed to assess Chinese students’ ability to do the following:

(1) ability to identify the purpose and scope of a lecture

(2) ability to identify the topic of a lecture and follow topic development

(3) ability to identify relationships among units within discourse (e.g. major ideas, generalizations, hypotheses, supporting ideas, examples)

(4) ability to grasp detailed information

(5) ability to make inferences

The pre and post ALT consisted of five passages. Listening passage 1 and 2 were about a campus issue. Questions in passage 1 and 2 mainly aimed at assess the learner’s ability to listen to a gist and specific factual information. Thus, multiple choice questions were used.

Questions in passage 3 primarily aimed at assessing the learner’s ability to grasp detailed information and identify more relevant and less relevant points. Thus, the true-false question format was employed. Questions in listening passage 4 and 5 aimed to assess learners’ skills in listening comprehension. These skills are ‘understanding main ideas’, and ‘understanding supporting and specific details’. To achieve these aims, an open ended question format was employed (see test formats of the pre and post tests in Appendix 1 and 2).
Table 5.1: Test formats used in ALT

<table>
<thead>
<tr>
<th>Listening passages</th>
<th>Test formats</th>
<th>Purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening passage 1 and 2</td>
<td>Multiple choice with Wh-questions</td>
<td>To assess the learner’s ability to listen for gist and specific factual information.</td>
</tr>
<tr>
<td>Listening passage 3</td>
<td>True-False-Not given</td>
<td>To assess the learner’s ability to grasp detailed information and identify more relevant and less relevant points.</td>
</tr>
<tr>
<td>Listening passage 4 and 5</td>
<td>Open ended questions</td>
<td>To assess the learner’s ability to understand main ideas and understand supporting and specific details</td>
</tr>
</tbody>
</table>

4. Printing the text question in Chinese and instructing Chinese students to write answer in Chinese help them avoid any difficulties caused by their lower Thai language proficiency. Moreover, printing question in Thai might allow Chinese students to guess correct answers from the relationship between Thai orthography and sounds. Therefore, any claim on Chinese students’ listening comprehension can be unreliable.

5. To establish validity of ALT in this study, a panel of three Thai language teaching experts was used to evaluate the test. This expert panel reviewed all aspects of the test to ensure that it meets the level of quality required. Each assessor of the panel was given an evaluation sheet. The evaluation sheet consisted of five subtopics with five scales from 1-5 (1= bad / 5= excellent). The evaluation sheet is presented in the following table:

Table 5.2: ALT evaluation sheet

<table>
<thead>
<tr>
<th>NAME OF ASSESSOR: _____________</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Criteria</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The vocabularies in the listening passages are appropriate for the test takers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. The questions are comprehensible.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The questions and the answers are able to adequate in evaluating L2 learners’ academic listening abilities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The speakers in the audio files speak at appropriate speech rate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. The speakers in the audio files use prosodic and discourse markers appropriate to the level used in academic discourses.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other comments _____________________________

Cronbach’s alpha was used to measure internal consistency between the assessors. The alpha coefficient for the four assessors was .817, suggesting that the items have relatively high internal
consistency. (The reliability coefficient of .70 or higher is considered acceptable in most social science research situations.)

After obtaining acceptable internal consistency, the computer software Statistical Package of Social Sciences (SPSS v 19) was used to calculate average score of assessors’ judgment on each topic according to the criteria in Table 5.2

<table>
<thead>
<tr>
<th>Topics</th>
<th>Average score assessors’ judgment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The vocabularies in the listening passages are appropriate for the test takers.</td>
<td>4.40</td>
</tr>
<tr>
<td>2. The questions are understandable.</td>
<td>4.40</td>
</tr>
<tr>
<td>3. The questions and the answers are able to adequate in evaluating learner’s academic listening abilities.</td>
<td>4.40</td>
</tr>
<tr>
<td>4. The speakers in the audio files speak at appropriate speech rate.</td>
<td>4.20</td>
</tr>
<tr>
<td>5. The speakers in the audio files appropriate use prosodic and discourse markers.</td>
<td>4.60</td>
</tr>
</tbody>
</table>

The average score of each criteria on the topics was > 4. Thus, ALT was approved by the panel.

ALT was carried out in 40 minutes. Each of the audio files in ALT was played only once. In addition, as a test taker, Chinese students were provided with blank note-taking paper and were encouraged to take notes as they listened to the lectures. They were allowed to keep their notes while responding to the task. Chinese students were given time to study the task before doing each listening and had 3 minutes to check their answers before listening to the next passage. In order to avoid any difficulties caused by the lack of Thai language that might affect the research results, questions and optional answers in ALT were written in Chinese.

5.3.2.2. The Summarizing test

As academic listeners, students are supposed to process different levels of information presented in a lecture. The construct of academic listening test should be concerned with levels of understanding such as ‘understanding major ideas’, ‘understanding specific details’, and ‘making inferences’ (Buck, 2001). Therefore, a Summarizing test was used to investigate understanding
on these micro levels. It was also used to measure how well SEA can improve students’ listening proficiency to grasp the subject matter of academic lectures.

The Summarizing test was conducted at the end of the TAP and TL&S II course. After 57 students (30 students in TAP and 27 students in TL&S II) finished the Public Thai exit test provided by GUN, both TAP and TL&S II groups were asked to take the Summarizing test. Only 27 students of TL&S II voluntarily took the Summarizing test. They had a 20 minute-break. Then, they sat for the Summarizing test which was conducted for another 15 minutes.

One listening passage in the Summarizing test was a monologue from an academic lecture. The content was about Bank of Thailand, its role and responsibilities. The listening text was 5 minutes in length. The lecture was recorded at normal speaking rate, with normal and appropriate intonation. It also contained many false starts, redundancies and repetitions. 95 percent of vocabularies were considered familiar to the Chinese students.

The audio files in the Summarising test were played once. In other words, Chinese students had only one opportunity to listen to the listening text. Before listening to the text, Chinese students were provided a blank note-taking paper and were encouraged to take notes as they listened to the lecture. They were allowed to keep their notes while they were responding to the task. Chinese students had 10 minutes to complete the task and check their answers.

Chinese students needed to include the overall main idea, the major ideas, and the supporting details of major ideas in their summary by writing down their responses on an answer sheet. In order to avoid any difficulties caused by Thai language, Chinese students’ answers were written in Chinese (see Appendix 4 for a sample).

The scoring rubric for the Summarizing test used Meyer’s (1985) content structure analysis. In Meyer’s framework, top-level structure is first presented with the main ideas, followed by supporting major ideas which are then sustained by other detailed information. In the Summarizing test of the study, there were 1 main idea, 3 major ideas, and 7 supporting details.

The following diagram of text structure illustrates the hierarchical information provided in an organized academic lecture. It also illustrates the scores of information in the Summarizing test.
The total scores of the Summarizing test were 20 points. Main idea was 4 points. 3 Major ideas were 9 points (3 points each). 7 supporting details were 7 points (1 point each).

![Figure 5.1: Hierarchical scores of information in the Summarizing test](image)

5.3.2.3. The Public Thai exit test

At the end of semester, all 120 Chinese students in the 2+2 program needed to do the public Thai exit test provided by GUN, PRC. The Thai exit test was an achievement test which assessed what the Chinese students had learnt. Gaining at least 60 percent in the public Thai exit test was a condition for any further study in Thailand.

The Thai exit test consisted of listening, reading, writing, and translation sections. As previously mentioned, both TL&S II and TAP used the same core text but different teaching methods. Therefore, Chinese students’ performance in the listening section of the Thai exit test could provide data to demonstrate the effectiveness of SEA. The test format of the listening section in Thai exit test consisted of the multiple choice and the true-false questions. The questions in the test were printed in Thai (See appendix 3 for an example).
5.3.2.4. Quantitative analysis

To test the effectiveness of the SEA treatment, both the pretest and the posttest scores from Chinese students in TAP were statistically compared. The computer software Statistical Package of Social Sciences (SPSS v 19) was used to analyse the data in this study. Analysis of the scores from the paper based tests was done by means of the pair sample t-test.

Paired sample t-test was used to compare the listening performance of the experimental group before and after the intervention. Paired sample t-test was chosen because the same group of Chinese students (TAP group) were tested (using similar paper-based tests before and after the SEA intervention). Paired-samples t-test was used to see whether there was a statistically significant difference in the mean scores for Time 1 (prior to the SEA intervention) and Time 2 (after the SEA intervention) of the experimental group. The significance level was set at p<0.05 throughout the study.

The score obtained by the experimental and control groups in the posttest of ALT, the Summarizing test and the public Thai exit tests were analyzed using the independent sample t-test. The independent samples t-test is usually used to compare mean scores of two different groups. This t-test is used to investigate whether there was a statistically significant difference in the mean scores for the experimental group who received the SEA treatment and the control group who did not. The significance level was set at p<0.05 throughout the study.

5.3.3. Immediate written recall protocol

To address the research questions “What problems were encountered by Chinese students in the experimental group during their listening in academic lecture before and after the SEA treatment?” and “Does prosody training with SEA on both a sentence and discourse level change Chinese students’ strategy use after the SEA treatment?”, the analysis of students’ immediate written recall protocol was used.

The immediate written recall protocol was employed to identify the problems encountered by the Chinese students and their strategy uses during their listening in an academic lecture delivered in Thai. The immediate written recall protocol in this research was adapted from the thinking aloud protocol (Ericsson & Simon, 1993).
According to Ericsson & Simon (1993), the thinking aloud protocol is a method which, in principle, does not lead to much disturbance in the thought process. During the process, the participant keeps on talking, speaks out loud whatever thoughts come to mind, while performing the task at hand. The participant solves a problem while the talking is executed almost automatically. Therefore, without any delay, the data could be gathered directly.

However, the thinking aloud protocol was not used in this research firstly because there was inadequate number of voice recorders to record the participating students’ speech. Moreover, while using the thinking aloud protocol in research on reading skills does not interfere with the task performances (Ericsson & Simon, 1993), verbalizing and hearing one’s own voice during a listening activity, which is undertaken silently might interfere with one’s thought process thus reducing the ability for participants to work through an activity and talk at the same time.

Therefore, to avoid any interruption on the students’ listening process and reduce time consumed in transcription, the immediate written recall protocol was used in this research.

The immediate written recall protocol in this research was conducted during the pre and post tests of ALT. Chinese students only in the experimental group needed to do the immediate written recall protocol after finishing ALT. Chinese students in the experimental group were provided a paper with open-ended questions. The open ended questions were “What are your listening problems during listening to texts in ALT? What did you do to cope with the test?” Then, they had 10 minutes to complete the immediate written recall protocol by writing their opinions down. To complete the immediate written recall protocol, they needed to immediately describe what difficulties he/she encountered and how he/she went about completing a task. To avoid Thai language limitations which might prevent Chinese students from reporting as fully as they might, they were instructed to write their opinions in Chinese. Student’ protocols in Chinese were translated into Thai by a professional translator. Then Thai version was translated into English by the researcher. Please see a sample in Appendix 5.

The data from the immediate written recall was analyzed qualitatively through interpretive coding with NVivo 9 (www.qsrinternational.com). NVivo is a quantitative analysis software package produced by QSR International (Bazeley, 2007). In term of this research, NVivo was
used to analyse the immediate written recall protocols, the end of course questionnaires and the interviews obtained from Chinese students in the experimental group.

NVivo was used for breaking the immediate written recall protocols up into short phrases or segments. Then, all nodes meaning clusters for themes or topics within the data obtained were categorized to identify real-time listening difficulties encountered by Chinese students in their listening in the academic lecture. Qualitative analysis also was used for identifying listening strategies employed by the experimental group to cope with academic lectures before and after the SEA treatment.

5.3.4. The experiment on students’ speaking proficiency
The experiment on speaking proficiency involved only the experimental group due to institutional and time constraint. To investigate the effectiveness of prosody training with drama activities based on SEA principles, and to identify speech errors produced by Chinese students in their speech production, spontaneous speaking tests were conducted before and after the intervention with the experimental group only.

Characteristics of the speaking assessment tasks
This research aims to investigate whether SEA in TAP could significantly improve speaking performance in academic settings. The speaking test was administered before and after the treatment. An individual monologue task was used in both tests.

The monologue was chosen for two reasons. Firstly, it is a common format in academic settings (Luoma, 2004). It allows test takers to demonstrate their ability to use language effectively at some length (Underhill, 1987). Each speaker produces a long utterance alone, without interacting with other speakers. The individual monologue, therefore, was used to assess the ability of learners to speak and organise ideas coherently at length using appropriate language.

The task in the pretest was a 3 minute spontaneous speaking performance including 1 minute preparation time. In other words, Chinese students were provided with 1 minute for preparation and 2 minutes for speech delivery. Students were assigned a topic by drawing lots. The topics were about students’ personal information such as ‘your family’, ‘your favourite activities’, and
‘your favourite place’. The pretest was conducted once in the first week of the TAP course with each student.

Task repetition could support speakers’ selection of words, morphemes, and grammatical structures (Lynch & Maclean, 2000; Bygate & Samuda, 2005). Bygate (2001) also suggested that repetition affects performance even when speeches are 10 weeks apart. Bygate (2001) noted that complexity in test takers’ speech is higher in the repeated task. Therefore, to ensure the validity of the research results on Chinese students’ gains in their speech after the intervention is not due to the repetition of the tasks, the second task with a different topic was employed as the posttest, which was conducted at the end of the TAP course in week 11.

The posttest was also a 3 minute-monologue which included 1 minute preparation time. Shaw and Weir (2007) suggested that speaking topics should be suitable, realistic, reasonably familiar and feasible for the test takers. However, in order to evaluate the effectiveness of TAP with SEA in Chinese students’ speaking improvement, the topic of the posttest moved from talking about oneself to narrating a place. To allow test takers to demonstrate their ability to use language effectively after the treatment, the topic in the test should be less familiar and more challenging (Taylor, 2001).

The topic of the posttest, therefore, was ‘talking about interesting places on the university campus’, which was realistic and familiar to these students. This topic was likely to allow Chinese students to produce language at the appropriate level and of the required length. Chinese students were assigned location to be described in the topic by drawing lots from seven places on campus, namely ‘small market’, ‘library’, ‘coffee shop’, ‘canteen’, ‘sport complex’, ‘student dormitory’, and ‘food stalls’ near the university campus.

5.3.4.1. Speaking marking

To address the research question “Does prosody training with Somatically-Enhanced Approach (SEA) on both sentence and discourse levels improve students’ speaking fluency in their spontaneous speech?” the experimental group’s spoken test files were marked by nine native markers of Thai.
1) Markers and the criteria of speaking assessment

(1.1) Markers

The speaking assessment involved nine Thai native speakers. Four of them, were experienced instructors of Thai as a foreign language. The other five were not qualified in Thai teaching. The researcher was not one of the native speaking markers. All markers voluntarily participated in marking students’ oral performances.

Chinese students’ speaking performances in both the pre and post speaking tests were audio-recorded directly onto a computer. Each of nine markers was then given a USB memory stick which stored the audio data so that they could listen to and assess the experimental group’s spoken test files at their own pace. The markers did not know to whom the sound files belonged to and whether the sound files were recorded in the pretest and the posttest. The total numbers of samples marked was 60.

To reduce unreliability caused by factors such as markers’ fatigue, each marker was trained on how to score speaking samples using a speaking rating scale before marking the speaking samples.

(1.2) Criteria for judging learners’ speaking performance

The criteria for judging learners’ speaking performance was adapted from the International English Language Testing System (IELTS) (www.oicedu.ca). IELTS uses global rating approach, in which pronunciation is not separated from the other assessment criteria. IELTS’ band scale for assessment focuses on: grammatical range and accuracy; lexical resource; fluency and coherence; and pronunciation (Brown & Taylor, 2006). All scales make use of a nine-point scale except for pronunciation. Based on IELTS, scale in this research, therefore, consisted of four areas: (1) fluency and coherence; (2) complexity; (3) grammatical range and accuracy; and (4) pronunciation (intelligibility and comprehensibility)

The definitions of ‘intelligibility’, and comprehensibility were derived from Derwing and Munro’s (2005). The definitions are as follows:
Intelligibility refers to “the extent to which a listener actually understands an utterance”. Comprehensibility refers to “a listener’s perception of how difficult it is to understand an utterance” (Derwing & Munro, 2005: 385).

Like IELTS, the scale in this thesis ranged from 1 to 9. However, the descriptions of each scale were different from IELTS’s in order to make the descriptions less complex for native Thai markers who were not qualified in Thai linguistics. The descriptions of each scale were adapted from the International English Language Testing System (IELTS), Chulalongkorn University’s Thai Language Testing for Foreign Language Learners (CUTFL) and Zhang’s study (2006).

The descriptions of each speaking band for speaking marking in this research are as follows:

Table 5.4: The descriptions of each speaking band for speaking marking

<table>
<thead>
<tr>
<th>Scale</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>A speaker maintains flow of a long speech with rare repetition and appropriate pause. A speaker uses a range of vocabularies to convey precise meanings; use a range of slangs or idioms. A speaker uses a wide range of sentence structures with flexibility; makes rare mistakes in complex structures; appropriately and well uses a range of connectives and discourse markers to link sentences. Pronunciation is near Thai native speakers. A listener can easily understand whole utterance.</td>
</tr>
<tr>
<td>8</td>
<td>A speaker maintains flow of a long speech with occasional repetition when speaker wants to do self-repair; speak with appropriate pauses. A speaker uses a range of vocabularies to convey precise meanings; uses some simple slangs or simple idioms. A speaker uses a wide range of sentence structures flexibility; make minor mistakes in a complex structure; appropriately and well uses a range of connectives and discourse markers to link sentences. A speaker shows some minor impacts from L1 on his/her pronunciation; show minor mistakes in pronunciation. A listener can understand whole utterance.</td>
</tr>
<tr>
<td>7</td>
<td>A speaker maintains flow of a long speech with occasional repetition and appropriate pause. A speaker uses a range of vocabularies to convey precise meanings. A speaker uses mix of simple and complex structures with reasonable accuracy; appropriately uses a range of connectives and discourse marker to link simple sentences. A speaker shows some effective uses of features in pronunciation. Mispronunciations are occasional. L1 accent still has an effect on pronunciation but cannot cause comprehension problem. A listener can understand whole utterance.</td>
</tr>
<tr>
<td>Score</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>6</td>
<td>A speaker speaks longer than band 5 with occasional repetitions and occasional pauses. A speaker uses a mix of simple and complex structures; uses a range of connectives and discourse marker to link simple sentences but some are not appropriate. A Speaker makes frequent mistakes in a complex structure but no effect on comprehension problem. Mispronunciations are frequent but less than band 5. L1 accent still has an effect on pronunciation but no effect on comprehension problem. However, the speaker can show occasionally effective uses of features in pronunciation. With mispronunciations, a listener needs to guess some words from context. However, the listener can understand whole utterance.</td>
</tr>
<tr>
<td>5</td>
<td>A speaker maintains flow of speech but use repetitions and /or slow speech to keep going A speaker uses simple words, uses basic sentence forms with reasonable accuracy. A speaker makes frequent mistakes in a complex structure. Mistakes cause comprehension problem. S/he can use a range of connectives and discourse marker to link sentences but not always appropriately. L1 accent still has an effect on pronunciation. S/he shows some effective use of features of his pronunciation. Mispronunciations are less frequent than band 4. In some words or parts of an utterance, a listener needs to use his effort to understand.</td>
</tr>
<tr>
<td>4</td>
<td>A speaker uses simple words but can convey precise meaning. A speaker uses a limited range of more complex structures, but these usually contain errors; uses only ‘and’ and ‘but’ to link sentences. A speaker speaks slowly with frequent repetition and pause. There are many mistakes in his pronunciation but less than band 3. Mispronunciations cause difficulty for the listener. A listener can understand some parts of an utterance.</td>
</tr>
<tr>
<td>3</td>
<td>A speaker uses simple words and produces basic sentence forms in a memorised repertoire. A speaker speaks with a long pause and frequent repetitions. A speaker has limited ability to link sentences. There are many mistakes in his pronunciation. A listener can guess only some words in an utterance.</td>
</tr>
<tr>
<td>2</td>
<td>A speaker only produces isolated words or memorized utterance. L1 accent has an obvious effect on intelligible. Speech is often unintelligible. A listener cannot understand utterance.</td>
</tr>
<tr>
<td>1</td>
<td>No communication possible</td>
</tr>
</tbody>
</table>

Each marker was given the descriptions of each speaking band for speaking marking before marking the materials. The marker could listen to the speaking material as many times as required to reach an accurate assessment.
(1.3) Marking form

Table 5.5: Marking form adapted from Zhang (2006)

<table>
<thead>
<tr>
<th>Speaking marking form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rater number: ________ Speaking material code: ______</td>
</tr>
</tbody>
</table>

Instructions: Please listen to the recordings and then assess each of speaking performance on a scale from 1 to 9.

Scale: 1 2 3 4 5 6 7 8 9

Each utterance can be listened to as many times as required.

Cronbach’s alpha reliability test in SPSS v 19 was used to measure internal consistency. The reliability coefficient of .70 or higher was considered ‘acceptable’ (Traub, 1994).

2) Quantitative analysis

The number of Chinese students investigated was 30 students from the experimental group in TAP. To demonstrate the effectiveness of the SEA treatment, speaking scores of the students in the experimental group from both the pre and post tests were statistically compared.

Dependent samples t-test or paired sample t-test was employed in the current study. Paired-samples t-test was used to see whether there was a statistically significant difference in the mean scores for the speaking pretest prior to the SEA intervention) and the speaking posttest (after the SEA intervention). The significance level was set at p<0.05 throughout the study.

5.3.4.2. Prosodic errors

As previously discussed on differences and similarities between Thai and Mandarin prosodic system in section 2.4, Chinese listeners might find learning Thai easier because both their mother tongue and the target language-Thai- are tonal languages. However, other areas of suprasegmental features between Mandarin and Thai might be problematic. For example, the mid and low tones of Thai do not exist in Mandarin tones. Therefore, it would be safe to assume that Mandarin speaking L2 learners of Thai would encounter difficulty to produce these tones.
The differences in rhythm and stress patterns between Mandarin and Thai language might lead Chinese students apply the rhythm of Mandarin Chinese (syllable-timed rhythm) when speaking Thai. Consequently, they might clearly articulate every Thai syllable and word in speeches.

The research question “What speech errors, involving prosodic features such as tone, stress, and pause were made by students during their speech production before and after the SEA treatment?” was therefore investigated using auditory and acoustic analyses.

1) Auditory analysis for prosodic errors

The auditory analysis was done by the researcher and two experienced teachers of Thai. All three markers were Thai native speakers. Audio analysis was used to judge tonal errors produced by Chinese students in the experimental group. Judges marked tonal errors separately. Chinese students’ tone production was considered finally mispronounced only when it was judged as inaccurate by at least two judges. Sixty speaking samples from the pretest (30 samples), and posttest (30 samples) were investigated.

Distribution (%) was used to compare tonal errors produced by the experimental group before and after the SEA treatment.

2) Acoustic analysis for prosodic errors

In order to accurately investigate stress errors and misplaced pauses produced Chinese students, acoustic analysis with PRAAT program was used. PRAAT is open-source software for the acoustic analysis of speech. PRAAT is being developed by Boersma and Weenink (2007) at the University of Amsterdam. It can be downloaded freely from <http://www.praat.org> for a range of operating systems, such as Mac, Windows, Linux, Solaris, etc. PRAAT focuses on acoustic-phonetic analysis. Therefore, it can be used to evaluate students’ pronunciation and measure their pronunciation improvement.

In this thesis, PRAAT was used to investigate errors in stress and pause. According to Collin & Mees (2003), stress could be detected by intensity pitch vowel duration. Pitch means highness or lowness of the voice and is measured in hertz (Hz), while intensity means loudness or softness of the voice and is measured in decibels (dB). Vowel duration is demonstrated with length of the wave form (seconds). These features can be analyzed through PRAAT.
Stress in Thai can be indicated by one or more of the following: high pitch, high intensity (loudness) and longer vowel duration (Luangthongkum & Graduate students, 2011). Pitch and intensity displays are turned on from the Pitch and Intensity menus of the Edit window. The following figure displays pitch and intensity of the sentence ฉันจะทานน้ำส้ม [chán ca thaːn nám sôm] (I would like to drink a glass of orange juice) in the edit window. According to Figure 5.2, PRAAT demonstrate that จะ [ca] has a lower level of intensity (75.31 dB) as well as also shorter wave. The word จะ [ca] which is a grammatical word in this sentence is unstressed compared with the main verb ทาน [thaːn] with 81.67 dB of intensity. For the compound word น้ำส้ม [nám 'sôm] in this sentence as shown in Figure 5.2, the first syllable’s intensity [nám] is 78.98 dB while that of the second syllable ['sôm] is 85.97 dB. Besides the waveform of the first syllable [nám] is also is shorter than that of the second syllable. In other words, the second syllable ['sôm] is more stressed.

Figure 5.2: Pitch and intensity of the sentence ฉันจะทานน้ำส้ม [ʼchán ca ’thaːn nám ’sôm] in the edit window
According to Raddaoui (2004), a misplaced pause can be indicative of a speaker’s searching for lexical items or grammatical rules, and the distribution of pause can also be an essential marker of fluency or dysfluency.

PRAAT was also employed to investigate the number of misplaced pauses produced by Chinese students in the experimental group before and after the SEA treatment. First, PRAAT was used to measure the length of each pause. A silent pause is defined when its length was longer than .20 second. The silent pause in this study follows Lennon (1990) because the majority of the pauses of .20 second and longer sounded dysfluent. The misplaced pauses were counted when the students put silent pauses at the inappropriate junctures in their utterance. The silent pause was considered as misplaced by three Thai native speaker judges using a transcript.

A screenshot of how the length of pause was illustrated in PRAAT is shown below:

![Figure 5.3: Measuring the length of pause by PRAAT](image)

As shown in Figure 5.3, the length of pause is shown in a pink is 0.79 second.
Table 5.6: A sample transcript with pauses

<table>
<thead>
<tr>
<th>วันนี้</th>
<th>ยี่</th>
<th>ใจ</th>
<th>หัว</th>
<th>คน</th>
</tr>
</thead>
<tbody>
<tr>
<td>wan</td>
<td>ní:</td>
<td>chán</td>
<td>ja</td>
<td>phút</td>
</tr>
<tr>
<td>wan (P 0.23) niː (0.18) chán (0.12) ja (0.15) phút (0.17) thunft (0.14) khrɔːp (0.18) khrua (0.19) miː (P 0.34) hâː (0.18) khon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Today I am going to talk about my family. There are five people in my family.)

Key: P = silent pause

Table 5.5 indicates that there are two misplaced pauses. The first one is a misplaced pause between a word วันนี้ [wan (P 0.23) níː]. The second misplaced pause is between a copula verb and a complement (V-C) juncture: มีหัวคน [miː (P 0.34) hâː (0.18) khon].

3) Quantitative analysis

The statistical analysis was carried out using the SPSS statistical package (SPSS v 19). The paired-sample t-test was used to measure if there was any significant difference in the average number of stress errors and misplaced pauses produced by Chinese students in TAP between the pretest and the posttest. The statistical significance level was set at p<0.05 throughout the study.

5.3.4.3. Speech Fluency

According to Kormos and Dénes (2004), fluency is commonly used as a criterion on speaking assessment representing a dimension or component of oral proficiency. Therefore, this research regards fluency as one component of oral proficiency.

A number of studies have been concerned with establishing the appropriate measures of fluency. Researches in speech fluency show that the best predictors of fluency are speech rate, that is, the number of syllables articulated per minute and the mean length of runs, that is, the average number of syllables produced in utterances between pauses of 0.20 seconds and above (Lennon, 1990; Riggenbach, 1991; Towell, Hawkin, & Bazergui, 1996; Freed, 1995; Kormos, 2006).

Phonation-time ratio is the percent of the total time of utterance in the total response time which was also found to be a good predictor of fluency (Lennon, 1990; Towell, Hawkins, & Bazergui, 1996). Lennon (1990) also noted that predictors of fluency can be length and number of pauses. However, fluent does not just mean speaking faster. Rather, it means pausing less often and pausing at the appropriate junctures in an utterance (Chambers, 1997). Raddaoui (2004) also emphasized that a misplaced pause can be an essential marker of dysfluency. Kormos and Dénes
(2004) stated that based on previous researched on speech fluency (Lennon, 1990; Riggenbach, 1991; Towell, Hawkin, & Bazergui, 1996), the linguistic predictors of fluency should include speech rate, mean length of run, the number of filled and unfilled pauses, and the amount of speech produced.

1) Linguistic predictors

By following the studies of Kormos (2006) and Kormos & Dénes (2004), linguistic predictors of speech fluency in this research are speech rate, mean length of run, the number of filled pause, the number of pauses, and phonation time ratio. Moreover, agreed with Chambers (1997) and Raddaoui (2004) suggestion, the misplaced pause was used as linguistic predictors. According to Bygate (2001), syntactic complexity in L2’s utterance should be one indicator on fluency, the number of long sentences was also used in the study.

Two linguistic predictors, namely the number of filled pauses (FP) and long sentences (LS) were counted in the auditory analysis carried out by the researcher. However to make the finding more reliable, another four linguistic predictors, namely speech rate (SR), phonation time ratio (PR), mean length of run between pauses (MLR), and number of pauses per minute (P) were used in the acoustic analysis with PRAAT program.

The definition of each linguistic predictor on speech fluency in this study is illustrated as following:

(1) Short and long sentences

In this study, a short sentence was defined as containing less than eight words or only one main verb and without either any conjunctions or subordinating (Nicou and Wanphen, 1972; Luksaneeyanawin, 1998). For example,

Table 5.7: A sample short sentence in Thai

<table>
<thead>
<tr>
<th>subject</th>
<th>verb</th>
<th>complement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kháw</td>
<td>pen</td>
<td>nák suîk să:</td>
</tr>
</tbody>
</table>

(He is a student.)
A long sentence was defined as containing eight words or over. It could contain more than one main verb or contain conjunction or subordinating. For example,

<table>
<thead>
<tr>
<th>subject</th>
<th>verb</th>
<th>Complement</th>
<th>conjunction</th>
<th>verb</th>
<th>complement</th>
<th>determiner</th>
<th>post-verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>khâw</td>
<td>pen</td>
<td>nâk</td>
<td>suk</td>
<td>să:</td>
<td>jù:</td>
<td>hò:</td>
<td>phák</td>
</tr>
</tbody>
</table>

(He is a student so he can live in this dormitory.)

(2) Speech rate (SR)

Speech rate in the study was the average number of syllables articulated per minute. The time for silent pauses was included in the minute (Kormos & Dénes, 2004). As previously mentioned, ‘total number of syllables ÷ total response time x 60’ was the formula for speech rate calculation in this study.

(3) Mean length of runs (MLR)

Mean length of runs (MLR) in the study was the average number of syllables produced within each run, which is found between pauses of 0.20 seconds or above (Lennon, 1990). The formula for calculating mean length of runs was ‘the total number of syllables ÷ the total number of pauses’

(4) Phonation time ratio (PR)

Phonation-time ratio was calculated as the percentage of time spent speaking as a percentage proportion of the time taken to produce the speech sample (Towell et al., 1996). If a speaker uses pauses that amount to 30 percent of the total response, then his / her PR is 70 percent. PR is not influenced by articulation rate (AR) because they are independent to each other. In order to be a fluent speaker, in terms of PR, how fast a speaker ‘articulates’ utterances does not matter; only ratios of phonation time and silent pause time matters.

(5) Number of pauses (P)

Pause in the study was defined as silence or a nonverbal filler of .20 second or longer (Lennon, 1990). Silence that exceeded 1.50 seconds was not marked as a silent pause. As previously
mentioned, ‘total number of pauses ÷ total response time x 60’ was the formula for calculating a number of pauses per minute.

(6) **Number of filled pauses (FP)**

A hesitation sound such as ‘uh’ and ‘um’ in the study was labelled as a filled pause. Filled pauses did not have any lexical meaning, but they could indicate that the speaker needed time to plan the continuation of speaking (Chafe, 1980; Goffman, 1981; Levelt, 1983, 1989). Number of filled pauses was counted in the auditory analysis carried out by the researcher. Then, total number of filled pauses were divided by the total amount of time expressed in seconds and was multiplied by 60.

2) **Quantitative analysis**

The statistical analyses were performed using SPSS statistical package (SPSS v 19). The paired-sample t-test was used to measure if there was any significant difference in the means of each key factor of speech fluency produced by Chinese students in TAP between the pre and post tests. The critical significance level was set at p<0.05 throughout the study.

5.3.5. **End of course questionnaires and face to face interviews**

One of research questions of study is “How did prosody training with Somatically-Enhanced Approach (SEA) on both sentence and discourse levels improve students’ listening and speaking proficiency?” The investigation involved qualitative procedures using the end of course questionnaires and the face to face interviews to elicit students’ opinion on TAP with SEA and their favourite strategies and teaching materials in the course.

5.3.5.1. **End of course questionnaires**

An end of course questionnaire was used to investigate students’ perception on whether drama activities based on SEA’s principles assist Chinese students to improve their speaking and listening proficiency. The end of course questionnaire was used for three reasons. First, it was to investigate how SEA has positively affected learners’ speaking and listening proficiency. Second, it was to determine the specific strategies and teaching materials which the participating students preferred in TAP. Third, it was to collect Chinese students’ suggestions to improve TAP.
Only 30 Chinese students in the experimental group were asked to complete the questionnaire. All questions were presented in Chinese, participants’ L1, in order to avoid any misinterpretation. Chinese students were also requested to use Chinese language to answer open ended questions so that they could freely express their opinions. Student responses were later translated into English.

The questionnaires contained a combination of forced-choice and open-ended items and were designed to elicit information about:

- the participants’ personal and academic background

- their perceptions of their Thai language abilities before and after TAP

- the factors that assisted or hindered their Thai listening and speaking while studying in TAP

- the participants’ comments on any other aspect of their experiences from TAP

The end of course questionnaire used in the study are presented in Appendix 6 and 7.

The data were analysed using the software NVivo 9 to assist the analysis of qualitative data.

5.3.5.2. Face to face interviews

Face to face interview was used to obtain the students’ opinion about certain aspects of their experience of TAP. It also aimed to discover in-depth information that could not be obtained in the questionnaire. A set of questions was used as a guide in talking to the participants. Some impromptu questions were created in order to elicit more explanation from them. The interview was conducted after the course ended. Only seven Chinese students in the experimental group agreed to participate in the face to face interview. The interview was carried out 30 minutes for each student. All interviewed were recorded with Mandarin Chinese language. The results from the face-to face interviews were also analysed qualitatively.

5.4. Summary

This chapter presents the hypothesis, research questions that guide the study, subjects of research, the research design and methods of data collection. The research design aimed to investigate the effectiveness of SEA in TAP on improving learners’ listening and speaking proficiency.
Therefore, two language skill assessments were conducted in this research. One was the listening skill. Another was the speaking skill.

The number of Chinese students were investigated were 57. 30 students in TAP were the experimental group and 27 students in TL&S II were the control group. Both the experimental and control group were involved in the experiment on listening. However the experiment on speaking proficiency involved with the experimental group and no control group due to institutional and time constraint.

Targeted at the enhancement of speaking and listening proficiency to a level sufficient to grasp the subject matter of academic lectures and to achieve academic goals, the research was conducted with a mixture of quantitative and qualitative analysis.
Chapter 6 Results on listening difficulties and strategies

6.1. Introduction

The chapter includes the qualitative analysis of the data collected from the immediate written recall protocols. Listening difficulties encountered by Chinese students in the experimental group during their listening in both the pre and post tests of Academic Listening Test (ALT) are described. It also presents listening strategies used by Chinese students when they were coping with the pre and post tests of ALT.

This chapter is divided into two sections. The first section is the qualitative results to the research question “What problems were encountered by Chinese students in the experimental group during their listening in academic lecture before and after the SEA treatment?” The second section is the qualitative results to the research question “Does prosody training with SEA on both a sentence and discourse level change Chinese students’ strategy use after the SEA treatment?”

6.2. Participants

The immediate written recall protocol involved 30 Chinese students in the experimental group. After completed ALT, they were immediately invited to describe how he/she went about undertaking the tasks in the test by completing a written recall protocol in the Chinese language. Open-ended guiding questions “What were your listening problems during listening to texts in ALT? And how did you cope with the test?” were used. The immediate written recall protocol was conducted twice during pre and post tests of ALT.

6.3. Result on listening difficulties encountered by Chinese students when listening to Thai academic lectures

The data from the immediate written recall protocols were analyzed qualitatively through interpretively coding with NVivo 9 software by breaking the protocols up into short phrases or segments. Then all nodes were categorized to identify real-time listening difficulties faced by Chinese students in their listening in ALT. A node means a cluster of similar phrases related to a
theme or topic within the obtained data. The number of coded references denotes how many times (i.e., the frequency) respondents referred to a particular constituent variable.

Two main categories of barriers for Chinese students’ listening to Thai academic lectures were found. The categories were ‘affective barriers’ (Chen, 2005: 5) and ‘listening comprehension processing barriers’ (Goh, 2000: 57).

6.3.1 Affective barriers

6.3.1.1. Affective barriers before the SEA treatment

Forty-nine references from 30 Chinese students in the experimental group reported that affective factors played a negative role in listening comprehension. Affective factors based on the immediate recall protocols included anxiety, distraction, and fatigue.

Anxiety is a form of fear that might include unhappiness, uneasiness, feeling of failure and incapability (Unlu, 2007). Distraction refers to inability to concentrate or focus in a listening task (Underwood, 1989). When a person feels nervous or anxious, his or her ability to listen is greatly reduced (Elkhafaifi, 2005; Mills, Pajares, & Herron, 2006). Fatigue also could have an impact on L2 listeners’ abilities to comprehend a message (Elkhafaifi, 2005).

The data from the immediate written recall protocols before the SEA treatment revealed that nine affective barriers caused difficulties in Chinese students’ listening comprehension. The nine factors are as follows:

1) Fear of listening to Thai native speakers

Student AA 24 reported her nervousness before listening to the listening test. She was fearful of listening to Thai language delivered by Thai native speaker due to lack of previous experience or contact with Thai native speakers.

“I felt very nervous when I knew all listening passages were delivered by Thai native speakers. Normally, we studied Thai language with our Chinese teachers. Thai people always talk to fast. I was not sure whether I could catch up with their speaking. I did not want to take this test. I was not ready to do it” (Student AA 24).
With this view, it can be interpreted that L2 beginning learners need to have an opportunity to listening to authentic materials and communicate with Thai native speakers in order to build their self-confidence of listening to different Thai native speaker accents.

2) **Length of the listening passages in ALT**

Six references from five students reported that their listening anxiety and distraction were caused by the length of the listening passages. For example,

Student AA04 reported:

“It was our first time to listen to a long passage. I felt so nervous and distracted”.

Student AA 12 also said that long texts made her more distracted.

“I felt very nervous and distracted when I was listening to passage 3 and 5. There were too many information. The passages were too long. I knew I needed to increase my effort. However, I could not. I was just distracted.”

This finding concurred with the suggestion by Ur (1984), Rupp, Garcia and Jamieson (2001) and Rost (2005). The length of the listening text itself could make listeners feel bored and distracted (Thompson & Rubin, 1996). Therefore, these negative emotions could cause difficulty in their listening in a L2.

According to Carrell, Dunkel, and Mollaun (2002) that the academic listening text needed to be longer than 2.5 minutes in order to validly assess learner’s academic listening ability. Each listening passage in ALT therefore was 3-5 minutes in length. Chinese students, who were familiar with listening to minimal pairs or texts in a short conversation from previous Thai courses, might think that 3 to 5- minute listening text was too long thus finding the listening passages difficult. In other words, lack of massive exposure and continue input in their previous study was perceived to be the cause of students’ inability to comprehend listening texts spoken at the normal speed by Thai native speakers.

3) **Unfamiliar words**

Fourteen students reported that their anxiety and distraction were due to unfamiliar words. Their anxiety then caused them to lose concentration. For instance,
Student AA03 noted:

“I felt more and more frustrated when encountering unfamiliar words and information. With nervousness, I could not control my concentration. I just felt frustrated and depressed”.

Student AA 05 also revealed:

“I felt very nervous when hearing unfamiliar words. I was sure that I’d never learnt these words before. I could not understand anything. It led me lose my concentration too”.

This finding before the SEA treatment concurred with research conducted by Scarcella and Oxford (1992) in that listening anxiety happens when students faced a task they feel is too difficult or unfamiliar. Noro (2006) also suggested that unknown vocabularies cause listening anxiety.

In fact, the design of ALT took into consideration that lack of vocabulary could be the main obstacle to listening comprehension. Therefore, no more than 5 percent unfamiliar vocabularies in each listening passage were used in order to ensure that ALT would not be too taxing on L2 students.

It is possible that unfamiliar vocabularies in Chinese students’ perception might stem from their inability to recognize a word in their perceptual processing. Chinese students might not be able to match the sounds they heard with any script in their long-term memory. As Goh (2000) pointed out that although L2 learners knew certain words by sight, they probably could not recognise them by sound. The lack of exposure to Thai native speakers speaking Thai at normal speed meant that these Chinese students’ word-referent relationships might not be automatized.

4) Failure to remember the meaning of a word

Five students with six references reported that they were so anxious when they failed to remember the meaning of a word.

Student AA 11 noted:

“Although some words sounded familiar, it was difficult for me to recall their meaning immediately. Moreover, I spent too much time on guessing the unfamiliar word. Then I missed a next point. I felt more distracted and depressed when I could not follow the next part. I only
heard the word ‘E-ticket’. I could not understand anything. I felt nervous and distracted. Finally, I gave up”.

5) Failure to recognize and understand every single word of incoming speech

Five references from three students reported that they tried to listen to every single word of the listening text. When they failed to recognize and understand every single word, they became nervous and distracted. For example,

Student AA 25 revealed:

“I became very nervous and lost my concentration when listening to the passage 4 and 5. Their accent was unfamiliar. The speakers spoke very quickly. Therefore, I could not get every single word of incoming speech. I was so frustrated”.

Student AA 25 also revealed his fatigue was due to listening to every single word of incoming speech.

“I was very tired after finishing the test. Listening to every word and tried to understand them was energy consuming. Although I put my best effort to listen to every single word, I could not cope with this test” (Student AA 25).

This finding supports the claim of Butt et al. (2010) that some foreign language learners try to understand every single word of incoming speech. In fact, doing this is unnecessary and impossible.

The possible cause of Chinese students’ habit of listening to every single word might be due to the dictation activities used in the previous Thai courses. Dictation was a popular teaching technique in Thai courses in GUN. Dictation in Thai courses in GUN involves the teacher reading out a passage at least 3 times at slow speed. Every single syllable and word is pronounced as a full form. To gain good marks in their dictation tasks, Chinese students needed to make great efforts to listen to every word they heard and then write them down.

The habit to listen to every word, Chinese students could not learn how to organize stimuli into chunks which could increase the capacity of the short term memory and facilitate the recall of information from a long term memory.
According to O’Malley et al (1989), in the parsing stage of listening, effective listeners are more concerned with larger chunks of information and attended to individual words only if there is a comprehension breakdown. On the other hand, less effective listeners are more concerned with individual words and tend to heavily rely on translation. O’Malley, Chamot, and Küpper (1989) suggested that in order to help L2 students become more effective listeners, teachers should train them to use appropriate listening strategies such as ‘chunking’. However, the teaching of such strategies does not have to be in the form of providing L2 students a list of strategies to learn as the existence of individual learning styles would not guarantee that L2 students would find the list useful. To meet individualization, instead, teachers should provide the learning conditions and materials that enable and foster a variety of learning styles and strategies (Lian and Lian, 1997).

6) Failure to remember what they listened to

Six students reported that their anxiety happened when they quickly forget what they heard. For example,

Student AA11 said:

“While listening to this test, I felt so nervous because I quickly forgot what I heard. Then, I missed some information. Because of this, I could understand only little bit of whole contents. I was nervous and upset”.

This finding concurred with findings of Armstrong and Rentz, (2002) that students become anxious about listening when they fail to remember what they listened to.

7) Speech rate of a speaker

Five references from three students reported their anxiety was due to a speaker’s speech rate. Student AA 15 said:

“All speakers spoke too fast. Because of this I could understand a little about what I heard which made me felt frustrated”.
Student AA 28 also revealed:

“Passage 3 was hard. The speaker spoke too fast. That made me nervous. My nervousness was getting worst when listening to listening passage 4 and 5. I thought the speaker spoke faster”.

8) Translating Chinese scripts into Thai

Two references from two students claimed that they were not able to concentrate because they had to translate questions and optional answers in Chinese into Thai and listen to incoming speech at the same time. For example,

Student AA 03 noted:

“I was unable to concentrate because I needed to translate Chinese scripts into Thai, search for the answers, and listen to the dialogue at the same time. I could do only one thing at a time”.

9) The length of the test

According to Hasan (2000), the length of the whole listening test can cause fatigue and distraction causing L2 listeners to miss the rest of the text.

The finding reported that four students were distracted when a listening activity lasts too long. For example,

Student AA 08 revealed:

“I felt more distracted when I listened to passage 4 and 5. The period of the test was very long. The teacher should decrease a number of listening passages. Moreover, the teacher should give us more time to read questions and choices before listening to the test”.

Chinese students in previous Thai language courses in GUN had regularly spent only 10 minutes on Thai listening tests. Besides, they were familiar with the format of one or two short dialogues with multiple choices answers. In this study, ALT was carried out in 40 minutes with five listening passages. This test, therefore, seemed very long for Chinese students.

6.3.1.2. Affective barriers after the SEA treatment

The data from immediate written recall protocols after the SEA intervention pointed out that there were three factors of affective barriers. Three factors are as follows:
1) Failure to understand the message which caused students’ anxiety and loss of concentration

One student reported that she was nervous and distracted when she failed to understand the message.

“I felt depressed because I could not understand some messages in passage 3. I felt distracted and very nervous” (Student AA 15).

2) Failure to follow the next part or miss some parts of the message thus causing students’ anxiety and loss of concentration

Four references from three students reported that they were nervous and distracted when they failed to follow the next part or miss some parts. For example, student AA 27 noted “I felt distracted and very nervous when missing some parts”.

3) Note-taking and listening to a passage at the same time causing students’ fatigue

One student reported that his fatigue was due to note taking when listening to a passage.

“While I was listening passage 4 and 5, I felt little bit tired because I needed to listen to the passage and take note at the same time” (Student AA 23).

Six references from four students reported that employing listening strategies helped them overcome affective barriers when listening to the passages in the posttest. For example, student AA01 noted that her self-confidence and positive thinking reduced her anxiety.

“This time, I was not nervous. I thought my Thai listening skill was getting much better. I could do question 4 and 5. I was sure that my answers might be correct” (Student AA 01).

Student AA09 also revealed:

“I felt nervous at the first minute. But less than the first test because we always practiced listening to a long passage in our class. It should not be hard for us. I felt more relax after I found that the test was not too hard”.

Three students revealed that note taking helped them control their concentration. For example,
Student AA 01 revealed:

“I thought note taking could help me to concentrate to the listening texts”. I knew what I had to listen to. My mind did not wander”.

Another example is that:

“I keep my mind to concentrate to the listening texts. When I heard some important messages or main ideas, I took note. Note taking helped me put more attention” (Student AA19).

According to Dunkel & Davy (1989) and Kiewra (1989), taking notes while listening to a lecture could help listeners control and increase their attention to the lecture and retention of its content.

Four students with five references reported that they employed selective attention to help them to comprehend and follow the message. Selective attention also helped them maintain their attention and reduce their anxiety. For example, student AA03 noted that listening to sign posts within the text not only help her identify and comprehend main ideas but also help her control her concentration.

She revealed:

“I felt like the test was not too hard this time. Although the passages were long, I could better understand main ideas and important details. I tried to pay attention on some signals such as a numbered list to help me comprehend the main idea. This way helped me control my concentration too. I also did a note taking to retain my memory” (Student AA 03).

The data after the SEA treatment also demonstrated that the number of references in affective barriers occurred in the posttest dramatically decreased from 49 to 7 as shown in Figure 6.1 and Figure 6.2.
Figure 6.1: Comparison of the number of references in affective barriers encountered by Chinese students before and after the SEA treatment

![Bar chart showing the comparison of affective barriers before and after the SEA treatment](chart.png)

Figure 6.2: Causes of affective barriers experienced by Chinese students before and after the SEA treatment

![Bar chart showing the causes of affective barriers before and after the SEA treatment](chart.png)
‘Unfamiliar words’ was the biggest barrier to Chinese students’ listening even though each listening passage only has less than 5% of new words. This finding seems to suggest that although L2 students might be familiar with the vocabulary of the listening passage, their previous Thai language training did not result in a firm grasp of these vocabularies in their long-term memory causing them not to remember the meaning of the words learned. This finding also seems to suggest that the fear that they could not understand every single word before the SEA treatment could be attributed to the flawed instructional method of dictation frequently used by the non-native teacher. After the SEA treatment, the fear of listening to Thai native speakers and long listening texts was not experienced as affective barriers by Chinese students. This is because TAP with SEA used authentic materials and massive exposure of the target language.

After the SEA intervention, only 7 references referred to affective barriers. The decrease from 49 to 7 references is a significant drop. This indicates that through the SEA classroom procedure, many affective barriers were removed.

6.3.2 Listening comprehension processing barriers

Listening difficulties are defined as the internal and external characteristics that might interrupt the listener to understand the text. The processing problems directly relate to cognitive procedures at various phases of listening comprehension (Goh, 2000).

Listening comprehension processing barriers encountered by students were analysed within the three-phase model of comprehension proposed by Anderson (1985, 1995). Three-phase comprehension model of Anderson consists of perceptual processing, parsing, and utilization. More explanation on three-phase comprehension model of Anderson (1985, 1995) is in section 3.20.2.

6.3.2.1. Listening comprehension processing barriers before the SEA treatment

The data revealed 10 listening comprehension problems occurred during the three phases of Chinese students’ listening comprehension process.

Listening comprehension processing barriers in the perception phase were most often mentioned. Barriers during the parsing and utilization phases were the second and the third in respectively.
The number of references from 30 students attributed to listening comprehension processing problems in each phase is shown in Figure 6.3.

Figure 6.3: The number of references in listening comprehension processing barriers encountered by Chinese students in the experimental group before the SEA treatment

The 10 listening problems related to different phases of listening comprehension before the intervention are shown in Table 6.1 and 6.2.

Table 6.1: Information processing barriers related to different phrases of listening comprehension

<table>
<thead>
<tr>
<th>Perception</th>
<th>Parsing</th>
<th>Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hear only words at the end of a sentence</td>
<td>Quickly forget what listeners heard</td>
<td>Fail to understand intended messages</td>
</tr>
<tr>
<td>Recognize a word too slow or unable to recognize a word</td>
<td>Unable to form a mental representation from words heard</td>
<td>Fail to comprehend keywords</td>
</tr>
<tr>
<td>Fail to remember the meaning of a word</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unable to chunk streams of speech, then missed messages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listen to only familiar words</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop listening to a next part in order to think about previous words</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 6.2: The number of references in each phase of listening comprehension processing barriers

<table>
<thead>
<tr>
<th>Listening comprehension processing barriers</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perception</strong></td>
<td></td>
</tr>
<tr>
<td>Hear only words at the end of a sentence</td>
<td>2</td>
</tr>
<tr>
<td>Recognize a word too slow or unable to recognize a word</td>
<td>29</td>
</tr>
<tr>
<td>Fail to remember the meaning of a word</td>
<td>12</td>
</tr>
<tr>
<td>Unable to chunk streams of speech</td>
<td>4</td>
</tr>
<tr>
<td>Listen to only familiar words</td>
<td>1</td>
</tr>
<tr>
<td>Stop listening to a next part in order to think about previous words</td>
<td>15</td>
</tr>
<tr>
<td><strong>Parsing</strong></td>
<td></td>
</tr>
<tr>
<td>Unable to form a mental representation from words heard</td>
<td>10</td>
</tr>
<tr>
<td>Quickly forget what listeners heard</td>
<td>6</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td></td>
</tr>
<tr>
<td>Fail to understand intended messages</td>
<td>7</td>
</tr>
<tr>
<td>Fail to comprehend keywords</td>
<td>6</td>
</tr>
</tbody>
</table>

It can be seen that six problems occurred during the perceptual phase. Two problems related to parsing. Another two problems happened in utilization. Half of the problems were perceptual processing problem.

The data on comprehension processing barriers concurred with Goh’s study (2000). Goh (2000) used diaries, interviews, and think aloud reports in order to identify listening difficulties encountered by a group of ESL learners. She examined listening difficulties within the three-phase model of comprehension proposed by Anderson (1985). Goh’s findings revealed 10 listening problems that occurred while the learners engaged in listening tasks. These included: ‘quickly forget what is heard’, ‘do not recognize words they know’, ‘understand words but not the intended message’, ‘neglect the next part when thinking about meaning’, ‘unable to form a mental representation from words heard’, ‘confused about the key ideas in the message’, ‘cannot chunk streams of speech’, ‘do not understand subsequent parts of input because of earlier problems’, ‘miss the beginning of texts’, and ‘concentrate too hard or unable to concentrate’. With similar findings on comprehension processing barriers obtained in this study, it can be interpreted that the barriers might be fairly common for all L2 listeners.
(1) The most common barrier for Chinese students before the SEA treatment

Figure 6.4: The top five listening comprehension processing problems encountered by Chinese students before the SEA treatment

It can be seen from Figure 6.5 before the intervention, ‘recognize a word too slow or unable to recognize a word’ in the perception stage was most often mentioned by 29 students. 13 students with 15 references revealed they stopped listening to a next part in order to think about previous words. Unable to remember the meaning of a word was mentioned by 12 students. 10 students reported they were unable to form a mental representation from words heard. ‘Quickly forgetting what listeners heard’ was mentioned by 6 students. These barriers involved with Chinese students’ memory. Chinese students might not be able to process the information instantly. This is because students could not retrieve words and their meanings of words from their memory. They could not figure out the relationship of the sentences to its context from the information in their memory either. These difficulties seemed to be caused by L2 listeners poor memory as listeners’ memory plays an important role in determining the success or failure of the listening process (Celce-Murcia, 1995).

(2) Illustration of each listening comprehension processing barriers before the SEA treatment

Beginning with the most five common problem in Figure 6.4.
1) Recognize a word too slow or unable to recognize a word

The data from immediate written recall protocol before the intervention identified three main factors contributing to recognizing word problem. The factors are as follows:

1.1) Lack of vocabulary

Lack of vocabulary was reported to be the main obstacle to listening comprehension. The finding concurred with Underwood’s suggestion (1989). Hansan (2000), Buck (2001), and Butt et al (2010) also claimed that L2 students’ inadequate vocabulary is the major problem for them to recognize a word and understand the message.

According to Kelly (1991) and Rost (2002), lack of vocabulary disables listeners the ability to associate sounds with words stored automatically in their long-term memory. Rost (2005) noted that there are two stages of word recognition in listening: “identification of words immediate activation of lexical knowledge linked to words that have been recognized” (Rost, 2005: 507). These two processes need to be automated smoothly during listening to incoming speech (Rost, 2005). To smoothly automate these processes, L2 listeners need to have large vocabulary knowledge (Goh, 2000; Rost, 2002; 2005).

The most likely reason is that Chinese students knew certain words by sight but could not recognise them by sound. As Goh’s claim (2000), underdeveloped listening vocabulary could have been directly related to the way L2 students learnt new words. L2 students might learn words by memorizing their spelling and often neglected to remember their sounds.

1.2) Speech rate

According to Underwood (1989), the speed of delivery is beyond the control of listeners.

“Many language learners believe that the greatest difficulty with listening comprehension, as opposed to reading comprehension, is that listeners cannot control how quickly a speaker speaks” (Underwood, 1989: 16).

The finding of this thesis concurred with findings from studies of Underwood (1989) and Osada (2004). The data obtained in this study revealed one cause of failure to recognize words is rapid speech rate of the native speakers. For example,
Student AA15 reported:

“I could not even discriminate sounds or recognize the word due to very fast speaking. Then I could not comprehend anything. It was hopeless”.

Listening difficulty from speech rate of speakers, in fact, relates to L2 listeners’ lack of skills in decoding the linguistic elements of spoken language. Decoding involves perception and parsing processes (Anderson, 1985). Perception is the process that occurs when listeners hear and recognize words. The parsing phase occurs when listeners could create a mental representation of the combined meaning of the words. Chinese students could not operate the perception and parsing processes quickly enough. That was why they felt that the speaker spoke too fast.

1.3) Speaker’s accent

Accented speech has been found to affect the identification of particular words and retrieving a speaker’s message (Floccia, Butler, Goslin, & Ellis, 2009). According to the data from immediate written recall protocols, 16 students claimed Thai native speakers’ accent was a negative factor of their listening difficulty.

Student AA 04 noted:

“Listening passage 2 and 3 were not too bad. I could recognize familiar words. However, some words, I could not recognize them because of speakers’ unfamiliar accents. They pronounced some words too short and soft. I was not sure what they exactly said”.

This result is consistent with the suggestion by Ur (1984) and Underwood (1989). When a word is pronounced differently from the way students do, L2 students might simply not recognize it as the same word, or might even miss its existence completely. They possibly have difficulty connecting the sounds they hear with words they have seen and recognized in a printed form.

This data supported Goh’s claim (2000) that L2 students are slow in recognizing the words because they could not match the sounds they heard with any script in their long-term memory. Therefore, although they knew certain words by sight, they could not recognize them by sound.
Four students reported their teachers’ accents in previous Thai courses were easier to comprehend than unfamiliar accents delivered by Thai native speakers. Their teachers were Chinese. For instance,

Student AA 22 said:

“I lost my confidence. I could not understand what they said (more than half of each passage). Normally I could understand what my teacher said. But this time, a lot of word sounds weird. I just could not recall them”.

Another example is that:

“My teacher spoke not too fast and her accent was clear. I could understand what she said. Unlike my teacher’s accent, the speakers in the listening test talk too fast. Some words were too soft to hear. I felt very nervous and panic. I could not understand what they said at all” (Student AA 17).

Fluent Thai speech is usually fast and not every word is clearly produced. Consequently, some syllables or words are not actually pronounced in a full form but rather are generally spoken in a reduced form. Because of this, L2 students learning Thai have difficulty perceiving reduced forms in a connected speech. Since Thai tones can be change based on full and reduced forms in the connected speech, teacher cannot teach Thai tones using isolated words but they need to teach Thai tones using sentences in order to allow L2 students become familiar with reduced forms. However, in previous Thai courses in GUN, Chinese students had been trained Thai tones with citation form. That means every syllable and word they learnt was a full form. Consequently, Chinese students could not recognize reduced forms when they listened to connected speech in ALT.

Furthermore, the finding seems to suggest that instead of adjusting the speed of their speaking or the listening texts, teachers should make an effort to bring L2 students in closer contact with authentic language examples. With this way, L2 students might be aware of the things they have to deal with and equip them with the ability to function successfully.
2) Stop listening to the next part in order to think about previous words

The second most common problem cited by 10 students was that students missed the next part of the text when they stopped to think about unfamiliar words. Students admitted that they spent too much time on recalling the previous words they heard.

Student AA 15 also admitted:

“I spent too much time on thinking the meaning of unfamiliar words. Then, I missed the speaker’s next point. Moreover, when I heard the new words, I forgot the content which was mentioned before”.

According to Buck (2001), slow listeners might miss information that cannot be recovered. Once the information was lost, it could be difficult to understand the rest of the passage.

The data reported that students were unable to process the information fast enough. They encountered several problems simultaneously. That was they could not understand some words. Consequently they feel too tired to search for the meaning. According to Field (2004), this demanding process is done under the constraints of a limited short-term memory. Then the cognitive processing decreases its capacity. It could become severely overloaded when they have to keep up with the new input. Goh (2000: 64) explained that this problem could cause a new problem and increase the difficulty of solving the original problem. Because of this, students would have a few opportunities to utilize mental representations that they tentatively form.

Some Chinese students admitted that they tended to translate Thai into Chinese. They spent too much time on translating process. Consequently, they missed information. This can also be exemplified in many students’ accounts. For example,

Student AA 09 revealed:

“I could not translate many words from Chinese into Thai. I did not know how to say “north or south” in Thai. Listening to this test without a Thai script made me frustrated. Then I needed to translate Thai to Chinese when listening to the passage. I spent too much time on only translating process. I translated Chinese into Thai then Thai into Chinese. Then I could not follow next message. It seemed I could understand only the first message I heard. I was nervous and distracted”
Student AA 11 mentioned that his attempt word by word translation caused him to neglect next part.

“I tried my best to translate every word I heard into Thai. Unfortunately, a lot of words were unfamiliar. I did not know what they were. I could not stop thinking the meaning of words. I stop listening to the next part. When I realized that I lost a lot of information because I did not listen to them, I was panic and distracted” (Student AA 11).

The data from student AA 09 and AA 11 also indicated that attempt of word-by-word translation caused student not being able to keep pace with the speaker and eventually led to their nervousness, anxiety. As a result, they failed to understand the listening text.

3) Failure to remember the meaning of a word

Another problem encountered by Chinese students was failure to remember the meaning of a word. Twelve students reported that although they were familiar with some words, they were unable to remember their meanings immediately. It seemed students could not make a link between sounds and meaning. Consequently, they were unable to process the message using those words. For instance,

Student AA 17 said:

“I could recognize a lot of words in the passage 2. I knew they were about vehicles. However, I could not remember their exact meaning. I could not remember which word means a train or a plane. I spent too much time to think about their meaning. Then I missed a next part.”

Student AA 05 also revealed:

“When listening to a passage 1, I could remember that we used to learn a lot of words in last semester. I could immediately recognize them when I heard. However, I could not remember a meaning of some words. Then I could not understand the whole message. I felt disappointed”.

Some students reported that they could remember the meaning of each individual word but tended to forget the meaning of the word in a passage. For example,
Student AA09:

“When I was doing a dictation, I was sure that I could remember the meaning of each individual word. However this time, I just forgot its meaning. I did not know “why?” Probably, each text was long”.

This finding corresponds with findings of previous studies claiming that lack of lexis is the major obstacle to listening comprehension (Laufer & Sim, 1985; Kelly, 1991; Liu, 2000; Chang & Read, 2006; Butt, 2010)

4) Unable to form a mental representation from words they heard

Chinese students reported that the inability to forming a mental representation of a listening passage was one of their comprehension problems. For example, student AA 25 revealed that although he could recognize and remember a lot of words in the text, he could not understand the whole idea of the text.

“I could recognize some words such as ‘train’, ‘car’. However, I could not understand the content. What happened with the car and the train?” (Student AA 25)

It seemed that this student focused on individual vocabularies rather than finding the connection between ideas in the text.

Goh (2000) suggested a possible reason of the inability to form a mental representation of a listening passage. She noted that a word that L2 students could notice and catch might be not a keyword. Probably, the word they noticed might only be the words they were familiar with word. Because of this, they could immediately recognize these words and yet not understand the overall message.

Goh (2000) also suggested that at the parsing stage, although students understand the gist or general meaning, they could not understand its exact meaning. This is because students could not recognise keywords and phrases. To recall what they heard, students need to form mental representations of words. They also need to remember information in detail.

One student claimed that his inability to forming a mental representation of a listening passage was due to a speaker’s speech rate and the length of a sentence.
“When I was listening to passage 2, I could catch a lot of words. I could recognize the words such as ‘doctor’, ‘nurse’, ‘headache’, and so on. However, I could not understand whole ideas in the passage. Probably, the sentence was too long. The speaker talked too fast” (Student AA 21).

5) Quickly forget what they heard

Chinese students revealed that although they could understand what was said when they heard a sentence they would forget it as soon as they began listening to the next one.

Student AA 06 said:

“When I was listening to a new phrase, I just immediate forgot the former one I heard. In fact, I thought I could understand the previous phrase. I just forgot it too quickly.”

Goh (2000) claimed the possible cause of quickly forgetting what listeners heard was due to “excessive demands from unfamiliar input on a limited processing capacity”, and “the recursive nature of comprehension processes, mental representations from successful parsing were displaced by new input before they could be utilized” (Goh, 2000: 67).

It seemed Chinese students had successfully perceived and parsed the speech input. However, they could not reach the utilization process when getting a new input. The new input immediately displaced his previous words or phrases in their limited short-term memory. As a result, Chinese students could not recall the words or phrase they had parsed. To recall what they heard, Chinese students needed to retain as much spoken text as possible in their short-term memory.

6) Unable to chunk streams of speech

Perceptual processing means maintaining attention to spoken input. The perceptual stage of listening involves segmenting phonemes from the continuous speech stream. During this phase of listening, the listener recognizes sounds, then segments those sounds into words. During the input process, the listener makes an effort to segment phonemes from the continuous speech stream. Then, the sounds distinguished are retained in short-term memory (STM). Chunking or coding single units into larger units is a tool to transfer information from STM to long-term memory (LTM). Chunking helps to reduce the number of items in STM and increase the capacity
of STM. The better L2 learners are at chunking, the higher amount of information they can cope with (Call, 1979). In addition, chunking helps recall information and reduces the time needed to rehearse those items. In other words, when speech input enters STM, listeners chunk the sounds into meaningful units according to their previous knowledge. This information is then located in LTM while its meaning is retained.

Difficulty in chunking streams of speech was mentioned by four students. This difficulty occurred during the perception phase. Four students reported that they were unable to identify word boundaries in a long stream of speech. Two examples of chunking errors are presented below.

Student AA 12 said:

“I did not know how many words in each sentence. It was only one word or might be more than that. I was not familiar in listening to a passage”.

Students AA 28 also said:

“I could not recognize a word. I heard some sounds but could not understand what they are. Was it one word or a lot of words in a sentence? The speaker talked to fast. I was just confused”.

Chinese students were unable to chunk streams of the speech possibly due to lack of prosody training in their previous Thai courses. Another cause of this inability could be their L1 prosody interference. As discussion on the role of prosody in Chapter 3, prosodic cues such as pause, stress, and intonation constitute an important source of information on discourse segmentation (Grosz & Hirschberg, 1992; Ostendorf et al., 1993; Bruce et al., 1993; Horne et al., 1995).

Prosodic cues help to segment the speech stream into phrases, words and syllables (Bolinger, 1978). Therefore, to improve Chinese students’ chunking abilities, TAP with SEA provided them with Thai prosody training.

7) Failure to understand intended messages

Understanding a word but not the full meaning of a message was mentioned by four students. They reported that although they could understand the word-by-word meaning of the sentence,
they could not get the full meaning of the message. According to Goh (2002), this difficulty occurs during the utilization phase because it is related to the listener’s ability to make inferences.

Student AA 09 said:

“When I listened to the passage 2, I understood the meaning of each word. However, I was not sure my answers were correct. I could not clearly understand a whole story. Because of this, I could not choose which statement was true, false or not given”.

Student AA 20 also mentioned:

“When listening to a passage 3, I thought I recognize many words I heard. I could remember their meaning. Unfortunately, I could not understand the story”.

One student explained why he could not get the intended message from what he heard because of time constraint.

“I could understand the meaning of each word. However, I could not understand the full meaning of the message. I thought I could not do it due to constraint of limited time” (Student AA 05).

8) Other listening comprehension process problems

The problem of missing information at the end of the listening text was experienced by three students. Two students revealed that they could not catch up with the information in the end of the text because of their anxiety.

“I was too nervous to put my mind on the beginning of the paragraph 2. Then, I missed some information” (Student AA 15).

Failure to comprehend keywords was another listening comprehension process problem before the intervention. Two students reported that they were unable to ascertain the relative importance of different parts of the input due to the density of information and the open ended nature of the test question. For example,
Student AA 02 revealed:

“Task 4 and 5 were too hard. There was too much information. No any optional answer gave me any clue. When listening to these tasks, I did not know which words I had to pay attention. I did not know which information was important”.

One student reported that he listened to only familiar words. Thus, he could not understand any message.

“One of my problem was I just heard and wanted to listen to only familiar words. It seemed my ears automatically shut down when encountering unknown words” (Student AA 03).

6.3.2.2. Listening comprehension processing barriers after the SEA treatment

The data from the immediate written recall protocols revealed seven comprehension problems that occurred during the three phases of Chinese students’ listening comprehension process, while they engaged in listening tasks after the SEA treatment.

The data also revealed listening comprehension processing barriers in the perception phase were mentioned most often. The number of references of barriers during the utilization and parsing phases were the second and the third in respectively. The number of references of listening comprehension processing problems in each phase was shown in Figure 6.5.

![Figure 6.5: Listening comprehension processing barriers encountered by Chinese students in the experimental group after the SEA treatment](image)

References
Seven listening problems related to different phases of listening comprehension after the intervention are shown in Table 6.3.

Table 6.3: The number of references of listening comprehension processing problems in each phase

<table>
<thead>
<tr>
<th>Listening comprehension processing barriers</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perception</strong></td>
<td>11</td>
</tr>
<tr>
<td>Recognize a word too slow or unable to recognize a word</td>
<td>2</td>
</tr>
<tr>
<td>Fail to remember the meaning of a word</td>
<td>5</td>
</tr>
<tr>
<td>Stop listening to a next part in order to think about previous words</td>
<td>4</td>
</tr>
<tr>
<td><strong>Parsing</strong></td>
<td>5</td>
</tr>
<tr>
<td>Unable to form a mental representation from words heard</td>
<td>3</td>
</tr>
<tr>
<td>Quickly forget what listeners heard</td>
<td>2</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td>7</td>
</tr>
<tr>
<td>Fail to understand intended messages</td>
<td>4</td>
</tr>
<tr>
<td>Fail to comprehend keywords</td>
<td>3</td>
</tr>
</tbody>
</table>

6.3.2.3. Comparison of the number of references in listening comprehension process barriers before and after the SEA treatment

The data from the immediate written recall protocols revealed that the total number of references in the posttest was less than that in the pretest. The number of references in listening comprehension process barriers dramatically decreased more than twice after the intervention (from 93 references with 30 students to 23 references with 10 students). Comparison of the number of references in listening comprehension process barriers before and after the SEA treatment is shown in Figure 6.6.
Figure 6.6: Comparison of the number of references in listening comprehension process barriers before and after the SEA treatment

The data from the immediate written recall protocols after the SEA treatment indicated that after the SEA treatment, the number of references in listening comprehension processing problems in the perception phase decreased from 64 references to 11 references. The number of references in the parsing phase decreased from 16 to 5. In the utilization phase, the number of references also decreased from 13 to 7.
Figure 6.7: The number of references of listening comprehension process problems encountered by Chinese students before and after the SEA treatment

It can be seen from Figure 6.7 that the number of references on the inability to recognize a word dramatically decreased (from 29 to 2) after the SEA treatment. Moreover, the inability to remember the meaning of a word and neglect the next part when thinking of the meaning decreased from 13 to 5 and from 15 to 4 respectively. The data in Figure 6.7 also revealed that 3 problems (marked in red) still occurred at the parsing phase after the intervention. However, the number of references on the inability to form a mental representation from words heard decreased from 10 to 4. The number of references referring to the inability to retain what they heard also decreased from 6 to 2. At utilization phases, four students could not understand intended messages although they could understand the meaning of words. However, the number of references in this problem decreased from 7 to 4 after the intervention. The
number of references on the inability to comprehend key words also decreased from 6 to 3 after the SEA treatment.

The possible reason why most of Chinese students could overcome listening comprehension processing problems after the treatment could be due to the effectiveness of SEA’s principles.

SEA encourages L2 students a direct experience of a TL. During the SEA classroom procedure, each sentence was learned experientially using the whole body. Consequently, Chinese students could lessen their ‘Mandarin Chinese sieve’. Consequently, Chinese students in TAP group could produce and perceive Thai sounds correctly.

With SEA, Chinese students not only used their body movement and gestures to feel the TL, but also they needed to repeat the sentence at least five times. As a result, Chinese students could develop strong memory traces in their perceptual systems which enabled them produce Thai sentences correctly including reduced forms. They also retained the sound and meaning of words long term by converting them to long term memory. That means they could match the sounds they heard with the sounds they stored the sounds of lexical items efficiently in long-term memory. With SEA, Chinese students know certain words not only by sight but also by sound. Then their listening vocabulary was no longer underdeveloped.

Moreover, the SEA method is designed from findings on the usefulness of prosody in speech perception and production of infants. For instance, infants use prosodic packaging of clausal unit to facilitate their memory for speech information (Mandel, et al., 1994; Mandel, et al., 1996; Jusczyk & Hohne, 1997; Jusczyk, et al., 1999). Prosodic cues facilitate infant’s discrimination of a phrase boundary (Kemler Nelson, et al., 1989; Jusczyk, et al., 1992; Mandel, et al., 1996). Therefore, the material used in TAP with SEA for Chinese students were based on sentences with all the aspects of intonation preserved. Training prosody in a discourse level in TAP also assisted Chinese students in the chunking process by teaching them which chunks are more important cued by prosody. Consequently, students’ decoding processes could become quicker. As a result, Chinese students could follow and keep up with a normal speech rate of Thai native speakers.

TAP also raised Chinese students’ awareness of the role of discourse markers in structuring academic discourse. In TAP, Chinese students were trained about what discourse markers are
and how to use them. Knowledge of discourse markers’ function in signalling relations enabled Chinese students to become actively involved in listening and recalling information. As a result, majority of Chinese students could comprehend appropriate keywords and understand intended messages in the posttest.

6.4. Results on the listening strategies used by Chinese students

Oxford (1990: 8) defined strategies as “specific actions taken by learners to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations”.

The data from the immediate written recall protocols revealed that students employed listening strategies helped them overcome the listening barriers. This study was concerned with the processes that student went through in order to understand the listening texts. The data indicated that there are differences between range of strategies used by students before and after the intervention.

With NVivo analysis, the listening strategies such as cognitive and metacognitive strategies seemed to be used by the Chinese students.

6.4.1. Cognitive strategies

Language learners use cognitive strategies to help them process, store and recall new information (Goh, 1998). Cognitive strategies are defined as actions or behaviours that learners invoke during listening to new information. Cognitive strategies related to comprehending and storing input in working memory.

6.4.1.1. Cognitive strategies used by Chinese students before the SEA treatment

The data in the immediate written recall protocols revealed that cognitive strategies were mentioned by five students with six references. Cognitive strategies involved three tactics: the ignoring strategy, comparing sound they heard with the words in the optional answer strategy, and fixation from note taken strategy. Goh (2002: 187) described tactics as “individualized techniques through which a general strategy is operationalized”.

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1) The Ignoring strategy

According to Schmidt (1990), the ignoring strategy is used when learners notice the unfamiliar words but do not make any efforts to infer the word meaning.

Two students before the SEA treatment revealed that they chose to skip incomprehensible words or phrases to keep up with the speaker. For example,

“I did not know keywords which I had to listen to. I tried to skip some incomprehensible parts to keep up with the speaker” (Student AA 08).

2) Comparing sound they heard with the words in the optional answer strategy

Three students compared sounds they heard with words in questions and optional answers. For example,

“When I could not understand message, I just chose the answer appearing in the option that match the one I heard in the listening” (Student AA 23).

3) Fixation on note-taking strategy

Student AA 08 focused her attention on decoding a small part of a text. She claimed that she did take notes to rethink and recall the unknown words later.

“I did note taking. I wrote sounds I heard but could not immediately recognize or remember its meaning. I tried listen to as many words as I could. I came back to have a look at my note later. It helped me to recall the meaning of the words later” (Student AA 08).

6.4.1.2. Cognitive strategies used by Chinese students after the SEA treatment

Cognitive strategies were mentioned by 26 students with 28 references in the data.

1) Ignoring strategy

Three students revealed that they did not try to understand every word. They chose to skip incomprehensible words or phrases to keep up with the speaker. Their main aim was to focus on the whole message not simply individual word. For instance,
Student AA 03 revealed:

“However, I did not care too much when I could not understand some words. I focused on a message, not every word. Therefore, I skipped some unrecognized words”.

Another example is that:

“I felt like their sentences were longer. They all talked very fast. I could not recognize some words immediately. Some words sounded unfamiliar for me. I skipped some incomprehensible words. I tried to understand whole contents, not every word” (Student AA14).

2) Compare the sound they heard with the words in the optional answers strategy

Only one student guessed the answers by comparing sound he heard with the words in the optional answers.

“In task 3, I just guessed the answer from provided choices. I think my guess might be correct since I could hear ‘number’ matching to the one in the answer” (Student AA 27).

3) Fixation on notes taken strategy

Two students claimed that they did take note to recall the words later. For example,

“I did note taking. I wrote pinyin instead of the word because I could not recognize some words. I hoped that I might recall them later” (Student AA 04).

4) Making inferences

Making inferences is a strategy that students used to handle unfamiliar words. It referred to using information within the text to guess the meaning of words or to fill in missing information. The data from the immediate written recall protocols identified the following strategies:

4.1) Use known words in an utterance to guess the meaning of unknown words

“Some words were pronounced so softly. It was hard to hear and recognize those of words. I needed to guess their meaning from some words I knew” (Student AA 12)
Student A07 also revealed that

“I wrote a pinyin as a sound which I heard down on a paper note. I might be able to recognize them later. After finishing listening to each passage, I came back to think about the words in the paper note. I could recognize some words and remember their meaning by guessing them from some known words in context. For example, I knew the word ‘the sea’ and ‘the mountain’ so other words in the passage might be about natural places”.

4.2) Use contextual clues

Context clues are words and sentences around unknown words. The data revealed that context clues helped students figure out the meaning of unknown words.

Types of contextual clues mentioned by students consisted of ‘examples’, ‘definitions’, ‘explanations’, and ‘synonyms’

Student AA 09 reported:

“If I could not understand some words, I just guessed them from a context. I also listened to some words which gave us a definition. I could hear the words such as ‘mean’, ‘to be called as’, and ‘for example’. I listened to words which were stressed or emphasized to help me to catch up important information. This way helped me a lot while listening to passage 4 and 5”.

Student AA13 revealed:

“Listening text 5 was more difficult. There were a lot of new words. I did not recognize many words. I listened to words like ‘mean’ and ‘be defined as’. These words helped me understand some words. I thought I could better understand main information in listening passage 5 when the speaker summarized the main information”.

Student AA 19 stated:

“I did not know some words in the passage 5. However, I could guess their meaning. The speaker gave us an explanation. It was about if this thing happened, the product’s price would become expensive”.
Student AA 28 reported:

“There were many familiar words. But some words, I was not sure they are the one which the speaker wanted to say. I guessed the meaning of some words from the context. I could hear the word “or”, then I heard another word which I known its meaning. I also used my background knowledge to help me understand the content”.

AA 14 reported:

“I also used my background knowledge to help me to guess the meaning of some words. I knew Pattaya, one of the most famous beaches of Thailand. That why we knew ‘the beach’ and ‘the sea’. Other words in this text should be something about the nature in Pattaya”.

AA 09 noted:

“I did not know the word ‘inflation’ in Thai. However, when I could hear the speaker gave us its definition, I could understand the meaning of this word. I knew the concept of inflation. Later I could use my background knowledge to help me guess the meaning of other words and interpret the whole message”.

The data from immediate written recall protocols also demonstrated that Chinese students relied heavily on a contextual clue to infer word meaning. Some students used the contextual clue combined with their world knowledge. In the following figure, the number of references of the contextual clue and the world knowledge used by Chinese students is demonstrated.
Figure 6.8: The number of references of the contextual clue and the world knowledge used by Chinese students after the SEA treatment

This use of contextual cues to aid their listening after the treatment is a positive strategy that had been developed during the SEA treatment.

4.5) Reconstruction from notes taken

Chinese students used their notes to help them reconstruct the meaning of the words.

Student AA 07 revealed:

“I wrote a pinyin as a sound which I heard down on a paper note. I might be able to recognize them later. I was not sure whether or not these words were important information. After finishing listening to each passage, I came back to think about the words in the paper note. I could recognize some words and remember their meaning by guessing them from some known words in the context. Some words in my notes helped me better understand the content. For example, I knew the word ‘the sea’ and ‘the mountain’ so other words in the passage might be about natural places. Then I knew that the passage talked about the attractive places”.

The data indicated five students did note taking in order to help them organize and retain information. For example,
Student AA 03 revealed:

“While listening to passage 4 and 5, I heard the word ‘first of all’. Suddenly, I could understand that might be one of the points. Then I did a note taking. And then when speaker used ‘the second’, I could understand it might be the other point. I wrote a list of numbers (1, 2, and 3), then added each information on a paper note. I could rearrange all information later from the note”.

AA17 also reported:

“When listening to passage 4, I did note taking to retain information. Although this listening passage was longer than others, I could remember its details. I paid attention to its introduction. It told me this passage had four main ideas. Then, I wrote number lists in my paper note. Then I wrote down each main idea. Note-taking was useful. However, I could not take a note in Thai language”.

Three students revealed that note taking helped them control their concentration. For example,

“I thought note taking could help me to concentrate to the listening texts”. I knew what I had to listen to. My mind did not wander.” (Student AA 01)

“I kept my mind to concentrate to the listening texts. When I heard some important messages or main ideas, I took note. Note taking helped me to put more attention” (Student AA 19).

To summarize, data from the immediate written recall protocol revealed that making inferences was the most often used strategy by students. In other words, students relied heavily on inferencing to figure out the meaning of the words. The least often mentioned were ‘comparing sound they heard with the words in the optional answer’ and ‘reconstruction from notes taken’. The figure below demonstrates the frequency of cognitive strategies used by students after the intervention.
Even with the ‘ignoring strategy’, what they chose to ignore was different post treatment. During the pretest before treatment, they could not find the keywords, so they ignored a lot of incomprehensible words (i.e. student AA 08 in page 204). Post treatment, however, Chinese students ignored some words they could not comprehend so as to focus on the main message. The realisation that not every word needs to be understood is a strategy that has been promoted as a useful listening strategy (O’Malley, Chamot, & Kupper, 1989; Goh, 2002). The extensive use of contextual clues for inferencing purposes and note taking are another two useful strategies for academic listening (Kiewra, 1989; Rost & Ross, 1991; Liu, 2001; Carrell, Dunkel, & Mollaun, 2002, 2004; Hinkel, 2006). In summary, Chinese students in this study changed behaviourally in terms of strategy use as a result of taking part in the TAP with SEA treatment. This change in behaviour would assist them in their future participation in lectures.

6.4.1.3. Comparison of the number of references in students’ cognitive strategy use before and after the SEA intervention

The number of references in cognitive strategy use dramatically increased from 6 to 34 after the SEA intervention as shown in Figure 6.10.
According to the data collected before and after intervention, strategies used by students differed. Tactic of cognitive strategy used by Chinese students was more varied after the intervention compared to that before the intervention. Tactics used by students increased from 3 to 7 types after intervention. The comparison of the type and frequency of tactics is shown in the following figure.

Figure 6.10: The number of references in cognitive strategy used by Chinese students before and after the SEA treatment

Figure 6.11: Comparison of the number of references of tactics used by Chinese students before and after the SEA treatment
6.4.2. Metacognitive Strategies

Metacognitive strategies are regarded as planning techniques. Vandergrift (1999) stated that metacognitive strategies are self-regulated learning. It includes the attempt to plan, check, monitor, select, revise, and evaluate. Baker and Brown (1984) identified two types of metacognitive strategies. The first type is knowledge of cognition. It concerns with the learners’ awareness of what is going on. The second type is regulation of cognition. It relates to what learners should do to listen effectively.

6.4.2.1. Metacognitive strategies used by Chinese students before the SEA treatment

The data in the immediate written recall protocols revealed that only selective attention in metacognitive strategies was mentioned by five students with nine references.

Chinese students reported that they used selective attention to decide in advance what to pay attention to in the pre-listening stage. They predicted the keyword and the main idea which they needed to pay attention to from the questions and optional answers. However, they could not comprehend the keyword and the main idea as well as they expected.

Student AA 15 claimed she used selective attention. However, she could not comprehend key words when listening to the passage.

“Before listening to each listening passage, I read the questions and optional answers very carefully. I tried to find some words that might be heard when listening. I was disappointed. The listening passages were difficult. I could not even discriminate sounds or recognize the word due to very fast speaking. Then I could not comprehend anything. It was hopeless” (Student AA 15).

Student AA 03 also reported:

“Other listening passages were hard to understand. I tried to find key words and clues from questions and choices. However, it was too hard to deal with this test. There were a lot of unfamiliar and new vocabularies. I could not recognize or understand those words either. I was sure that they were all new vocabulary. I felt confused”.
6.4.2.2. Metacognitive Strategies used by Chinese students after the SEA treatment

Metacognitive strategies were mentioned by 26 students with 38 references after the treatment. The tactics were:

1) Encourage oneself to relax before listening to the text

Three students mentioned that they encouraged themselves to relax before listening to the text. For example,

Student AA 03 revealed:

“First I tried to relax. Then I read the whole question and options. When I was listening to the text, I tried to control my concentration”.

2) Selective attention

The data from the immediate recall protocols revealed that six students employed the selective attention to help them comprehend the listening text. They reported that they used this strategy in their pre-listening in order to help them decide in advance what to pay attention to.

Student AA 25 said:

“I listened to each passage carefully. I focused on the keywords appearing in the questions and optional answers. I did not listen to every word. I skipped incomprehensible parts. Keywords from the question and optional answers told me what I needed to focus on”.

2.1) Pay attention to keywords

Student AA 14 claimed that the keyword from the question helped her easily guess the answer.

“In my opinion, listening passage 3 was the most difficult because there were a lot of new words. Unlike listening passage 4 and 5, the speaker did not repeat some information. However, I could easily guess answers because some questions asked about ‘how many?’ Then, I particularly listened to numbers” (Student AA 14).

2.2) Pay attention to repetition

Repetition can give learners more time to process input for both meaning and form (Jensen & Vinther, 2003; O'Bryan & Hegelheimer, 2009). Repetition also can raise listener’s
understandability (O'Bryan & Hegelheimer, 2009). The data from the immediate written recall protocols revealed that student paid attention to repetitive phrases to help them understand the message and retain the information.

Seven students claimed that they focused on the repetitive words and phrase in order to help them identify the main ideas and keep up with the speaker. For example,

Student AA 09 revealed:

“Listening passage 4 and 5 were more difficult than listening passage 1 and 2. However, I could answer the question. The speaker repeated important information many times. Therefore, I paid particular attention to repeated messages. I also did a note taking. I wrote a list of numbers first. I knew the number of main points from the speaker’s introduction. Then I added information in each number. This way helped me follow and remember the messages”.

Student AA 20 also reported:

“Questions of passage 4 and 5 were open ended questions. At first place, I thought it would be difficult to understand the content. It made me nervous. I just told myself ‘concentrate!’. These passages were not too hard as much as I expected. I could comprehend some of the main ideas. Although the speaker in passage 4 talked very fast, I could keep up with her. I could follow her message because she repeated some information around 2 or 3 times”.

2.3) Listening to emphasized words

The Chinese students recognised that emphasized words are usually louder, longer and clearer than others. Four students used emphasized words to identify keywords and main ideas. For example,

Student AA 18 revealed:

“Listening passage 4 was not too hard. Listening passage 4 was about a library card. I linked my previous experience with what I heard. And the speaker repeated some information many times. They also pronounced some phrases louder than others. That helped me identify and understand the main points”.
2.4) Listen to discourse markers or sign posts

Fourteen students regarded discourse markers or sign posts as a linguistic tool which could help them know what the speaker’s messages were.

Student AA20 emphasised the benefit of listening to an introduction and a summary.

“The speaker gave us a brief at the beginning and the end of the passage. It gave me more time to think and answer the questions. I took some notes to help myself organize and recheck the information” (Student AA 20).

Ten students revealed that listening to a list of numbers helped them follow, organize and better understand the information.

Student AA 02 revealed that a list of numbers helped her to follow the main points.

“The speaker spoke very fast. I could hear a short pause and then numbers. The list of numbers helped me follow a next part and comprehend main points”.

She also clarified her listening process:

“While listening to passage 4 and 5, I heard the word ‘first of all’. Suddenly, I could understand that might be one of the points. Then I did a note taking. When speaker used ‘the second’, I could understand it might be another point. I put the list of numbers and add information on my paper note. I could rearrange all information later from the note” (Student AA 02).

Student AA 26 also reported that a list of numbers helped her to keep up with the speaker.

“I tried to follow the next part by waiting for the next longer pause. The speaker listed numbers (1, 2, 3, and so on). Because of these, when missing some points, I just listening to the next part with the next number. Then I could back to keep up with the speaker” (Student AA 26).

Out of the data from the immediate written recall protocols, ‘listening to discourse markers or signposts’ was the most often mentioned by students. The least mentioned was ‘listening to
emphasised words’. The figure below demonstrates the number of references of metacognitive strategy used by students after the intervention.

![Bar chart showing the number of references for each tactic of selective attention used by Chinese students after the SEA treatment.]

**Figure 6.12**: The number of references in each tactic of selective attention used by Chinese students after the SEA treatment

6) Directed attention

Directed attention refers to listener’s ability to attend to two or more competing tasks. Four students claimed that they concentrated hard and tried to keep working on their listening comprehension process in spite of difficulty.

“While listening to listening passage 4 and 5, I also read sentences first. Open ended questions were used in the tasks. The tasks were difficult due to open ended questions. Therefore, I particularly paid attention to these passages” (Student AA 21).

Student AA 20 also reported:

“Passage 4 and 5 used open ended question. At first place, I thought it would be difficult to understand the content. It made me nervous. I just told myself ‘concentrate!’ . These passages were not too hard as much as I expected. I could comprehend the main ideas. Although the speaker in passage 4 talked very fast, I could keep up with her. I could follow her message because she repeated some information around 2 or 3 times”.
To summarize, the data from the immediate written recall protocols revealed that the selective attention category was the most often mentioned by students. The least often mentioned was ‘encourage oneself to relax before listening to the text’. The figure below demonstrates the frequency of metacognitive strategy used by Chinese students after the intervention.

![Bar chart showing metacognitive strategies used by Chinese students after the SEA treatment]

Figure 6.13: The number of references in metacognitive strategies used by Chinese students after the SEA treatment

### 6.4.2.3. Comparison of the number of references in metacognitive strategies used by Chinese students before and after the SEA treatment

The data from the immediate written recall protocols indicated that the number of references metacognitive strategy used before and after the intervention differed. The number of references of metacognitive strategy used by students dramatically increased after the intervention. This finding was consistent with the study of Vandergrift (2003). Vandergrift found that skilled listeners used twice as many metacognitive strategies as their less-skilled counterparts.
Figure 6.14: Comparison of the number of references in metacognitive strategy used by students before and after the SEA treatment

Figure 6.15: The number of references in strategies used by students before and after the SEA treatment
Figure 6.16: The number of references in each tactics used by students before and after the SEA treatment (CS = Cognitive strategies; MS = Metacognitive strategies)

From Figure 6.15 and 6.16, it can be seen that Chinese students used more various strategies and tactics after the intervention. Figure 6.16 demonstrates the variety of tactics used by students before and after the intervention. The findings concurred with findings from O’Malley et al (1989), O’Malley and Chamot (1990), Goh (2000), and Vandergrift (2003). They claimed that effective listeners tended to use many more and different strategies and tactics to help them comprehend the content.

The data also shows that nine students wanted to give up listening to the text after encountering listening difficulties. On the other hand, none of the students after the intervention mentioned about giving up taking the test. For example, student AA 28 revealed that when encountering listening difficulties, he wanted to give up listening to the texts.

“I could not understand stand anything. It was hopeless. I wanted to give up” (Student AA 28).
After the intervention, he used strategies to overcome listening difficulties.

“There were many familiar words. However, some word I was not sure what the speaker wanted to say. I guessed the meaning of some words from the context. I could hear the word ‘or’, then I heard another word which I known its meaning. I also used my background knowledge to help me understand the content. Moreover, the introduction and summary of listening passage 4 helped me comprehend the main information” (Student AA 28).

This finding was consistent with the study of O’Malley et al (1989). They found that skilled listeners used more strategies and tactics to redirect their attention back to the task when their listening comprehension broke down, whereas less skilled listeners gave up and stopped listening.

6.5. Summary

This study used the immediate written recall protocols to identify listening difficulties and strategies encountered by Chinese. Their listening difficulties include affective barriers and listening comprehension processing barriers. The findings demonstrated that after the SEA treatment the number of the references in all types of listening barriers decreased dramatically. TAP with SEA seemed to have helped Chinese students overcome listening comprehension processing problems.

Results in this chapter demonstrated that that SEA helped Chinese students lessen their L1 sieve by using physical movements and gestures and pronunciation in the teaching of prosody of Thai. Body movements and gestures could assist Chinese students develop synchrony of their body with TL. Chinese students could experience and feel the body tension when pronouncing Thai prosody. In other word, learning through spoken, aural, and modality with body movement and gestures is more efficient than doing passive listening exercises based on minimal pairs. As a result, Chinese students could produce and perceive Thai sounds correctly. This led Chinese students in TAP know certain words not only by sight but also by sound.

By using connected speech, SEA in TAP could assist Chinese students feel familiar with rhythm and reduced forms in Thai. Consequently, Chinese students not only could lessen their syllable timed rhythm filter but also keep up with normal speech rate of Thai native speakers.
By using prosody training in a discourse level, SEA in TAP also promoted Chinese students use prosodic cues to identify of a phrase boundary and group words into a chunk. Moreover, ready-made chunks in TAP’s materials could facilitate, L2 learners’ decoding. Consequently, students’ decoding processes could become quicker. As a result, Chinese students could follow and understand Thai native speakers’ speaking.

TAP also raised awareness of the role of discourse markers in structuring academic discourse. Through the activities of drama techniques, Chinese students had many opportunities to learn and practice recognising and using discourse markers. As a result, majority of Chinese students could better comprehend keywords and understand intended messages post treatment.

With SEA in TAP, the number of listening strategies used by Chinese students dramatically increased after the intervention. Moreover, Chinese students used more variety of strategies after the SEA treatment. After the SEA treatment, Chinese students employed four news strategies: (1) note-taking; (2) encourage oneself to relax before listening; (3) making inferences; and (4) directed attention. With a large number of listening strategies at their disposal, Chinese students could better cope with the posttest of ALT. SEA in TAP had benefits on L2 students’ listening proficiency by making them more effective listeners.

Evidence to prove the effectiveness of SEA on the test scores from three paper-based tests using t-test will be provided in the next chapter.
Chapter 7 Results on Chinese students’ listening performance

7.1. Introduction

This chapter presents quantitative results on Chinese students’ improvement on listening proficiency. The first section describes briefly the experiment on improving students’ listening proficiency with the paper-based tests. The second section contains quantitative results of Chinese students’ listening performance in the paper-based tests.

7.2. Participants

The participants in this experiment involved 57 Chinese students in the 2+2 program. 30 students were the TAP group as the experimental group. 27 students were the TL&S II group as the control group. As previously presented in Chapter 5 Study, TAP used the same core text as TL&S II but different teaching methods. It was agreed with GUN that Chinese students, who volunteered to study in TAP, did not need to study in TL&S II. 30 Chinese students were trained in TAP through communicative activities and drama techniques which met SEA’s principles. Both TAP and TL&S II courses were conducted for 35 hours or around 4 hours a week within 2.5 month.

7.3. Paper-based tests

The following paper-based tests were used

1. Academic Listening Test (ALT)
2. Summarizing test
3. Public Thai exit test

The Academic Listening Test (ALT) was a teacher made test which was administered before and after the TAP intervention. There were 11 weeks in a semester. The pretest was conducted in week 1 of the semester and the posttest at the end of the semester in week 11. Both the pretest and the posttest had the same format. Both public Thai exit test (GUN made) and the Summarizing test (the researcher made) were only administered once after the SEA treatment.
The detail of these three paper-based tests as measures of achievement was presented in section 5.3.2.

7.4. Findings from the ALT

7.4.1. Paired sample t-test of the experimental group in the pre and post tests of ALT
Listening scores from the pre and post tests of the experimental group were analysed. Paired samples t-test was employed to compare the mean scores of the pre and post tests of the group.

Table 7.1: Comparison of pre and post ALT scores of the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Pretest (ALT)</th>
<th>Posttest (ALT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Mean</td>
<td>13.37/35</td>
<td>29.60/35</td>
</tr>
<tr>
<td>SD</td>
<td>5.43</td>
<td>4.68</td>
</tr>
<tr>
<td>Sig. (2 tailed)*</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

As shown in Table 7.1 and Figure 7.1, the average score of the pretest was 13.37 and the standard deviation (SD) was 5.43. The overall mean of the posttest was 29.60 and the standard deviation was 4.68. The average score of the posttest was statistically significant higher than that of the pretest with p = .000 (p<0.05). This means students’ listening skill showed a statistically significant improvement after the SEA treatment. The results demonstrated that Chinese students in the TAP group performed better in listening in the posttests than in the pretests. The
hypothesis “The average score of the experimental group in Academic Listening Test (ALT) is statistically higher after SEA treatment when compared with the average score in ALT before the SEA treatment” was accepted.

**7.4.2. Independent sample t-test between the experimental and control groups**

The independent sample t-test determined if there was any significant difference in the average score in the posttests of ALT between experimental and control groups.

**Table 7.2: Comparison of posttest score in ALT between the experimental and control groups**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>The post-test of ALT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>27</td>
<td>17.22</td>
<td>6.76</td>
<td>.000</td>
</tr>
<tr>
<td>Experimental</td>
<td>30</td>
<td>29.60</td>
<td>4.68</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

![Means and standard deviations of the post tests of ALT between the experimental and control experimental groups](image)

**Figure 7.2:** Means and Standard deviations of the posttests of ALT between the experimental and control groups

As indicated in Table 7.2 and Figure 7.2, there was a significant difference between the average score for the control group (M = 17.22, SD = 6.76) and the average score for the experimental group (M = 29.60, SD = 4.68). The findings also showed that there was a significant difference between the posttest (ALT) of the control and experimental groups with p-value =0.000 < 0.05. The independent sample t-test result demonstrated that there was a significant difference on the listening performance between the control and experimental groups. The results also suggested that the experimental group performed better in their listening performance than the control
group. Therefore, the hypothesis “The average score of the experimental group in the posttest of ALT is statistically higher than the control group’s” was accepted.

7.5. Findings from the Summarizing test

The Summarizing test was used to investigate whether Chinese students developed abilities to ‘understanding major ideas and specific details’, and ‘making inferences’ when they were listening to academic lectures.

In the Summarizing test, to prove their academic listening abilities, Chinese students needed to include the overall main idea, the major ideas, and the supporting details of the major ideas in their summary by writing down their response on an answer sheet in Chinese.

7.5.1. Independent sample t-test on the Summarizing test between the experimental and control groups

The Summarizing test was conducted at the end of the TAP and TL&S II courses. To be able to compare listening performance between the experimental and control groups, both groups participated in the Summarizing test. Then, the scores obtained by experimental and control groups in the Summarizing were analyzed using the independent sample t-test to ascertain whether there was a statistically significant difference in the average scores for these two groups. The significance level was set at p<0.05 throughout the study.

Table 7.3: Comparison of scores in the Summarizing test between the experimental and control groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed)*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summarizing test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>27</td>
<td>8.96</td>
<td>4.78</td>
<td>.000</td>
</tr>
<tr>
<td>Experimental</td>
<td>30</td>
<td>15.73</td>
<td>2.06</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)
Table 7.3 and Figure 7.3 show that the mean score of the experimental group (M = 15.73) was significantly higher (p = .000 < 0.05) than the control group (M = 8.96). It could be interpreted that, the experimental group with SEA intervention significantly outperformed the control group in their listening performance to grasp the subject matter of academic lectures.

As can be seen from Table 7.3 and Figure 7.3, the standard deviation (SD) of the experimental group was 2.06 while SD of the control group was 4.78. The obvious difference in the standard deviations between two groups indicated that the performance of the experimental group was much more closely clustered and generally narrower in range than that of the control group. In other words, this result indicated that Chinese students in the experimental group did not only scored much higher but also attained a more consistent achievement. The average score and narrow range in the standard deviation of the experimental group in the Summarizing test also indicated that all students passed the test thus demonstrating their abilities to grasp academic lectures with the good average score at 15.73 out of 20. For students in the control group, this was not the case with everyone failing the test.

7.6. Findings from the Thai exit test

The Thai exit test was conducted at the end of both TL&S II and TAP courses. The Thai exit test was a public achievement test which assessed what Chinese students had learned. As the
research in this thesis is aimed at the Chinese students’ gains in listening performance, only the listening section of the Thai exit tests was examined to provide data which would demonstrate the effectiveness of SEA of listening.

7.6.1. Independent sample t-test on the Thai exit test between the experimental and control groups

The independent samples t-test was use to investigate whether there was any significant difference between the average scores of the control and experimental groups in the Listening part of the Thai exit test.

Table 7.4: Comparison of Thai exit test scores between the experimental and control groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>27</td>
<td>15.70/20</td>
<td>2.77</td>
<td>.000</td>
</tr>
<tr>
<td>Experimental</td>
<td>30</td>
<td>18.00/20</td>
<td>.983</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

Figure 7.4: Means and standard deviations of the Thai exit test between the experimental and control groups

As indicated in Table 7.4 and Figure 7.4, a moderate difference between the average score for the control group (M = 15.70) and the average score for the experimental group (M = 18.00) were found. The analysis of the scores using the independent samples t-test statistical procedure showed that the average score of the experimental group was significantly higher than that of the control group with p-value =0.000 < 0.05.
T-test analysis demonstrated there was a significant difference on the listening performance between the control and experimental groups. They suggested that the experimental group who received the SEA treatment did significant better in the Thai exit test than the control group who did not receive the SEA treatment. The hypothesis “The average score of the experiment group in the Thai exit test is significantly higher than that of the control group” was accepted.

Moreover, as can be seen in Table 7.4 and Figure 7.4, the standard deviation (SD) of the experimental group was .98, while SD of the control group was 2.77. The difference in the standard deviations between two groups indicated that performance of the experimental group was much more closely clustered and narrower in range than that of the control group. This result demonstrated that Chinese students in the experimental group were not only more efficient but more consistent in their achievement. However, the control group also achieved well with all students passing this test but we must bear in mind that the test was written in Thai script and consisted mainly of multiple choice and true and false questions. Such a format would give Chinese students opportunity to guess from looking at questions and answers.

7.7. Summary

The analysis of the test scores from three paper based tests using t-test revealed that after the SEA treatment, Chinese students of the experimental group improved on their listening proficiency to a level sufficient to grasp the subject matter of academic lectures. Moreover, comparison of the mean scores of all the paper-based tests between the experimental group and the control group showed that the experimental group with SEA intervention outperformed the control group in terms of listening performance. The positive impact and benefit on Chinese students’ listening proficiency by making them more effective listeners can be attributed to the effectiveness of TAP with SEA.

In terms of the reliability and validity of the three tests, the Academic Listening Test (ALT) and the Summarizing test are valid tests as the format and content have been designed to measure Chinese students’ ability to grasp content of academic lectures in Thai lectures spoken by native Thai speakers.
As a test of proficiency, the public Thai exit test was less reliable as it does not measure Chinese students’ ability to understand Thai lectures. Therefore, the content of the Public Thai exit test was invalid in terms of gathering information to meet the objective of this thesis.
Chapter 8 Results on prosodic errors in Chinese students’ speech production

8.1. Introduction

This chapter presents the quantitative results on prosodic errors in Chinese students’ speech production. The participants in this experiment involved with one experimental group and no control group due to institution and time constraint. The experimental group consisted of 30 Chinese students.

8.2. Measures used to collect prosodic errors in Chinese students’ speaking performance

8.2.1. Spontaneous speaking test

The spontaneous speaking test was administered twice: pretest in week 1 of the semester, posttest in week 11. The task in both pre and post tests was a 3 minute spontaneous speaking performance including 1 minute preparation time. The assigned topic in the pretest was about students’ personal information. Topic task in the posttest was ‘Talking about interesting places on the university campus’. The detail of the speaking tests was presented in section 5.3.4.

8.2.2. Auditory and acoustic analyses

Both auditory (by human- judgment) and acoustic analyses (by PRAAT) were used in order to explore more on the nature of Chinese students’ prosodic errors. The details of auditory and acoustic analyses were illustrated in 5.3.4.

8.2.3. Quantitative analysis

A percentage frequency distribution was used to compare tonal errors produced by the experimental group before and after the SEA treatment. Paired sample t-test was employed to see whether there was a statistically significant difference in the mean scores of stress errors and misplaced pauses between the pretest and the posttest for the experimental group. The significance level was set at p<0.05 throughout the study.
8.3. Findings on Chinese students’ prosodic errors from the spontaneous speaking tests

8.3.1. Tonal errors

8.3.1.1. Chinese students’ tonal errors before the SEA treatment

30 students in the experimental group participated in the speaking test before the SEA treatment. However, 8 students did not produce any speech during the test. Therefore, only 22 speaking samples were investigated. The 22 students made 110 tonal errors out of a total of 1,159 tones; an error rate of 9.49 percent. Table 8.1 shows the error distribution per tone in the speaking sample of each student in the experimental group before the SEA treatment.

Table 8.1: Distribution of tonal errors for the experimental group before the SEA treatment

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Total tone No. of errors</th>
<th>Total No. of errors (%)</th>
<th>Errors in Mid tone (%)</th>
<th>Errors in Low tone (%)</th>
<th>Errors in Falling tone (%)</th>
<th>Errors in High tone (%)</th>
<th>Errors in Rising tone (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>80</td>
<td>7</td>
<td>8.75</td>
<td>12.1</td>
<td>0</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>S2</td>
<td>81</td>
<td>7</td>
<td>8.64</td>
<td>14.2</td>
<td>0</td>
<td>6.66</td>
<td>0</td>
</tr>
<tr>
<td>S4</td>
<td>21</td>
<td>3</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>S5</td>
<td>47</td>
<td>2</td>
<td>4.25</td>
<td>16.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S6</td>
<td>72</td>
<td>5</td>
<td>8.33</td>
<td>15.1</td>
<td>0</td>
<td>0</td>
<td>12.5</td>
</tr>
<tr>
<td>S7</td>
<td>50</td>
<td>6</td>
<td>12</td>
<td>23.8</td>
<td>0</td>
<td>6.66</td>
<td>0</td>
</tr>
<tr>
<td>S8</td>
<td>27</td>
<td>2</td>
<td>7.40</td>
<td>11.1</td>
<td>0</td>
<td>0</td>
<td>14.2</td>
</tr>
<tr>
<td>S9</td>
<td>8</td>
<td>1</td>
<td>12.5</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S10</td>
<td>105</td>
<td>6</td>
<td>6.66</td>
<td>9.8</td>
<td>0</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>S11</td>
<td>75</td>
<td>13</td>
<td>17.33</td>
<td>33.3</td>
<td>0</td>
<td>4.76</td>
<td>38.5</td>
</tr>
<tr>
<td>S14</td>
<td>86</td>
<td>12</td>
<td>13.95</td>
<td>24.4</td>
<td>0</td>
<td>0</td>
<td>12.5</td>
</tr>
<tr>
<td>S15</td>
<td>64</td>
<td>7</td>
<td>10.93</td>
<td>18.75</td>
<td>0</td>
<td>0</td>
<td>12.5</td>
</tr>
<tr>
<td>S16</td>
<td>55</td>
<td>3</td>
<td>5.45</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S17</td>
<td>67</td>
<td>4</td>
<td>5.97</td>
<td>8.82</td>
<td>0</td>
<td>0</td>
<td>12.5</td>
</tr>
<tr>
<td>S19</td>
<td>53</td>
<td>4</td>
<td>9.43</td>
<td>10.7</td>
<td>0</td>
<td>0</td>
<td>16.6</td>
</tr>
<tr>
<td>S20</td>
<td>70</td>
<td>6</td>
<td>8.57</td>
<td>15.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S21</td>
<td>17</td>
<td>5</td>
<td>47.05</td>
<td>16.6</td>
<td>0</td>
<td>25</td>
<td>100</td>
</tr>
<tr>
<td>S22</td>
<td>35</td>
<td>4</td>
<td>11.42</td>
<td>21</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S24</td>
<td>47</td>
<td>4</td>
<td>8.5</td>
<td>18.18</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S25</td>
<td>47</td>
<td>3</td>
<td>6.38</td>
<td>11.7</td>
<td>0</td>
<td>0</td>
<td>12.5</td>
</tr>
<tr>
<td>S26</td>
<td>43</td>
<td>4</td>
<td>9.30</td>
<td>21.4</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>S29</td>
<td>9</td>
<td>2</td>
<td>22.22</td>
<td>25</td>
<td>6.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1,159</td>
<td>110</td>
<td>9.49</td>
<td>16.28</td>
<td>0.66</td>
<td>2.14</td>
<td>11.76</td>
</tr>
</tbody>
</table>

Table 8.1 shows that a total of 1159 tones were produced by the 22 students in the experimental group. 16.28 percent of these tones were Mid tone errors, 0.66 percent were Low tone errors, and
2.14 percent were Falling tone errors. 11.76 percent errors were High tone. None tonal error was in Rising tone.

Figure 8.1 shows the distribution of tonal errors for each tone made by Chinese students in the experimental group before the SEA treatment.

![Distribution of tonal errors for the experimental group before the SEA treatment](image)

Figure 8.1: Distribution of tonal errors for the experimental group before the SEA treatment

The distribution of the five tones for the experimental group before the SEA treatment indicated that the order of difficulty of tone was Mid tone, High tone, Falling tone, Low tone, and Rising tone

1) Mid tone

Findings indicate that Chinese students had difficulty to pronounce Mid tone. The possible cause of the problematic tone was tone neutralization of unstressed and secondary stressed syllables in connected speech.

Typical words of Thai can contain up to five syllables (Luksaneeyanawin, 1983). The stress in Thai always falls on the last syllable of such words. The degree of tone reduction is directly related to the number of syllable of a word in a connected speech. In the unstressed syllable, the original Low or High tones will be reduced to Mid tone (Luksaneeyanawin, 1983; Peyasantiwong, 1986).
832 words were produced by Chinese students in the pretest. Among 832 words, there were 359 polysyllabic words. Some unstressed syllables in the polysyllabic word indeed needed to be tone reduction. However, Chinese students in the experimental group did not reduce High tone or Low tone to Mid tone when they pronounced the word in connected speech because of their L1 interference and possibly because they were not taught how to reduce these tones in their previous teaching.

As mentioned in Chapter 2, Mandarin is a syllable-timed language (Lin & Wang, 2005). When Chinese students pronounce their L1 word, each syllable is pronounced with the same amount of time. Chinese students applied the rhythm of Mandarin (syllable-timed rhythm) when speaking Thai. Consequently, they clearly articulated every Thai syllable and word in speeches. In other words, Chinese students stressed every syllable. Consequently, the original low tone or high tone was not reduced to the mid tone.

For example, student AA 02 did not reduce the high tone to the mid tone in the word เที่ยว [tha 'le:] in her connected speech as seen in Figure 8.2.

![Figure 8.2: the mispronounced word เที่ยว [tha 'le:] produced by student AA 02](image)
Figure 8.2 demonstrates the way PRAAT program indicates the stressed syllable of the word [tha 'le:] by the level of pitch and intensity. According to the figure, since the first syllable has a higher level of pitch and intensity, it can be claimed that the first syllable produced by student AA 02 is stressed. Normally, Thai native speakers do not stress the first syllable of the word [tha 'le:]. Therefore, the level of pitch in the first syllable becomes the mid-level. Besides, when Thai native speakers produce a polysyllable the level of intensity in the first syllable is lower than a second one.

2) High tone

Findings indicate that Chinese students had difficulty to pronounce High tone. Similar to the mid tone, the possible cause of this problematic tone was tonal neutralization of unstressed and secondary stressed syllables in connected speech.

The speaking data in the pretest consisted of monologue on one’s family details and hobbies. Therefore, the data in this study contained many personal pronouns. The pronouns: ฉัน [chăn] ‘I’,  тебя [di 'chăn] ‘I’, and เขา [khăw] ‘he/she’ were frequently used in the sentence. The citation form or full form of these words are [chăn], [điʔ chăn], and [khăw] since an initial consonant of these words are a rising consonant. With the rising consonant, the original tone of the syllable is the Rising tone.

Forty four initial consonantal alphabets in Thai language are classified into three groups or the so-called ‘Triyangsa’. ‘Triyangsa’ includes mid, low and rising consonants. ‘Triyangsa’ is one factor to determine the tone in each syllable. As previously mentioned, fluent Thai speech is usually fast. Because of this, not every word is clearly produced. Consequently, in connected speech, Thai tones are not pronounced in full forms or citation forms but rather are generally spoken in reduced forms. Therefore, as a secondary stress in a sentence, these pronouns are pronounced by Thai native speaker with High tone. In other words, these personal pronouns when they are as a secondary stress, their original tone needs to be reduced from the rising tone to high tone.
However, Chinese students pronounced these personal pronouns in citation form and not in reduced form. The possible causes might be a citation form reading habit which might be formed in the previous Thai course and interference of their L1 rhythm.

Citation form reading habit in the study is considered as an induced error. The induced error is errors made by L2 learners as a consequence of the type of instruction they receive (Stenson, 1975). Teaching pronunciation and reading aloud with citation form in previous Thai courses could create induced errors in L2 students learning Thai.

For example, student AA 08 did not reduce the rising tone to the high tone in the word ฉัน [chán] in her connected speech as seen in Figure 8.3.

![Figure 8.3: the mispronounced pronoun ฉัน [chán] produced by student AA 08](image)

3) **Low tone**

There was only one tonal error in Low tone due to student’s literacy skills”. Student AA 29 mispronounced the phase ผัดไปผัดมา [pət paj pət ma:] ‘to postpone’.
4) Falling tone

Three students mispronounced the particle [khâ] (a falling tone) to [khá] (a high tone). One student mispronounced the particle [lâ] (a falling tone) to [lá] (a high tone). Thai particles can change their vowel, tone or even consonant of given forms (Chuenkongchoo, 1956). Then, these sound changes can turn sentences into different types of sentences. Some final particles in Thai have Falling tone when they occur in statements and High tone when they occur in the questions (Chuenkongchoo, 1956; Cooke, 1989). From the result of the pretest, four Chinese students mispronounced the particle [khâ] and [lâ] Falling tone to [khá] and [lá] High tone in their statement.

From these findings, it can be interpreted that Chinese students in fact were capable of producing Low tone, Falling tone, and Rising tone. However, Chinese students had difficulty producing the mid and high tones. The main cause of tonal errors made by Chinese students was their L1 interference. Chinese students maintained their L1 which is a syllable timed language. As L2 adult learners, students’ L1 rhythm is deeply rooted, Chinese students would unconsciously apply it to Thai prosody. According to Luangthongkum (1977), L2 students would feel uneasy when they speak L2 or hear someone speak with the rhythm of L2. Consequently, this uneasiness can be a major barrier for improving intelligibility in the L2.

To remedy these problematic tones, rhythm and stress, pronunciation training by using physical movements and gestures in the teaching of prosody of a L2 was employed in TAP with SEA.

8.3.1.2. Chinese students’ tonal errors after the SEA treatment

Table 8.2: Distribution of tonal errors in the experimental group after the SEA treatment

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Total tone</th>
<th>Total No. of errors</th>
<th>Total No. of errors (%)</th>
<th>Errors in Mid tone (%)</th>
<th>Errors in Low tone (%)</th>
<th>Errors in Falling tone (%)</th>
<th>Errors in High tone (%)</th>
<th>Errors in Rising tone (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>116</td>
<td>2</td>
<td>1.72</td>
<td>2</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>S2</td>
<td>147</td>
<td>2</td>
<td>1.36</td>
<td>2.94</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>S3</td>
<td>101</td>
<td>4</td>
<td>3.96</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>S4</td>
<td>109</td>
<td>3</td>
<td>2.75</td>
<td>7.14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>S5</td>
<td>121</td>
<td>5</td>
<td>4.13</td>
<td>4.47</td>
<td>0</td>
<td>0</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>S6</td>
<td>109</td>
<td>4</td>
<td>3.66</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>9.09</td>
<td></td>
</tr>
<tr>
<td>S7</td>
<td>80</td>
<td>1</td>
<td>1.25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>S8</td>
<td>80</td>
<td>3</td>
<td>3.75</td>
<td>6.89</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>S9</td>
<td>65</td>
<td>3</td>
<td>4.61</td>
<td>10.71</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Table 8.2 shows that 30 students in the experimental group made 98 tonal errors out of a total of 3,047 tones after the SEA treatment. A tonal error rate was 3.21 percent. 5.25 percent of these tones were Mid tone errors, 0.22 percent were Low tone errors, 1.3 percent were Falling tone errors, and 5.17 percent were High tone errors. None tonal error was in Rising tone.

Figure 8.4: Distribution of tonal errors for each tone for the experimental group before and after the SEA treatment
Figure 8.4 shows the distribution of tonal errors in the experimental group after the SEA treatment. It indicates that the order of difficulty of tone was Mid tone, High tone, Falling tone, Low tone, and then Rising tone.

Figure 8.4 also shows that the percentage frequency distribution of tonal errors for each tone decreased after the SEA treatment. Figure 8.4 indicates that the most dropping tonal error was Mid tone. It significantly went down from 16.28 percent to 5.25 percent after the SEA treatment. Tonal errors in High tone double decreased from 11.76 percent to 5.17 percent.

Similar to the findings of tonal errors before the SEA treatment, Chinese students were capable of producing Low tone, Falling tone, and Rising tone. Faulty pronunciation in the low and falling tones was due to student’s literacy skills. For example, student AA 12 mispronounced the word ผัก [phàk] ‘vegetable’, which should be Low tone, as High tone.

Three students mispronounced a particle [khâ] Falling tone to [khá] High tone. Only one student mispronounced the particle [lâ] Falling tone to [lá] High tone. Thai particles can change their vowel, tone or even consonant of given forms (Chuenkongchoo, 1956). Then, these sound changes can make different sentences. Some final particles in Thai have Falling tone when they occur in statements and High tone when they occur in the questions (Chuenkongchoo, 1956; Cooke, 1989). Chinese students used High tone in these particles in their statement. However, the number of tonal error in mispronouncing Thai particles reduced when compared to that before SEA treatment.

Chinese students still had difficulty in producing the mid and high tones. Chinese students made tonal errors in Mid tone because they did not reduce original High tone or Low tone to Mid tone in their speech. However, the percentage of Mid tone errors made by Chinese students decreased after the SEA treatment.

In tonal errors of High tone, four mispronounced words were made by Chinese students in the posttest. Chinese students did not reduce original Rising tone to High tone in their speech. Four words were as follows:
Table 8.3: Words with tonal errors in High tone produced after the SEA treatment

<table>
<thead>
<tr>
<th>Words</th>
<th>Citation form</th>
<th>Connected speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>ฉัน (I)</td>
<td>chan</td>
<td>chán</td>
</tr>
<tr>
<td></td>
<td>Full form</td>
<td>Unstressed/ Reduced form</td>
</tr>
<tr>
<td></td>
<td>Rising tone</td>
<td>High tone</td>
</tr>
<tr>
<td>เขา (he/she)</td>
<td>khâw</td>
<td>khâw</td>
</tr>
<tr>
<td></td>
<td>Full form</td>
<td>Unstressed/ Reduced form</td>
</tr>
<tr>
<td></td>
<td>Rising tone</td>
<td>High tone</td>
</tr>
<tr>
<td>หนังสือ (book)</td>
<td>nānj</td>
<td>sû:</td>
</tr>
<tr>
<td></td>
<td>Full form</td>
<td>Unstressed/ Reduced form</td>
</tr>
<tr>
<td></td>
<td>Rising tone</td>
<td>High tone</td>
</tr>
<tr>
<td></td>
<td>Tone in a syllable or word with a rising consonant น followed with a sonorant is rising.</td>
<td></td>
</tr>
<tr>
<td>ก๋วยเตี๋ยว (noodle)</td>
<td>kûay</td>
<td>tìaw</td>
</tr>
<tr>
<td></td>
<td>Full form</td>
<td>Unstressed/ Reduced form</td>
</tr>
<tr>
<td></td>
<td>Rising tone</td>
<td>High tone</td>
</tr>
<tr>
<td></td>
<td>Tone in a syllable or word with a middle class consonant and tone mark + is rising.</td>
<td></td>
</tr>
</tbody>
</table>

However, the percentage frequency distribution of tonal errors in both Mid and High tone significantly decreased after the SEA treatment. Chinese students pronounced the first syllable of the word with reduced form which was unstressed. It can be interpreted that the citation form reading habit, and syllable-timed rhythm interference had less impact on their Thai tonal production after the SEA treatment.
8.3.1.3. Comparison of distribution of tonal errors before and after the SEA treatment

As seen in Figure 8.5, the tonal errors occupy 9.49 percent of the total tones produced were made by Chinese students before the SEA treatment. Their tonal errors dropped to 3.21 percent after the SEA treatment.

Majority of Chinese students could better produce the pronouns ฉัน [chán], and เข่ [kháw] in a sentence compared to their pronunciation on these words before the SEA treatment. For example, student AA 08 could articulate the pronoun ฉัน [chán] with reduced form in his speech after the SEA treatment as presented in Figure 8.6.

Figure 8.5: Distribution of tonal errors before and after the SEA treatment

Figure 8.6: Correct pronunciation of pronoun ฉัน [chán] of the student AA 08
The large decrease in frequency distribution of tonal errors in Mid and High tones indicated that Chinese students in the experimental group could lessen their L1 interference when producing Thai prosody. Consequently, they could form a better habit when producing Thai tones. This weaken L1 influence proved that the SEA treatment with humming, walking and clapping to the rhythm in pronunciation training could be useful for developing synchrony of the body with Thai prosody.

Like any language, connected speech is a crucial part of Thai language (Thawisomboon, 1956; Laungthongkum, 1976). In Thai language, rhythm and stress in connected speech are influential on tonal changes. In the unstressed or reduced form, tone change is quite common (Noss, 1972). Prosody training in connected speech in TAP allowed Chinese students to develop their awareness in the difference between full and reduced forms. Consequently, Chinese students could produce a syllable or word in a sentence with an appropriate form. Then, they could articulate Mid and High tones correctly. Furthermore, with correct speech production and perception, Chinese students could store words both by sight and by sound in their long term memory.

**8.3.2. Stress errors**

As previously presented in section 2.4, one difference between Mandarin and Thai is that Mandarin is a syllable-timed language but Thai is a stress-timed language. Dauer (1983) and Roach (1983) pointed out that stress-timed languages and syllable-timed languages differ syllable structure, vowel reduction and stress. Stress-timed languages have more variation in syllable length and structure, more reduced unstressed syllables, and more stress related rules than syllable-timed languages. Because Mandarin is the syllable-timed language, its stress and accent interact with the lexical tone so that pattern of polysyllabic constituents in Mandarin is unstable (Kratochvil, 1968). Unlike the stress pattern in Mandarin, the stress pattern of Thai is fixed (Luksaneeyanawin, 1983). The stress in Thai falls on the last syllable of such words. More details and example of the stress patterns of Thai words was present in section 2.2.4.

The differences in stress patterns between Mandarin and Thai language might create an interlanguage of Chinese students. Consequently, the students might stress the wrong syllables. In the current study, only the word stress was investigated. The findings of stress errors before and after the SEA treatment are reported below.
8.3.2.1. Paired sample t-test of the experimental groups in the pre and post tests of the spontaneous speaking tests

To investigate the hypothesis “The average number of stress errors produced by the experimental group in the spontaneous speaking tests is significantly lower after the SEA treatment when compared to that before the treatment”, paired samples t-test was employed to compare the mean scores of stress errors in the pretest and the posttest.

30 students in the experimental group participated in the speaking test before the SEA treatment. However, 8 students did not produce any speech during the test. To establish the validity of this quantitative analysis on stress errors, 8 speaking samples of those 8 participants were not used in the posttest either. To sum up, only 44 speaking samples (22 samples from the pretest and another 22 samples of the same students from the posttest) were investigated.

Table 8.4: Comparison of average score of stress errors in the pre and post tests of the spontaneous speaking tests for the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experimental group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress errors in the pretest</td>
<td>22</td>
<td>43.14</td>
<td>20.70</td>
<td>.000</td>
</tr>
<tr>
<td>Stress errors in the posttest</td>
<td>22</td>
<td>12.21</td>
<td>7.85</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

Figure 8.7: Means and standard deviations of stress errors for the experimental group before and after the SEA treatment
As shown in Table 8.4 and Figure 8.7, the average number of stress errors produced by the experimental group in the pretest was 43.14 and the standard deviation (SD) was 20.70. The average number of stress errors in the posttest was 12.21 and the standard deviation was 7.85. The average number of stress errors in the posttest was statistically significantly lower than that of the pretest with p = .000 (p<0.05). This means the mean number of stress errors of the posttest showed a statistically significant improvement after the SEA treatment. In other words, the experimental group performed better in their speech production after intervention. As can be seen in Table 8.4, the standard deviation of the stress errors in the posttest was much more closely clustered and generally narrower in range than that of the pretest. The standard deviation decreased remarkably from 20.70 to 7.85 indicating that the experimental group was becoming not only more efficient but more homogeneous in achievement after the SEA treatment.

Since there was a significant difference between the average number of stress errors between the pretest and the posttest, the hypothesis “The average number of stress errors produced by the experimental group in the spontaneous speaking tests is significantly lower after the SEA treatment when compared to that before the treatment” was accepted.

The significant difference between the average number of stress errors before and after the SEA treatment constitutes evidence of the positive impact of SEA on L2 students’ improvement on Thai prosody production.

As Zhang’s suggestion (2006), relaxation can bring a lowering of conscious and unconscious resistance to the learning of a FL. The relaxation procedure in the sensitization session in TAP with SEA therefore could lower the learner’s level of inhibition. Then, it could make the learners’ egos more permeable. That enabled their L1 exercise less influence on their speech production.

In the sensitization session in TAP with SEA, clapping to the rhythm of the sentences was used in order to allow Chinese students to experience the rhythm of the sentence and observe different groupings of the words in a sentence. As Thai is a stress-timed language with fix stress pattern (Luangthongkum, 1977; Dauer, 1983; Luksanayanawin, 1983), not only the teacher demonstrated the number of beats in the sentence, she also showed a rhythm of each syllable and word in this sentence with soft (unstressed syllables) and loud (stressed syllables) beats.
Clapping could also enable Chinese students to observe key words in a sentence and realize that not all words in a sentence are of equal value.

Besides, at the end of each pronunciation and speaking activity, the teacher’s feedback was provided. In her prosodic correction process, instead of say ‘No. it’s wrong stress’, she provided each Chinese students with clapping and humming in the appropriate prosodic contexts. Using exaggerated feedback help Chinese students remove the capacity for inhibition and increase the effect of perception on behaviour (Dijksterhuis & Bargh, 2001). This kind of feedback helped Chinese students diagnose their stress error. With their perception on appropriate stress location, Chinese students could stress the right syllable and words. TAP with SEA assisted adult learners to achieve better speaking performance in the TL and attain acceptable pronunciation according to the NS standard.

8.3.3. Misplaced pauses

As previously presented in section 5.3.4, a pause is defined as silence or a nonverbal filler of .20 second or longer. The silent pause in this study follows Lennon (1990) because speech containing a majority of the pauses of .20 second and longer sounded dysfluent. The misplaced pauses were counted when the students paused at the inappropriate junctures in their utterances.

8.3.3.1. Paired sample t-test of the experimental groups in the pre and post tests of the spontaneous speaking tests

30 students in the experimental group participated in the speaking test before the SEA treatment. However, 8 students did not produce any speech during the test. To establish the validity of this quantitative analysis on misplaced pauses, 8 speaking samples of those 8 participants were not used in the posttest either. To sum up, only 44 speaking samples (22 samples from the pretest and another 22 samples of the same students from the posttest) were investigated.
Table 8.5: Comparison of average score of misplaced pauses in the pre and post tests of the spontaneous speaking tests for the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group Misplaced pauses in the pretest</td>
<td>22</td>
<td>49.18</td>
<td>11.87</td>
<td>.000</td>
</tr>
<tr>
<td>Misplaced pauses in the posttest</td>
<td>22</td>
<td>14.08</td>
<td>6.04</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

As shown in Table 8.5 and Figure 8.8, the average number of misplaced pauses produced by the experimental group in the pretest was 49.18 and the standard deviation (SD) was 11.98. The average number of misplaced pauses in posttest was 14.08 and the standard deviation was 6.04. The average number of misplaced pauses in the posttest was statistically significantly lower than that of the pretest with p = .000 (p<0.05). In other words, the experimental group could perform better in their speech production after the intervention. As can be seen in Table 8.5, the standard deviation of the misplaced pauses in the posttest was much more closely clustered and generally narrower in range than that of the pretest. The standard deviation decreased remarkably from 11.87 to 6.04 indicating that the experimental group was becoming not only more efficient but more homogeneous in achievement after the SEA treatment.

Since there was a significant difference between the average number of misplaced pauses between the pretest and the posttest, the hypothesis “The average number of misplaced pause
produced by the experimental group in the spontaneous speaking tests is significantly lower after the SEA treatment when compared to that before the treatment” was accepted.

Furthermore, the location of misplaced pauses in Chinese students’ speaking samples between the pre and post speaking tests demonstrated their speaking improvement after the SEA treatment.

Table 8.6: Distribution of location of misplaced pauses for the experimental group before the SEA treatment

<p>| Location of misplaced pause made by Chinese students in the experimental group before the SEA treatment |
|-------------------------------------------------|------------------------------------------------|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|</p>
<table>
<thead>
<tr>
<th>Students</th>
<th>No of pauses</th>
<th>No of misplaced pauses</th>
<th>No of misplaced pauses %</th>
<th>Misplaced pause within word %</th>
<th>Misplaced pause between subject and verb %</th>
<th>Misplaced pause within verb phrase %</th>
<th>Misplaced pause between verb and object %</th>
<th>Misplaced pause between noun and classifier %</th>
<th>Misplaced pause between preposition and noun %</th>
<th>Misplaced pause after conjunction %</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>23</td>
<td>13</td>
<td>56.52</td>
<td>4.34</td>
<td>8.69</td>
<td>4.34</td>
<td>21.73</td>
<td>0</td>
<td>4.34</td>
<td>13.04</td>
</tr>
<tr>
<td>S2</td>
<td>20</td>
<td>10</td>
<td>60</td>
<td>10</td>
<td>5</td>
<td>0</td>
<td>20</td>
<td>5</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>S4</td>
<td>14</td>
<td>8</td>
<td>57.14</td>
<td>7.14</td>
<td>14.2</td>
<td>0</td>
<td>21.4</td>
<td>0</td>
<td>0</td>
<td>14.2</td>
</tr>
<tr>
<td>S5</td>
<td>30</td>
<td>16</td>
<td>53.33</td>
<td>6.66</td>
<td>13.33</td>
<td>6.66</td>
<td>13.33</td>
<td>0</td>
<td>6.66</td>
<td>6.66</td>
</tr>
<tr>
<td>S6</td>
<td>14</td>
<td>8</td>
<td>57.1</td>
<td>7.14</td>
<td>14.28</td>
<td>10</td>
<td>21.4</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>S7</td>
<td>23</td>
<td>15</td>
<td>65.2</td>
<td>0</td>
<td>13.04</td>
<td>8.69</td>
<td>26.08</td>
<td>4.34</td>
<td>13.04</td>
<td>0</td>
</tr>
<tr>
<td>S8</td>
<td>17</td>
<td>9</td>
<td>42.9</td>
<td>11.76</td>
<td>5.88</td>
<td>5.88</td>
<td>5.88</td>
<td>23.52</td>
<td>0</td>
<td>5.88</td>
</tr>
<tr>
<td>S9</td>
<td>17</td>
<td>10</td>
<td>58.82</td>
<td>5.88</td>
<td>5.88</td>
<td>5.88</td>
<td>23.52</td>
<td>11.76</td>
<td>0</td>
<td>11.76</td>
</tr>
<tr>
<td>S10</td>
<td>25</td>
<td>8</td>
<td>32</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>12</td>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>S11</td>
<td>21</td>
<td>8</td>
<td>42.85</td>
<td>0</td>
<td>4.76</td>
<td>4.76</td>
<td>4.76</td>
<td>0</td>
<td>4.76</td>
<td>4.76</td>
</tr>
<tr>
<td>S14</td>
<td>15</td>
<td>5</td>
<td>46.66</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>33.33</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S15</td>
<td>17</td>
<td>8</td>
<td>47.05</td>
<td>0</td>
<td>5.88</td>
<td>11.76</td>
<td>23.52</td>
<td>0</td>
<td>5.88</td>
<td>0</td>
</tr>
<tr>
<td>S16</td>
<td>20</td>
<td>11</td>
<td>55</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>25</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>S17</td>
<td>14</td>
<td>7</td>
<td>50</td>
<td>7.14</td>
<td>7.14</td>
<td>0</td>
<td>28.57</td>
<td>0</td>
<td>7.14</td>
<td>0</td>
</tr>
<tr>
<td>S19</td>
<td>13</td>
<td>7</td>
<td>53.84</td>
<td>7.69</td>
<td>0</td>
<td>38.46</td>
<td>0</td>
<td>0</td>
<td>7.69</td>
<td>0</td>
</tr>
<tr>
<td>S20</td>
<td>16</td>
<td>9</td>
<td>56.25</td>
<td>6.25</td>
<td>6.25</td>
<td>12.5</td>
<td>18.75</td>
<td>0</td>
<td>6.25</td>
<td>6.25</td>
</tr>
<tr>
<td>S21</td>
<td>16</td>
<td>8</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>S22</td>
<td>15</td>
<td>8</td>
<td>53.33</td>
<td>0</td>
<td>6.66</td>
<td>13.33</td>
<td>2.66</td>
<td>0</td>
<td>6.66</td>
<td>0</td>
</tr>
<tr>
<td>S24</td>
<td>19</td>
<td>7</td>
<td>36.8</td>
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<td>0</td>
<td>0</td>
<td>31.57</td>
<td>0</td>
<td>0</td>
<td>5.26</td>
</tr>
<tr>
<td>S25</td>
<td>33</td>
<td>15</td>
<td>45.45</td>
<td>0</td>
<td>27.27</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>3.03</td>
<td>9.05</td>
</tr>
<tr>
<td>S26</td>
<td>19</td>
<td>10</td>
<td>52.63</td>
<td>0</td>
<td>15.78</td>
<td>0</td>
<td>26.3</td>
<td>5.26</td>
<td>5.26</td>
<td>0</td>
</tr>
<tr>
<td>S29</td>
<td>11</td>
<td>1</td>
<td>9.09</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9.09</td>
</tr>
<tr>
<td>Total</td>
<td>412</td>
<td>201</td>
<td>48.78</td>
<td>3.15</td>
<td>6.55</td>
<td>4.12</td>
<td>21.35</td>
<td>1.21</td>
<td>4.61</td>
<td>5.58</td>
</tr>
</tbody>
</table>

Table 8.6 shows that 22 students in the experimental group made 201 misplaced pauses out of a total of 412 pauses before the SEA treatment. A misplaced pause rate was 48.78 percent of the total speech sample. 3.15 percent of these errors were misplaced pauses within word. 6.55 percent were misplaced pauses between subject and verb while 4.12 percent were misplaced pauses within verb phrase. Misplaced pauses between verb and its object were 21.35. 1.21 percent was misplaced pauses between noun and its classifier. 4.61 percent and 5.58 percent were misplaced pauses between preposition and noun and after conjunction respectively. Pauses
between verb and its object were the most often errors for Chinese students. From inappropriate locations of pauses made by Chinese students in the pre speaking test, it can be interpreted that Chinese students had difficulty remembering vocabularies they learnt.

Table 8.7: Distribution of location of misplaced pauses for the experimental group after the SEA treatment

<table>
<thead>
<tr>
<th>Location of misplaced pause made by Chinese students in the experimental group after the SEA treatment</th>
<th>Students</th>
<th>No of pauses</th>
<th>No of misplaced pauses</th>
<th>No of misplaced pauses %</th>
<th>Misplaced pause within word %</th>
<th>Misplaced pause between subject and verb %</th>
<th>Misplaced pause between verb and object %</th>
<th>Misplaced pause between noun and classifier %</th>
<th>Misplaced pause after conjunction %</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>27</td>
<td>4</td>
<td>14.81</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11.11</td>
<td>0</td>
<td>3.7</td>
</tr>
<tr>
<td>S2</td>
<td>27</td>
<td>2</td>
<td>7.40</td>
<td>0</td>
<td>0</td>
<td>3.70</td>
<td>3.7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S4</td>
<td>20</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S5</td>
<td>21</td>
<td>2</td>
<td>9.52</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.76</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S6</td>
<td>28</td>
<td>4</td>
<td>14.28</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.14</td>
<td>0</td>
<td>3.57</td>
</tr>
<tr>
<td>S7</td>
<td>36</td>
<td>7</td>
<td>19.44</td>
<td>0</td>
<td>2.77</td>
<td>3.22</td>
<td>6.45</td>
<td>3.22</td>
<td>3.22</td>
</tr>
<tr>
<td>S8</td>
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<td>7</td>
<td>22.58</td>
<td>0</td>
<td>2.77</td>
<td>3.22</td>
<td>6.45</td>
<td>3.22</td>
<td>3.22</td>
</tr>
<tr>
<td>S9</td>
<td>26</td>
<td>4</td>
<td>15.38</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.69</td>
<td>0</td>
<td>7.69</td>
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<tr>
<td>S10</td>
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<td>4</td>
<td>13.79</td>
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<td>0</td>
<td>0</td>
<td>6.89</td>
<td>0</td>
<td>6.89</td>
</tr>
<tr>
<td>S11</td>
<td>33</td>
<td>6</td>
<td>18.18</td>
<td>0</td>
<td>0</td>
<td>3.03</td>
<td>6.06</td>
<td>0</td>
<td>3.03</td>
</tr>
<tr>
<td>S14</td>
<td>37</td>
<td>3</td>
<td>8.10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5.40</td>
<td>0</td>
<td>2.70</td>
</tr>
<tr>
<td>S15</td>
<td>47</td>
<td>8</td>
<td>17.02</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.38</td>
<td>0</td>
<td>4.25</td>
</tr>
<tr>
<td>S16</td>
<td>30</td>
<td>4</td>
<td>13.33</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.66</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S17</td>
<td>24</td>
<td>3</td>
<td>12.5</td>
<td>0</td>
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<td>4.1</td>
<td>8.33</td>
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<td>S19</td>
<td>27</td>
<td>4</td>
<td>14.81</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11.11</td>
<td>0</td>
<td>3.70</td>
</tr>
<tr>
<td>S20</td>
<td>32</td>
<td>7</td>
<td>21.87</td>
<td>0</td>
<td>0</td>
<td>3.12</td>
<td>12.50</td>
<td>0</td>
<td>6.25</td>
</tr>
<tr>
<td>S21</td>
<td>22</td>
<td>4</td>
<td>18.18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9.09</td>
<td>0</td>
<td>4.54</td>
</tr>
<tr>
<td>S22</td>
<td>25</td>
<td>3</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S24</td>
<td>36</td>
<td>5</td>
<td>13.88</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13.88</td>
<td>0</td>
<td>5.55</td>
</tr>
<tr>
<td>S25</td>
<td>32</td>
<td>9</td>
<td>28.12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.25</td>
<td>3.12</td>
<td>6.25</td>
</tr>
<tr>
<td>S26</td>
<td>23</td>
<td>1</td>
<td>4.34</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.34</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S29</td>
<td>19</td>
<td>1</td>
<td>5.26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5.26</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>632</td>
<td>92</td>
<td>14.55</td>
<td>0</td>
<td>0.31</td>
<td>0.79</td>
<td>6.96</td>
<td>0.31</td>
<td>0.94</td>
</tr>
</tbody>
</table>

252
Table 8.7 and Figure 8.9 show that 22 students in the experimental group made 92 misplaced pauses out of a total of 632 pauses in posttests after the SEA treatment. A misplaced pause rate decreased from 48.78 percent to 14.55 three-fold after the SEA treatment. All locations of misplaced pauses went down. Interestingly, the misplaced pauses between verb and its object 3 times decreased (from 21.35 to 6.97 percent) after the SEA treatment. It can be assumed that Chinese students’ vocabulary retention improved a great deal. In other word, teaching methods in TAP with SEA assisted L2 students’ memory.

The finding on the decrease number of misplaced pauses can be attributed to the effectiveness of SEA. For example, the sensitization session helped Chinese students in the experimental group acquire many rhythmic patterns in Thai successfully. Consequently, prosody therefore became part of their body and is easier to produce and analyse. Moreover, using phrases and sentences rather than individual words in pronunciation trainings and poems supported the experimental group better understand pause-location and retain their learnt phrases and sentences. As a result, Chinese students could produce their Thai speech more accurately and fluently.
8.4. Summary

The analysis of the prosodic errors from the spontaneous speaking tests using both auditory and acoustic analyses. Quantitative analysis with frequency distribution and paired sample t-test were employed to compare the average number of prosodic produced by the experimental group before and after the SEA treatment. The findings revealed that after the SEA treatment, Chinese students in the experimental group could decrease the number of errors in tones. The average number of stress errors produced by the experimental group in the spontaneous speaking tests was statistically lower after the SEA treatment. The average number of misplaced pauses produced by the experimental group in the spontaneous speaking tests also was statistically lower after the SEA treatment compared to that of before the treatment. These findings indicated that Chinese students in the experimental group improved their speaking accuracy. It could be interpreted that SEA in TAP had positive impact and benefit on the students’ speaking proficiency.
Chapter 9 Result on Chinese students’ speaking performance

9.1 Introduction

This chapter presents the quantitative results on Chinese students’ speaking performance in Thai before and after the SEA treatment.

The participants in this experiment involved with one experimental group and no control group due to institution and time constraints. The experimental group consisted of 30 Chinese students. These students studied in TAP which was conducted for 35 hours or around 4 hours a week within 11 weeks.

9.2. Instruments used to analyses the characteristics of Chinese students’ speaking performance pre and post treatment

9.2.1. Auditory and acoustic analyses

Both auditory and acoustic analyses were carried to analyse student performance collected from the spontaneous speaking test from the experimental group. To investigate the effectiveness of prosody training on the experimental group’s speaking improvement, the following analyses were carried out.

9.2.1.1. Speaking marking

The speaking marking involved nine Thai native speakers. Four markers were experienced instructors of Thai as a foreign language. Another five markers were not qualified in Thai teaching. The researcher was not one of the native speaking markers. The markers did not know whose research materials belonged to and which materials were in the pretest or the posttest. The total numbers of sample marked were 60 (30 samples in the pretest, 30 samples in the posttest).

To reduce unreliability caused by the marker’ factors, each marker was trained on how to score speaking samples using this research’s speaking rating scale before marking the speaking samples. The scale for the speaking marking ranged from 1 to 9.
The descriptions of each scale were adapted from the International English Language Testing System (IELTS), Chulalongkorn University’s Thai Language Testing for Foreign Language Learners (CUTFL) and Zhang’s study (2006). The subscale consisted of four areas: (1) fluency and coherence; (2) complexity; (3) grammatical range and accuracy; and (4) pronunciation. The descriptions of each scale were illustrated in section 5.3.4.

According to the speaking scales (1-9) for speaking marking in this research, students who did not produce any utterance in the test obtained scale 1: ‘no communication possible’

9.2.1.2. Speaking fluency

The predictors of fluency in this study were long sentences (LS), speech rate (SR), mean length of run (MLR), phonation time ratio (PR), number of pauses (P) and number of filled pauses (FP). The number of long sentences (LS) and filled pauses (FP) produced by the experimental group was counted by the researchers. Four predictors, namely SR, MLR, PR and P used the acoustic analysis with PRAAT program. Definition and formula of each fluency predictor were illustrated in section 5.4.4.

9.2.2. Quantitative analysis

Quantitative analysis using paired sample t-test was employed to compare the experimental group’s speaking performance before and after the SEA treatment. For the current study, paired-samples t-test was used to see whether there was a statistically significant difference in the mean scores for the speaking pretest (prior to the SEA intervention) and the speaking posttest (after the SEA intervention) of the experimental group. The significance level was set at p<0.05 throughout the study.

9.3. Finding on Chinese students’ speaking performance

9.3.1. Finding on Chinese students’ speaking performance by auditory analysis

Hypothesis: The average rating of students’ spontaneous speech is significantly higher after the SEA treatment for the experimental group compared to that before the SEA treatment.
To investigate this hypothesis, speaking rating (by 9 human markers) from the pretest and posttest of the experimental group were statistically analysed. Paired samples t-test was employed to compare the mean scores of the pre and post tests.

To evaluate the reliability of the data obtained, it is necessary to assess the consistency of the perceptual ratings from the markers. An inter-rater coefficient was calculated. A Cronbach Alpha reliability test using SPSS was conducted and an inter-rater reliability rating obtained in the pretest was 0.99 and in the posttest was 0.97. A reliability coefficient of .70 or higher was considered as acceptable (Traub, 1994). Therefore, the nine markers’ marking was highly consistent.

Table 9.1: Comparison of pre and post speaking tests’ scores of the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Pretest (speaking)</th>
<th>Posttest (speaking)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Mean</td>
<td>2.85</td>
<td>4.34</td>
</tr>
<tr>
<td>SD</td>
<td>1.20</td>
<td>.71</td>
</tr>
<tr>
<td>Sig. (2 tailed)*</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

![Means and standard deviations of the pre and post speaking tests for the experimental group](image)

Figure 9.1: Means and standard deviations of the pre and post tests in speaking of the experimental group

As indicated in Table 9.1 and Figure 9.2, there was a significant difference between the average speaking rating in the pretest and posttest of the experimental group. The pretest was M = 2.85
and SD = 1.20. The posttest was M = 4.34 and SD = 0.71. The findings also showed that there was a significant difference between the pretest and the posttest with p-value =0.000 < 0.05.

The obvious difference in the standard deviations between pre and post tests indicated that Chinese students’ speaking performance after the SEA treatment was much more closely clustered and generally narrower in range than that before the SEA treatment. In other words, this result indicated that Chinese students attained a higher and more homogenous average rating.

The results suggested that the experimental group performed better in their speaking performance after the SEA treatment. Therefore, the hypothesis “The average rating of students’ spontaneous speech is significantly higher after the SEA treatment for the experimental group compared to that before the treatment” was accepted.

According to Output Hypothesis (Swain, 1985), L2 learners could not reach beyond a functional level in the target language (TL) if they lack opportunity to engage in adequate language production. To assist learners achieve higher level of proficiency in TL, SEA in TAP provided Chinese students with ample opportunities to produce sufficient output in the TL.

Based on Zhang suggestion (2006), producing output or speaking in the TL is extremely beneficial for in the TL. Speaking activities through drama techniques provided L2 learners with output opportunity for developing automaticity in language. Moreover, speaking activities in TAP allowed Chinese students to judge the comprehensibility and linguistic well-formedness of their inter-language utterances against feedback obtained from their interlocutors. Consequently, Chinese students in the TAP group could improve their speaking fluency and accuracy.

9.3.2. Finding on Chinese students’ speech fluency
Thirty students in the experimental group participated in the speaking test before the SEA treatment. However, 8 students did not produce any speech during the test. To establish the validity of this quantitative analysis on students’ speech, 8 speaking samples of those 8 participants were not used in the posttest either. To sum up, only 44 speaking samples (22 samples from the pretest and another 22 samples of the same students from the posttest) were investigated.
This research regards fluency as one component of speaking proficiency. In this study, speech fluency was defined as a performance phenomenon related to ‘flow, continuity, automaticity, or smoothness of speech (Koponen & Riggenbach, 2000: 6). The measure of speech fluency was operationalized as a number of long sentences (LS), speech rate (SR), mean length of run (MLR), phonation time ratio (PR), number of pauses (P), and number of filled pauses (FP). The results of investigation on speech fluency are presented below:

### 9.3.2.1. Average numbers of long sentences (LS) before and after the SEA treatment

In this study, short sentences was defined as containing less than eight words or only one main verb and without either any conjunctions or subordinating. Long sentence was defined as containing eight words or over. It must contain more than one main verb or contain conjunctions or subordinating.

Table 9.2: Comparison of average numbers of long sentences between the pre and post speaking tests for the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed) *</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experimental group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of long sentences in</td>
<td>22</td>
<td>8.51</td>
<td>12.50</td>
<td>.000</td>
</tr>
<tr>
<td>the pretest (speaking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of long sentences in</td>
<td>22</td>
<td>42.63</td>
<td>15.14</td>
<td></td>
</tr>
<tr>
<td>the posttest (speaking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

![Figure 9.2: Means and standard deviations of long sentences before and after the SEA treatment for the experimental group](image)

Figure 9.2: Means and standard deviations of long sentences before and after the SEA treatment for the experimental group
As shown in Table 9.2 and Figure 9.2, the mean of long sentences produced in the pretest was 8.51, and the standard deviation was 12.50. On the other hand, that of in the posttest was 42.63, and the standard deviation was 15.14. The mean score of the posttest was significantly higher than that of the pretest with \( p = .000 \) (\( p<0.05 \)). This means the mean number of long sentences of posttest showed a statistically significant improvement after the SEA treatment.

As can be seen in Table 9.2 and Figure 9.2, the number of long sentences in the posttest was higher than that of in the pretest. As illustrated in section 5.3.4, the topic of the posttest moved away from talking about oneself to narrating a place in order to allow test takers to demonstrate their ability to use language effectively after the treatment. This change, of course, also caused the task to be more difficult.

According to Rehbein (1987), the speech fluency might depend on the speaker’s evaluation of the hearer’s expectation. The topic in the posttest was about ‘Talking about interesting places on the university campus’. Compared with the topic task in the pretest which was about ‘students’ personal information’, the topic in the posttest was likely to allow the students to use a lot of modifiers, compound and complex sentences in order to describe and explain where and how the place is. The topic in the posttest was less familiar and more challenging than the topic in the pretest.

Because of the difficulty of the task, the average number of long sentences in the posttest was expected to be slightly higher than the number of long sentences in the posttest by the researcher. However, the result in Table 9.2 and Figure 9.2 indicated that the mean number of long sentences in the posttest was 42.63 while that of in the pretest was 8.51. It was 5-time difference before and after the SEA intervention. During the posttest, instead of employing avoidance strategy, Chinese students used a lot of modifiers, compound and complex sentences in order to describe and explain where and how the place was. This outstanding increase demonstrated that Chinese students in the TAP group performed better in Thai speaking. The hypothesis “The number of long sentences produced by the experimental group is significantly higher after the SEA treatment when compared to that before the treatment” was accepted.
9.3.2.2. Speech rate (SR) before and after the SEA treatment

For this study, the speech rate was the average number of syllables articulated per minute. The time for silent pauses was included in the minute. As previously mentioned, ‘total number of syllables ÷ total response time x 60’ was the formula for speech rate calculation in this study.

Table 9.3: Comparison of speech rate between the pre and post tests for the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed) *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech rate in the pretest (speaking)</td>
<td>22</td>
<td>56.96</td>
<td>22.57</td>
<td>.013</td>
</tr>
<tr>
<td>Speech rate in the posttest (speaking)</td>
<td>22</td>
<td>74.03</td>
<td>23.66</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

Figure 9.3: Means and standard deviations of speech rate per minute in the pre and post speaking tests for the experimental group

As shown in Table 9.3 and Figure 9.3, the average speech rate (SR) produced by the experimental group in the pretest was 56.96. Its standard deviation (SD) was 22.57. The average SR in posttest increased to 74.03. Its standard deviation was 23.66. It can be interpreted that the students in the experimental group used both more syllables for their utterances and short time for pauses after the SEA treatment. The average SR in the posttest was statistically significantly higher than that of in the pretest with p = .013 (p>0.05).
9.3.2.3. Mean length of run (MLR) before and after the SEA treatment

In the study, mean length of run (MLR) was the average number of syllables produced within each run, which is found between pauses of 0.20 seconds or above. The formula for calculating mean length of run was ‘the total number of syllables ÷ the total number of pauses’.

Table 9.4: Comparison of mean length of runs between the pre and post tests for the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed) *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean length of run in the pretest (speaking)</td>
<td>22</td>
<td>3.89</td>
<td>1.00</td>
<td>.000</td>
</tr>
<tr>
<td>Mean length of run in the posttest (speaking)</td>
<td>22</td>
<td>5.03</td>
<td>.527</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

Figure 9.4: Means and standard deviations of mean length of run in the pre and post speaking tests for the experimental group

As can be seen in Table 9.4 and Figure 9.4, mean length of run (MLR) produced by the experimental group in the pretest was 3.89 while that of in the posttest was 5.03. The standard deviation (SD) in the pretest was 1.00, but that of in the posttest was .527. MLR in the posttest was statistically significantly higher than that of the pretest with p = .000 (p<0.05).

This increased MLR indicated that the students in the experimental group could make their utterance longer by producing higher number of syllables within each run.
In TAP, fluency is regarded as indispensable component of oral proficiency. To become a fluency speaker, one has to be able to produce long strings of speech which exceed their capacity for encoding and decoding speech (Schmidt, 1992). Lewis (1997:15) pointed out that “fluency is based on the acquisition of a large store of fixed and semi-fixed prefabricated items”.

SEA in TAP motivates Chinese students by using physical movements and gestures in the teaching of prosody of a L2. Students learn how to physically, not just mentally produce language in its optimal prosodic contexts. “The exaggerated nature of the movements and gesture certainly created very strong memory traces in the students” (Zhang, 2006: 297). Consequently, Chinese students in the TAP group could quickly pull out their memorized chunks in long term memory to produce long strings of speech.

Since there was a significant difference between mean length of runs between the pre and post-tests for the experimental group, the hypothesis “The mean length of run produced by the experimental group is significantly higher after the SEA treatment when compared to that before the treatment” was accepted.

9.3.2.4. Phonation time ratio (PR) before and after the SEA treatment

In this study, phonation time ratio (PR) was percentage of time spent speaking as a proportion of the total time taken to produce the speech sample. Phonation-time ratio was calculated as the percentage of time spent speaking as a percentage proportion of the time taken to produce the speech sample. If a speaker uses pauses that amount to 30 percent of the total response, then his/her PR is 70 percent. PR is not influenced by articulation rate (AR) because they are independent to each other. In order to be a fluent speaker in terms of PR, how fast a speaker ‘articulates’ utterances does not matter; only ratios of phonation time and silent pause time matters.
Table 9.5: Comparison of phonation time ratio between the pre and post tests for the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed) *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonation time ratio in</td>
<td>22</td>
<td>57.51</td>
<td>17.83</td>
<td>.003</td>
</tr>
<tr>
<td>the pretest (speaking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonation time ratio in</td>
<td>22</td>
<td>70.56</td>
<td>6.72</td>
<td></td>
</tr>
<tr>
<td>the posttest (speaking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

As shown in Table 9.5 and Figure 9.5, descriptive statistics of phonation time ratio (PR) presents the means and standard deviation. The mean in the pretest was 57.51 percent of the total response time speaking. That of in the posttest increased to 70.56 percent. PR in the posttest was statistically significantly higher than that of the pretest with p = .003 (p<0.05). This means PR of the posttest in the spontaneous speaking tests showed a statistically significant improvement after the SEA treatment. In other words, the experimental group performed better in their speech production after the intervention. The standard deviation of phonation time ratio in the posttest was much smaller than that of the pretest. The standard deviation decreased remarkably from 17.83 to 6.72. This result indicated that the experimental group became not only more fluent but more homogeneous in achievement after the SEA treatment.
Since there was a significant difference between PR between the pre and post tests for the experimental group, the hypothesis “The phonation time ratio produced by the experimental group is significantly higher after the SEA treatment when compared to that before the treatment” was accepted.

9.3.2.5. Number of pauses (P) before and after the SEA treatment

In the study, pause was defined as silence or a nonverbal filler of .20 second or longer (Lennon, 1990). The closure time that exceeded 1.50 seconds was not marked as a silent pause. As previously mentioned, ‘total number of pauses ÷ total response time x 60’ was the formula for calculating a number of pauses per minute.

Table 9.6: Comparison of a number of pauses between the pre and post tests for the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Number of pauses in the pretest (speaking)</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed) *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of pauses in the posttest (speaking)</td>
<td>22</td>
<td>16.85</td>
<td>5.54</td>
<td>.093</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22</td>
<td>14.69</td>
<td>3.72</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

Figure 9.6: Means and standard deviations of number of pauses per minute in the pre and post speaking tests for the experimental group

Means and standard deviations of number of pauses per minute in the pre and post speaking tests for the experimental group

Figure 9.6: Means and standard deviations of number of pauses per minute before and after the SEA treatment for the experimental group

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As shown in Table 9.6 and Figure 9.6, the number of pauses per minute produced by the experimental group in the pretest was 16.85. That of in posttest decreased to 14.69. As can be seen in Table 9.6, the standard in the posttest was smaller than that of the pretest. The standard deviation decreased remarkably from 5.54 to 3.72. It indicated that the experimental group was becoming not only more efficient but more homogeneous in achievement after the SEA treatment. However, the average number of pauses in the posttest was not statistically significantly lower than that of the pretest with p = .093 (p>0.05).

The result in Table 9.2 and Figure 9.2 on page 256 indicated that the mean number of long sentences in the posttest was 42.63 while that of in the pretest was 8.51. There was 5-time difference before and after the SEA intervention. Syntactic complexity in L2’s utterance is one indicator on fluency (Bygate, 2001). According to Grosjean and Deschamps (1975), the more complexity in sentence structures the greater the number of pauses.

With the 5-time increase in number of long sentences used by Chinese students in the posttest, it was expected that the number of pauses in the posttest should to be higher than that of in the pretest due to the complexity of task in the posttest. In each long sentence, pause might be occurred at significant grammatical locations. In other words, Chinese students might pause in order to indicate a syntactic boundary.

However, the average number of pauses in the posttest decreased slightly to 14.69. The average number of pauses was not statistically significantly lower than that of the pretest. Therefore, it might represent an indication that Chinese students in the TAP group could speak Thai more fluently after the SEA treatment.

In order to investigate the assumption that Chinese students might be able to pause appropriately as a demonstration of syntactic knowledge, the locations of pauses was examined.
As illustrated in section 8.3.3, after the SEA treatment misplaced pauses were largely less produced by Chinese students. Inappropriate locations of pauses found in this study occurred at 7 locations: ‘pauses with in words’, ‘between subject and verb’, ‘within verb phrase’, ‘between noun and classifier’, ‘between verb and its object’, ‘between preposition and noun, and ‘after conjunction’. However, misplaced pauses dramatically decreased after the SEA treatment.

Figure 9.7 demonstrates that pause locations in both pre and post speaking tests occurred at major syntactic boundaries like cause and sentences. Pause rates after clause and sentence boundaries increased almost 3 times from 7.32 to 17.24 percent and 44.66 to 47.62 percent. The complexity and the length of a syntactic constituent affect pause placement (Grosjean & Deschamps, 1975).
Pauses after conjunctive adverbs also increased 10 times after the SEA treatment. A conjunctive adverb refers to as conjoining information that connects two independent clauses or sentences in order to indicate their relationship (Crystal, 2008). In Thai language, such conjunctive adverbs are อย่างไรก็ตาม [yàːŋ râj kòː tâːm] (however), นอกจากนี้ [nōː k cáː k níː] (moreover), ในทางกลับกัน [nâj thaːŋ klâːp khan] (conversely). Thai native speakers always pause after the conjunctive adverb. Furthermore, Chinese students correctly paused before a relative complementizer, ที่ [thiː] and after a relative complementizer, ว่า [wâː] after the SEA treatment. A relative complementizer is a subordinated conjunction which marks an embedded sentence of a complement type (Crystal, 2008). For example,

A) ฉันทานยาที่เธอให้มาม

| A) ฉันทานยาที่เธอให้มาม | B) ฉันบอกว่าฉันหิว

| chán thâːn yaː (pause) thiː: thâː hâj maː | chán bâːk wâː (pause) chán hîw nâm |

I took the medicine that you gave me.

I said that I am thirsty.

Chinese students could pause at appropriate syntactic location. It can be interpreted that they have developed correct grammar knowledge through prosody. TAP with SEA used prosody in authentic materials and promoted Chinese students use prosodic cues to identify of a phrase boundary and group words into a chunk. Consequently, students implicitly learned Thai grammar.

Furthermore, from findings on the number of pauses and their location, it can be assumed that in inappropriate locations of pause, Chinese students might be able automatically avoid pausing due to their faster processing of whole clauses and chunks of words directly from long-term memory. When a fluent L2 speaker utters chunks without pauses, the speaker might not be constructing the chunks from single word constituents in a linear fashion using their knowledge of syntax, but rather retrieving a fixed form from their mental lexicon in long term memory (Jiang & Nekrasova, 2007; Ushigusa, 2008).
9.3.2.6. Number of filled pauses (FP) per minute before and after the SEA treatment

A hesitation sound such as ‘uh’ ‘uh’, ‘ah’, ‘er’, and ‘um’ was labelled as a filled pause (FP). Filled pauses do not have any lexical meaning, but they could indicate that the speaker needs time to plan the continuation of speaking (Pawley & Syder, 1983; Cenoz, 1998). The total number of filled pauses in the study were divided by the total amount of time expressed in seconds and was multiplied by 60.

Table 9.7: Comparison of a number of filled pauses between the pre and post tests for the experimental group using paired sample t-test

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Sig. (2 tailed) *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>22</td>
<td>9.75</td>
<td>2.11</td>
<td>.000</td>
</tr>
<tr>
<td>FP in the pretest</td>
<td>22</td>
<td>7.09</td>
<td>1.84</td>
<td></td>
</tr>
<tr>
<td>(speaking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP in the posttest</td>
<td>22</td>
<td>7.09</td>
<td>1.84</td>
<td></td>
</tr>
<tr>
<td>(speaking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)

Figure 9.8: Means and standard deviations of number of filled pauses per minute in the pre and post speaking tests for the experimental group

As shown in Table 9.7 and Figure 9.8, the number of filled pauses (FP) per minute produced by the experimental group in the pretest was 9.75. In posttest, it decreased to 7.09. The number of FP in the posttest was statistically significantly lower than that of the pretest with p = .000 (p<0.05). The standard deviation in pretest was 2.11 while in the posttest was 1.84. The standard
deviation in the posttest was slightly smaller than that of the pretest. It can be interpreted that Chinese students’ achievements in the experimental group were more homogeneous after the SEA treatment.

9.4. Summary

This intensive Thai course for academic purposes (TAP) with SEA’s principles was conducted for 4 hours within 2.5 months. 30 students in TAP group were the experimental group. To investigate the effectiveness of prosody training with drama activities based SEA principles in TAP on the experimental group’ speaking improvement, the spontaneous speaking tests were conducted. The spontaneous speaking test was administered twice: the pretest in week 1 of the semester, and the posttest in week 11.

The results indicated that the average scores of the students’ performances in the experimental group in speaking tests were higher after the SEA treatment as assessed by nine human markers. Their improved performances in speaking skills were rated much more native like compared with their performance before intervention by a panel of nine native speakers.

Compared to data collected before the treatment, after the SEA treatment, the students in the experimental group demonstrated better quality speech even though the task in the posttest was much harder than in the pretest. This was measured through increases in speech rate (SR), phonation time ratio (PR), mean length of runs (MLR) and long sentences (LS). After the SEA treatment, Chinese students in the experimental group demonstrated increases in SR, PR, MLR and LS but decreases in the number pauses (P) and filled pauses (FP) compared to data collected before the treatment. Such changes in these fluency factors indicate that, despite the increased difficulty of the task in the posttest, the quantity and the quality of their speech has improved dramatically. Such improvement can be attributed to the effectiveness of TAP with SEA.
Chapter 10 Chinese students’ attitudes towards on Somatically-Enhanced Approach (SEA) in Intensive Thai Course for Academic Purposes (TAP)

10.1. Introduction

The chapter includes the qualitative analysis of the data collected from the end of course questionnaires and face to face interviews with participants. Findings from the questionnaire and the interview demonstrated how SEA had positively affected on Chinese students’ speaking and listening proficiency. Specific teaching materials which the participating students preferred in TAP were also identified.

10.2. Research Question

The last research question of study is “How did prosody training with Somatically-Enhanced Approach (SEA) on both sentence and discourse levels improve students’ listening and speaking proficiency?” The investigation involved qualitative procedures using the end of course questionnaire and the face to face interview to elicit students’ opinion on TAP with SEA and their use of strategies and teaching materials in the course.

10.3. Results from end of course questionnaires and face to face interviews

10.3.1. End of course questionnaire

At the end of TAP using SEA, after the posttest of ALT, the participants were requested to fill in a questionnaire to gauge their attitude towards TAP with SEA. 30 Chinese students in the experimental group were asked to complete the questionnaire. They were asked to fill it in individually without consulting each other. They could spend as long as they wanted to answer all questions. The researcher was on hand if they were in doubt about any questions or items in the questionnaire.

The end of course questionnaire contained both close and open-ended questions. All questions were presented in Chinese, participants’ L1 in order to avoid any misinterpretation. Chinese students were also requested to use Chinese language to answer open ended questions so that they could freely express their opinions. Student responses were later translated into English.
The questionnaire was divided into three sections. The first section using both close and open-ended questions asked for the student’s demographic information, namely, age, gender, number of years they have studied Thai as a foreign language and their perceptions of their Thai language abilities before and after TAP. In order to keep the student information anonymous, the questionnaires did not ask for the respondents’ names. The second section asked for students’ attitude towards TAP with SEA. It also asked for students’ opinion on the factors that assisted or hindered their Thai listening and speaking while studying in TAP. The third section using open-ended questions were asked for students’ attitude towards course materials in TAP.

10.3.2. Face to face interview

A face to face interview was used to obtain the students’ opinion about their experiences of using the Soma
tically-Enhanced Approach (SEA) in TAP. It also aimed to discover some in-depth information that could not be obtained in the questionnaire. A set of questions was utilized as a guide in interview participants. Some impromptu questions were created in order to elicit more explanation from them. The interview was conducted after the end of the TAP course.

The interview was carried in 30 minutes for each participating student. Due to time constraint, only seven Chinese students in the experimental group agreed to participate in the face to face interview. All interviews were recorded with Mandarin Chinese language. The result from the face-to face interview was also analysed qualitatively.

10.3.3. Chinese students’ self-evaluation on Thai proficiency before and after the TAP intervention

In the first section of the questionnaire, the students were asked to evaluate their proficiency levels in four macro skills of speaking, listening, reading and writing before and after the TAP intervention. In this question, Chinese students evaluated their each skill using a four-point scale ranging from ‘poor’ (1) to ‘very good’(4).

Findings revealed that Chinese students believed that before the TAP intervention, their Thai proficiency was at the low level. The majority reported that their listening and speaking skills were the weakest skills due to lack of opportunities for practice. However, they could improve their Thai proficiency after the intervention. To investigate Chinese students’ self-evaluation on
their Thai proficiency level before and after the intervention, the finding was analyzed through statistical analysis using paired sample t-test.

Table 10.1: Comparison of average scores of students’ self-evaluation on their macro skills in Thai before and after the TAP intervention

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Sig (2 tailed)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening before TAP</td>
<td>1.50</td>
<td>30</td>
<td>.509</td>
<td></td>
</tr>
<tr>
<td>Listening after TAP</td>
<td>2.70</td>
<td>30</td>
<td>.466</td>
<td>.004</td>
</tr>
<tr>
<td>Listening after TAP - Listening before TAP</td>
<td>1.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking before TAP</td>
<td>1.47</td>
<td>30</td>
<td>.507</td>
<td></td>
</tr>
<tr>
<td>Speaking after TAP</td>
<td>2.43</td>
<td>30</td>
<td>.504</td>
<td></td>
</tr>
<tr>
<td>Speaking after TAP - Speaking before TAP</td>
<td>.96</td>
<td></td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Reading before TAP</td>
<td>1.93</td>
<td>30</td>
<td>.583</td>
<td></td>
</tr>
<tr>
<td>Reading after TAP</td>
<td>2.73</td>
<td>30</td>
<td>.450</td>
<td></td>
</tr>
<tr>
<td>Reading after TAP - Reading before TAP</td>
<td>0.8</td>
<td></td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Writing before TAP</td>
<td>1.67</td>
<td>30</td>
<td>.661</td>
<td></td>
</tr>
<tr>
<td>Writing after TAP</td>
<td>2.30</td>
<td>30</td>
<td>.535</td>
<td></td>
</tr>
<tr>
<td>Writing after TAP - Writing before TAP</td>
<td>0.63</td>
<td></td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level at p<0.05 (2-tailed)
As shown in Table 10.1 and Figure 10.1, the average scores of students’ perception on their Thai proficiency in all four skills after the TAP intervention were higher than those of before the TAP intervention. The average scores of four skills were also statistically significantly higher than those of before the TAP intervention with \( p = .000 \) \((p<0.05)\). The results demonstrated that Chinese students in the experimental group believed that they improved their Thai proficiency in all four skills after TAP.

As shown in Table 10.1, the most improved skill was listening. The mean before the TAP intervention was 1.50 while that of after the TAP intervention was 2.70. The second most improved skill was speaking with the increasing mean from 1.43 to 2.43 after the TAP intervention followed by reading and writing skills.

### 10.3.4. Chinese students’ responses to section 2 of the end of course questionnaire: students’ attitude towards TAP with SEA

To fill in the questionnaire using six open-ended questions, Chinese students in the experimental group were encouraged to express their opinions openly. They were advised that their opinions were going to be used to develop and improve TAP with SEA.
The data from this section were clearly analyzed qualitatively through interpretively coding with NVivo 9 software by breaking students' opinions into short phrases or segments. Then all nodes were categorized to the factors that assisted or hindered students' Thai listening and speaking while studying in TAP. The results are presented in the following section.

10.3.4.1. Favourite activity in TAP from questionnaire data

As shown in Figure 10.2, pronunciation training was the most favourite session in TAP. It was mentioned by 26 students with 27 references. Listening practice, using poems and speaking practice were also favourite activities in TAP. Listening practice was mentioned by 10 students with 12 references. 7 students mentioned using poems and speaking practices.

Chinese students expressed their favourable feelings towards the pronunciation training due to three main reasons. The reasons are as follows:

1) Pronunciation training helped Chinese students lower their anxiety

From data in the questionnaires, 26 Chinese students revealed that the pronunciation practice was enjoyable. They found the affective filter was lowered in the relaxed, friendly atmosphere with body movements and gestures. As a result of this, Chinese students were willing to engage in the activity without fear and shyness. Here are some reports that demonstrate this:

Student AA 01 revealed her positive attitude towards the pronunciation session again in the interview.
“The most favourite activity was pronunciation session. I liked when using body movements and gestures to learn how to produce tone and stress in Thai. The activity was enjoyable, interesting and active. It woke me up after feeling sleepy from history class. Normally, as a Chinese person, I needed to save my face. However, this activity was very fun and encouraging. It was not embarrassing task at all. As a result of this, I did not feel any fear when I need to pronounce words. Everyone in the class just loved doing it. It seemed we were playing and learning at the same time. It was good for us to practice Thai pronunciation in enjoyable and energizing activities” (Student AA 01).

2) Pronunciation training helped them to know how to improve their pronunciation in Thai

Five students reported that using body movement helped them know how to improve their Thai tone. They revealed body movement made them feel and understand the different degrees of tenseness in their body when making different tones. Seven students claimed that clapping allowed them to observe Thai stress patterns and appropriate location of pauses. Four students reported that humming allowed them to understand how to correctly produced Thai tone, stress and pause.

Student AA 13 noted:

“Clapping and humming helped me to understand which syllable I should place a stress”

Student AA 13 also gave more explanation on the benefit of clapping and humming in the interview.

“Clapping and humming helped me improve my pronunciation. Last year I joined reading aloud competition, I could not understand why my Thai teacher kept saying I need to produce one syllable softer than another syllable. I thought I already made it soft. After using clapping and humming, I knew how to make it” (Student AA 13).

In the questionnaire, student AA 04 mentioned that the pronunciation training with body movements and gestures was enjoyable activity but also left strong memory traces for vocabulary learning. She also added more opinion on the pronunciation training in the interview.

“The most favourite session was learning new vocabularies and expression in the pronunciation training. I liked when the teacher asked us to do body movements and gestures.
Using our body to practice Thai pronunciation helped me exactly feel how my muscles worked when pronouncing Thai language. As a result, not only could I remember new words and expressions easily, but also I could understand how to pronounce them. This training was enjoyable, useful and comprehensible. Therefore, I was willing to participate in this session. Well, I found I could gain some achievements after participating in this task” (Student AA 04).

3) Pronunciation training helped them remember phrases or sentences quickly

Eight students found enjoyable and active activities in the pronunciation session helped them quickly remember the new words and sentences.

Student AA23 reported:

“I liked pronunciation training because it was fun and active. I felt I could remember new words and sentences very quickly when I moved my body and laughed”.

Student AA 25 reported:

“I was actually remembering new sentences when doing the movement. The movement helped me understand how to pronounce. I could recall the words even 2 weeks apart” (Student AA 25).

In the interview, student AA 28 reported:

“In fact, we had a pronunciation course when we were in year 1. In that time, we just sat and repeated the words after the teacher. It was so boring. Then I did not want to pronounce any words and remember them. Unlike the traditional pronunciation class, TAP was fun, active, and beneficial. I preferred TAP. I found I gained more benefits from TAP especially pronunciation and listening sessions. I preferred this relaxing class to the formal class in the last semester. This class could encourage me to focus on new words and sentences. When I moved my arms and clapped my hands, I need to focus on the words and sentences. After that I could remember and recall them easily. Because of this benefit, I really wanted to pronounce them, move my arms, clap my hands and stamp my feet. I just loved to join all activities in TAP. I could remember new words more quickly and also for a long time when I learnt them through the pronunciation activities”.
From students’ opinions on pronunciation training in TAP, it can be interpreted that clapping helps students experience and feel stress in Thai. Body movement helps them remember words and sentences.

10.3.4.2. The most helpful activity in TAP on Chinese students’ listening and speaking improvement

As shown in Figure 10.3, training in discourse features in the Academic Listening Practice (ALP) practice is the most helpful activities for their listening and speaking improvement. Interestingly, nine Chinese students said using poems was the most helpful. They revealed when listening to the poem being read aloud, they learned where to pause in sentences.

1) Students’ opinion on discourse marker practices in Academic Listening Practice (ALP)

In the questionnaire, Chinese students reported that discourse feature practices such as listening to signposts, repetition, and emphasizing words helped them know how to listen to a lecture efficiently. For example,
Student AA 01 reported:

“Yes. Listening practice was the most useful activity for me. I learnt how to listen to a lecture. For example, I knew I should use some words such as ‘example’, ‘mean’, ‘refer’ to help me understand the meaning of the word”. She added her thoughts in the interview. “I think the listening practice was the most favourite because we use many skills to deal with it. We listened to a long listening text. After that we needed to speak out in order to answer questions. I liked when the teacher used a Ping pong game to give us a speaking turn. Sometimes, we needed to write a summary. Then the teacher corrected us our writing summary. Listening session was very useful for our future study in Thailand”.

The following comments derived from the interview describe how student could improve her listening ability to cope with academic lectures. Consequently, they felt more confident in listening to Thai language.

Student AA 23 revealed:

“Listening practices were very useful. Not only did I have more opportunities to listen to Thai native speakers, but also I learnt listening techniques from the teacher. She taught me how to listen to the lecture. I knew it is advantageous to listen for signposts and repetitive phrases. Listening to the lecture did not seem hard as much as I thought. Now I could grasp main ideas. After listening to the text, the teacher encouraged us to speak Thai. She used questioning and answering. This way was good. I liked it because I could recheck my answer and my thinking. I also could practice Thai speaking. What’s more? I also like the topic in each listening text. The topic was about business. It assisted me to prepare my vocabulary knowledge before studying the international business program in Thailand. I gained confidence day by day in the TAP course”.

In the interview, student AA 28 commented that the listening session or ALP in TAP encouraged her to employ listening strategies.

“I liked the listening session. Unlike other listening class we learnt last year, the listening practices in TAP allowed us to listen to a variety of texts and topics. We had opportunities to listen to Thai songs, video clips about Thai advertisement and short lectures. I liked business
topics the most because I could prepare my knowledge before going to Thailand. The teacher taught us how to use some listening techniques to help us become an effective listener. She taught us to pay attention to some words and phrases. For example, the phrase ‘Today I am going to talk about …’ helped us know what’s going on. She also advised us to make a listening plan before listening to the text. Predicting a keyword was one useful plan. I found I learnt a lot from TAP. I knew how to better listen to the text” (Student AA 28).

2) Students’ opinion on a role play and an improvisation in speaking activity

Chinese students revealed that a role play and an improvisation were the most helpful to improve their oral skills. They explained that when engaging in these drama activities, they needed to perceive and produce the language at the same time. Role playing allowed them to learn Thai language and have fun at the same time. This activity also allowed them to freely integrate their ideas and experience for expressing their opinion. Moreover, making their own script allowed them to use the previously learned words and sentences. It also provided them a chance to practice their writing skills. Here are some reports that demonstrate this:

Student AA 25 reported:

“The activities were interesting, enjoyable and interactive. Unlike other classes, we could do more than only watched and listened to a teacher’s explanation”.

Student AA 22 revealed:

“For speaking, the teacher suggested us to speak out without any fear. Speaking activities are encouraging. The activities allowed us to practice all skills. We had a lot of chances to employ all Thai language background knowledge to make a script. We were very happy to do these activities”.

Two Chinese students’ thought derived from the interview illustrate the positive effect of speaking on her speaking improvement.

“Yes. I could improve my speaking. Now I have more confidence to speak Thai. In my opinion, the speaking session role play and improvisation was very interesting, encouraging and creative. The session allowed all of us to be active. We did not only sit and listen to the teacher. It was good for us to have a great chance to practice our oral skills when we playing
our role. At first place, I felt shy to speak Thai in front of others. However, in TAP, I was happy to speak Thai. Nothing was very serious. If someone did something wrong, we just laughed. In fact everyone did a lot of mistakes. No one cared. In the TAP class, we just enjoyed learning and playing. The teacher always cheered us up. She told us ‘The show must go on’ or ‘Keep going!’ I felt more confident to express my idea and speak out because of our relaxing atmosphere, teacher comfort, and a group work. I always got good helps from my peers. When I did not know how to pronounce some words correctly, my group immediately guided me. Moreover, we all could remember the sentences we used in the pronunciation and speaking sessions for a long time” (Student AA 23).

Student AA 01 also described how speaking activities helped her to improve her Thai speaking ability.

“Last year, we had a speaking class. However, in my opinion, it was not speaking class at all. It seemed to be a reading class since we all just sat and did reading aloud. In TAP, its speaking session was more active and creative. TAP allowed us to practice oral skills as much as we could. In my opinion, with more practices, I could better my oral skills. We used drama techniques in the speaking session. The drama techniques created relaxing, enjoyable and encouraging atmosphere. Using drama techniques in class also allowed us to create our own dialogues. I could recycle and recheck my Thai language knowledge. Unsurprisingly, we all loved participating in speaking activities. Moreover, when we did some mistakes, the teacher gave us corrective feedbacks after finishing the speaking task. She used body movement and gestures to correct our mispronunciation. She also taught us how to use better words and sentences to make our expression more understandable, grammatical and acceptable. I found my Thai speaking and listening ability improved greatly due to these activities” (Student AA 01).

3) Students’ opinion on using poems

Data from both questionnaire and interview revealed that students identified using poems as helpful. When listening to the poem, they learnt where to pause in an appropriate position.

Chinese students also revealed with the melody in the poem, they could easily remember the sentences. Then they were able to apply the sentences in their speaking activities. Here are some
of students’ opinions on using poems in TAP. Shown below are some of students’ thoughts in the questionnaire.

The following comment derived from the interview describes how the student could remember new words and sentences in the pronunciation session:

Student AA 02 revealed:

“I like learning new sentences through a poem. With its melody and rhyme made me remember the sentences. I found I could remember rhymes and rhythms better than ordinary speech. I also like the way the teacher used repetitive words many times. That helped me remember them. I like the poem in week 8. Uncle Lom was going to the bank. I learnt all vocabularies about banking. It was very useful and enjoyable task. After finish reading aloud, the teacher asked us to do a role play with the poem script. I had still remember how funny Wittaya, one of my friends was. He acted as uncle Lom. He would be the great actor in future. Surprisingly, I had still remembered that poem until now. Going to Thai bank and depositing money would be very easy for me”.

4) Students’ opinion on teacher’s corrective feedback

Teacher’s explicitly corrective feedback assisted them to quickly improve their pronunciation in Thai. They explained that when the teacher demonstrated her body movement, clapping and humming and asked them to follow her, they could feel and understand how to make correct tone and stress. The teacher’s feedback encouraged them to directly experience the language. Here are two reports highlighting this.

From the questionnaire, student AA 13 revealed:

“TAP was very good. The class was enjoyable and beneficial. The teacher was friendly and patient. I did appreciate her pronunciation correction. She helped me improve my pronunciation”. She added her explanation about the teacher’s feedback in the interview as follow: “When I could not pronounce a word or a sentence correctly, the teacher did not only said I did it wrong, but she showed me how to correct it. She showed her body movement and gestures and let me do it again and again until I understood how to pronounce the word correctly. She was very patient. Her feedback was clear and helpful”.

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5) Students’ opinion on doing a group-work

Chinese students in TAP reported that the speaking activity provided them with opportunities to work in group. The students expressed their favourable views towards working in group as follows. Working in group made them learn better, feel more relaxed, and have fun. Working in group enabled them to create a good relationship with their peers. It also provided a chance for them to share their thoughts openly and learn Thai from each other.

For example, in the questionnaire, student AA 10 revealed:

“Working in group was good. I felt safe and comfortable when I worked with my friends. We helped each other. Student AA 25 also claimed the benefit of working in group on their Thai language improvement. I learnt a lot from my group. My friends helped me correct the writing script.

Student AA 25 also added more comments in the interview.

“Working in group was better than individual work, first, I felt more relaxed. I did not like “one man show”. I always was fearful and shy. Doing a role play with friends was fun. No one did stare only at me. It was more comfortable to speak Thai. Second, I could learn new vocabularies from my peers. They also showed me how to use them. When I was not sure whether my pronunciation was correct, I could recheck it with my peers. Finally, I could build stronger relationship with some friends. Normally I was shy and did not know how to make a good conversation. In TAP, I have a lot of topics to talk with friends since we needed to complete the task together” (Student AA 25).

6) Students’ opinion on using questioning and answering in listening session

Chinese students stated that questioning and answering after listening to an academic text provided them with opportunities to recheck their understanding of the content, expressing their opinions, and exchanging their ideas as well as practicing speaking. Questioning and answering made the class more interesting and active. Here are two reports from the questionnaire highlighting this.
Student AA03 revealed:

“I liked the last activity in the listening session. The teacher allowed us to do oral through questioning and answering about the listening text. When doing this activity, I could practice my listening and speaking. I think because I had a lot of opportunities to practice speaking and listening in TAP. We also could share ideas and recheck our understanding”.

10.3.4.3. Chinese students’ opinion on TAP’s atmosphere

From data in the questionnaire, all Chinese students in TAP regarded TAP as enjoyable, relaxed, interesting, active, and encouraging course. This positive learning environment can help reduce anxieties and inhibitions connected with the language learning process. Consequently, Chinese students in TAP gained a sense of confidence in their ability to learn the target language.

Ten students revealed that they were willing to engage in the activity without fear and shyness. For example,

Students AA 21 stated:

“Our class’s atmosphere is very relaxing and enjoyable. That encourages us to be willing to participate in all activities.”
Enjoyable and relaxed atmosphere could enhance the capacity of working memory and (Omaggio- Hadley, 1993; Mayes & Calhoun, 2007) by helping L2 students avoid sources of anxiety and notice to the task (Mousavi, Low, & Sweller, 1995). Thus, L2 learners could store the new learning material faster in the long-term memory (Omaggio- Hadley, 1993, 2001).

From the questionnaires, five students in TAP reported that the capacity of their memory increased when learning Thai with enjoyable atmosphere.

“It is very enjoyable. I think I can remember new sentences because I was very happy when memorizing and practicing them” (Student AA 17).

Student AA 14 revealed:

“When I laughed, I could remember the words and expressions we learnt. I have still remembered all ready-made sentences for ‘going to the bank’ even this previous lesson were 4 weeks apart”.

10.3.4.4. Chinese students’ comments on any other aspect of their experiences from TAP

Fourteen students gave suggestions for the improvement of TAP. Four students suggested that writing practices should be more focused. Three students did not like an oral presentation task. They claimed that speaking alone in front of the whole class was the most anxiety-provoking activity. Three students revealed that they realized a lot of benefit from the pronunciation training. However it should be used for the beginner students of Thai since it seemed too late for them to improve their pronunciation. Two students suggested that more time should be provided in TAP. Another two students suggested that the textbook should be distributed at least two week earlier before the course started.

10.3.4.5. Chinese students’ use of strategies in Thai language learning

This question used six main categories of L2 learning strategies from Oxford (1990) to elicit retrospective data about the strategies used in Thai language learning.
Figure 10.5: The number of references in learning strategies identified from the questionnaires

As seen from Figure 10.5, the response of questionnaires revealed that six types of strategies, namely, compensation strategies, memory strategies, cognitive strategies, metacognitive strategies, affective strategies, and social strategies were employed by Chinese students for Thai language learning. From the response in questionnaires, cognitive strategies were the most often mentioned by 30 students with 34 references. 20 students with 22 references mentioned that they employed memory strategies. Metacognitive strategies and affective strategies were mentioned by 16 students with 17 and 16 reference respectively. Social strategies were mentioned by 13 students with 14 references. Compensation strategies were the least often mentioned by 3 students with 3 references. In order to be reassured of the effectiveness of SEA on students learning strategies, the findings of this study were compared with Zhang’s findings in her Mandarin course with SEA.
### Table 10.2: Strategy types and tactics identified from the end of course questionnaires

<table>
<thead>
<tr>
<th>Strategy types</th>
<th>Tactics</th>
<th>Zhang’s students (2006)</th>
<th>Chinese students in TAP</th>
<th>Number of students</th>
<th>references</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Memory strategies</td>
<td>Applying image and sound used</td>
<td>8</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Creating mental linkage used</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employing action used</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive strategies</td>
<td>Repeating used</td>
<td>9</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reviewing well used</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Practicing naturalistically used</td>
<td>7</td>
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<td>Summarizing used</td>
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<td>Using resources for receiving and sending message used</td>
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<td>Analysing and reasoning used</td>
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<td>Compensation</td>
<td>Guessing a meaning from context</td>
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<td>Metacognitive strategies</td>
<td>Paying attention</td>
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<td>Seeking practice opportunities</td>
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<td>Self-monitoring used</td>
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<td>Affective strategies</td>
<td>Using progressive relaxation used</td>
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<td>Using music used</td>
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<td>Social strategies</td>
<td>Asking for correction</td>
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<td>Cooperating with native speakers</td>
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<td>Cooperating with peers used</td>
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Key: Pink background colour indicates new strategies and tactics used by Chinese students

It can be seen in Table 10.2, strategies identified from end of course questionnaires for the study could confirm the effectiveness of SEA on promoting L2 students to use learning strategies. Similar to learning strategies used by Zhang’s L2 students in her Mandarin course, Chinese students in TAP also used a wide range of strategies and tactics.
However, unlike Zhang’s Mandarin course (2006), TAP focused on using SEA for L2 learners in Thai at an intermediate to upper intermediate level in the intensive Thai course for academic purpose. One of TAP’s purposes was to help Chinese students improve listening proficiency to a level sufficient to cope with subject matters in academic lectures. Thus, TAP shifted from prosody training on a sentence level to prosody at a discourse level through drama technique. Therefore, some new strategies and tactics for listening skills were employed by Chinese students in TAP.

1) Variety of memory-enhancing strategies used

Apart from the traditional repetition and practicing Thai language, data from both questionnaire and interview identified memory-enhancing strategies used by Chinese students in TAP. The strategies and tactics are presented in the following section.

2) Students utilized the audio files to aid their learning.

Some listened to the CDs, linking the sound of vocabulary items.

Student AA 01 commented in the interview:

“I was listening to audio files when reading a text in the textbook. It was good since I could listen, and read the text at the same time. Individual vocabulary audio file was also provided in the CD. Therefore, I could learn how to pronounce them correctly. I also could easily remember them” (Student AA 01).

3) Students used creating mental linkages

3.1) Remember example of word use in a context

Some students remembered example of word use in context. For instance, student AA 25 commented in the interview:

“Moreover, in pronunciation session, teacher taught us a whole sentence. She repeated it again and again. She also explained how to use the words in the sentence. In her explanation, her example was so funny and interesting. She used our classmate name and our well known place in China in the sentence. I’d still remembered the sentence ‘Mangkorn have increased the number of branched in Nanning. Now he is becoming a successful tycoon of Guangxi’. I
preferred remember the words in the sentences rather than the individual word” (Student AA 25).

3.2) Compose sentence with the words being learnt

Some students enhanced their memory by placing new words in a sentence. Two examples of students’ thought are presented below.

Student AA13 explained the way to enhance her memory through the interview.

“When I learnt new words, I always compose a sentence using those words. This way helped me remember new words. When I was not certain whether the sentence composed was correct, I sent the sentence to the teacher’s QQ mailbox. She always immediately gave me feedback. In my opinion, remembering new words by using them immediately was the best way to improve our vocabulary knowledge. Sometimes, I used new words in my speaking with my Thai friends. Moreover, I asked them to give me corrective feedback if I said something wrong. I just kept telling them I would not feel shy or lost face. I did need their help. However, the teacher’s corrective feedback was much clearer and understandable than that of my Thai friends” (Student AA13).

Student AA28 revealed:

“I liked one activity in TAP. The teacher drilled the new words many time by placing them in sentences. She used a Ping pong game to let all students compose sentences with new words. With this activity, I could learn some interesting sentences from my friends. Some sentences were so funny and remarkable. It helped me easily remember new words. I employ this activity out of class in order to speed up my Thai language learning. When I learn new words from the CD or the exercise book, I compose a sentence with those new words.”

3.3) Listen or reading a text related to the topic covered in class to gain more exposure to learned vocabulary

Student AA 04 revealed her learning strategy in the interview.

“When I did listening exercises, I always choose the exercises in the same topic in order to strengthen my memory. Luckily, there were enough exercises with the same topic provided in the CD and the exercise book. Listening or reading to relate topic, I could review and practice
the vocabularies and chunks in the same field again and again many times. Then, I could remember them” (Student AA 04).

4) Chinese students employed action to assist their language learning

Some student revealed that they employed physical actions in their own learning outside class. For example, from the interview, student AA 02 explained:

“I found it was easy to remember sentences when we did body movements and gestures in the TAP class. Moreover, I used this activity to assist my Thai language learning out of class. I could actually recall sentences for a long times”.

10.3.5. Chinese students’ responses in section 3 of the end of course questionnaire: students’ attitude towards course materials in TAP

![Frequency use of the audio and data CD (%)](image)

Figure 10.6: Frequency use of the multimedia resources for Chinese students in TAP identified from the questionnaires

As seen in Figure 10.6, apart from the traditional repetition and practicing Thai language, Chinese students in TAP made use of the multimedia resources provided. This included the use of the audio and data CD. Section 3 in the questionnaire asked for students’ attitude towards course materials in TAP. From the responses of questionnaire, 6 percent (2 students) regularly used the audio and data CD under 1 hour. 20 percent (6 students) regularly used the audio and data CD for 1 hour a week. 27 percent (8 students) used the audio and data CD for 2-3 hours per week. 47 percent (14 students) regularly used the audio and data CD for over 3 hours each week. The entire class stated that such technology-based materials were extremely useful to their studies. The details of students’ opinion are as follows.
10.3.5.1. Students’ opinion to the audio and data CD

From the questionnaire, five students said that the academic content in the CD was useful. However, it would be better if a variety of contents included such as songs, news, and Thai folk tales. They believed that it would make the data CD interesting for many students. Two students suggested that the data CD would be more enjoyable if it contained more video clips. Three students mentioned about an audio problem in the CD. Chinese students would like to have a clearer and louder voice in the audio file.

Majority of Chinese students believed that audio and data CD could help them improve their Thai proficiency, especially listening and reading skills. They revealed that they could understand more when they listened to Thai texts or when their teachers and Thai friends communicated with them. Seven students said that their speaking skills had improved but only up to a certain level. They said that the CD helped them, but not much. However, they said that this might result from the fact that they did not use to practice Thai language out of class frequently enough, so their speaking skills did not improve a lot.

Here are some students’ opinions to the audio and data CD from the interview.

Student AA 02 expressed her thought in the interview.

“Listening practices in CD helped me feel more familiar with Thai native speakers’ accents. We did a lot of listening practice both in and out of TAP class. This course helped me feel familiar with their speed. Although they talked very fast, I could understand what they said. I found I gained more confidence. Moreover, we had never listened to a male speaker before. The listening practices provide us with the variety of Thai accents. Because of this, I was getting used to male accents” (Student AA 02).

Student AA 02 also revealed that she used audio files in the CD to practice and improve her Thai speaking ability.

“Well, I always listened to audio files in the CD at my bedroom. I repeated the dialogue after each audio file. I just kept practicing and practicing the dialogue until I could remember and say it. Then I employed the dialogue in my real life conversation with my Thai friends. I also practice reading skills with the text in the CD. The exercises in the CD used various question
formats. Therefore, I could adapt some listening exercises to reading practices. Another good point of the exercises in the CD was all exercises provided an immediate feedback. Thus, I could improve my listening and reading skills by myself” (Student AA 02).

Student AA 01 described how she used the CD to practice their Thai learning.

“I tried to organize my study plan. I believed that a very good schedule to practice Thai language out of class could speed up my Thai language ability. Every morning, I practiced listening with exercises in the CD. I spent at least 30 minutes on doing each exercise. Well, I needed to listen to the text more than one time. I could do one exercise a day. I also like to listen to the audio file of each sentence in WAV. I transfer wav files from the CD to my MP 4 player. It was more convenient since I could bring it with me whenever I wanted. I promised to myself “Need to listen to audio files at least 20 minute a day and everyday”. To practice listening and speaking by using WAV files, I repeated the sentence after each WAV file until I could remember the sentence. Because it was convenient, I could keep my promise. I tried to practice Thai every day. I believed that more practice, more getting improvement” (Student AA 01).

Student AA 25 revealed that the data CD was helpful in learning speaking and listening.

“I practice listening with exercises in the CD. I could also practice reading skills from them. I could read and listen to the text at the same time” (Student AA 25).

From the above quotes from some students, it can be seen that students in the experimental group utilized multiple modalities in their learning. They used both the data CD and audio CD to aid their Thai learning.

10.3.5.2. Students’ opinion on Hot Potatoes exercises

40 listening exercises were provided in the course data CD. 10 listening texts were about campus life with a dialogue form. Another 30 listening texts were designed to mimic the international business lecture in order to prepare students for their real life lectures in Thailand. The texts were three to five minutes in length. From the responses in the questionnaire, 10 students mentioned about the advantage of Hot Potatoes exercises. 10 students reported that doing exercises using Hot Potatoes was fun. 11 students revealed that the feedback made them know immediately if
what they did is right or wrong. However, 7 students suggested that the teacher should provide more exercises in the CD. 5 students complained that the duration of each lesson or quiz was too long.

Student AA 25 added her thought on Hot Potatoes exercises through the interview.

“At first time I received the CD from the teacher, I thought it might very boring exercise. I thought that I just did it, then no any feedback. It was hopeless to practice Thai listening with the CD. However, after using the CD, I found that the exercises in CD were very interactive and useful. I liked immediate feedback the most. After choosing an answer from optional answers, I got immediate feedback, whether the answer was right or wrong. Because of the feedback, I did not feel I wasted my time to practice Thai. I found that my listening ability improved greatly due to this out of class activity” (Student AA 25).

It is well known that very few Thai language teachers have knowledge in programming or technical knowledge in creating a CALL program if they want to do so. In other words, they do not have enough exposure to computer programming knowledge to be able to design and create CD-ROM. Many of them do not have a clear idea of how to integrate CD-ROMS into their Thai classes.

However, Chinese students’ positive attitude to the use of CD-ROMs might change teachers’ perception on the application of CD-ROM as a burden. In order to take advantage from the use of CD-ROM, teachers in Thai language courses for foreigners should bear in mind for overcoming the fear in incorporating technology in the classroom.

Furthermore, Chinese students’ opinion on the CD in TAP suggested the appropriate features of CD-ROMs for listening practices:

1. First, authentic materials should be used in CD-ROMs. Moreover, by using connected speech with various Thai accents, L2 students could feel familiar with rhythm and reduced forms in Thai. Consequently, Chinese students not only could lessen their Mandarin filter but also keep up with normal speech rate of Thai native speakers.

2. Second, CD-ROMs should response to learner differences. One way to offer individualization is increasing the variety of contents in CD-ROMs.
3. Third, video clips should be offered in CD-ROMs in order to provided L2 students with visual clues of the listening texts.

4. Forth, immediate feedback should be employed in CD-ROMs in order to motivate L2 students to practice listening out of class.

10.4. Summary

From both the end of course questionnaires and the face-to-face interviews, it is clear that Chinese students in the experimental group had positive attitudes towards TAP with SEA. Chinese students considered that the teaching methods based on SEA assisted them to improve their speaking and listening proficiency to a sufficient level to overcome difficulties in academic settings.

Findings from end of course questionnaires and face-to-face interviews also revealed that in process of Thai learning, Chinese students employed the variety of learning strategies. The findings also revealed that Chinese students were far more self-motivated by utilizing a range of learning tools such as audio files, the data CD, body movements and gestures in order to aid their Thai language learning.
Chapter 11 Conclusion and Suggestions

11.1. Conclusion

This thesis has endeavoured to evaluate the efficacy of SEA for Chinese learners learning Thai as a second language in an intensive Thai course for academic purposes.

SEA is an active approach to teach and learn a foreign language. This approach was developed by Zhang (2006). Zhang created SEA from research findings from diverse fields such as cognitive psychology, socio-psychology, L1 acquisition, Second Language Acquisition, neurology, biology, and Verbotonal system of phonetic correction (VTM) (Renard, 1975).

Underlying the method is the conviction that all language use has evolved from spoken language, and that speech is a social event. Furthermore, the ‘meaning’ of speech is transmitted not only by linguistic elements, but also by the auditory and visual information present in the rhythm, intonation, loudness, tempo, pauses, the tension, and gestures of the speaker. Most importantly, the auditory and visual information in his/her production is a reflection of how he/she perceives speech. In other words, changing a speaker's perception of speech will also change his/her production of speech. Conversely, if we correct his/her production of speech, we would also have corrected his/her perception of speech. This was the reason why we trained students both to perceive and produce the TL in this study.

In evaluating the effectiveness of SEA for the students, several facts, constituting a body of knowledge, have been collected with regards to Chinese students’ experiences of learning Thai as a L2. In the first part of this chapter the major findings of the present study are summarized. In the second part, issues and principles that emerge from the study will be discussed. In the final part, future suggestions of research are presented.

11.2. Interesting information derived from the research

In investigating speech production and perception of Thai by a group of Chinese speaking students learning Thai as a L2, the following information was sought:
11.2.1. Tonal errors for Chinese students learning Thai

As mentioned in section 2.5.2 and 3.17.2, many researchers have investigated Thai tone perception by non-native Thai speakers. However, few researchers studied tonal errors produced by non-native Thai speakers. With one of purposes in this study to examine the difficulty of acquisition of Thai tones and prosody, the finding derived from the experimental group’s speaking samples could help fill this gap.

Finding from the experimental group’s speaking sample revealed that Chinese students had difficulty pronouncing Mid tone and High tone. Nevertheless, they had no problem with the other tones. Chinese students mispronounced the mid tone to the high tone and the high tone to the rising tone in reduced forms due to the syllable-timed rhythm of Mandarin Chinese.

The present study found that SEA in TAP has achieved success in combating the interference from the students’ L1 Mandarin. The specific practices used in SEA are:

1) Selection authentic sentences with all the aspects of prosody preserved in pronunciation training not only facilitated the acquisition of the language sounds, it also facilitated the exploration of the syntactic system of the new language as well.

Finding on locations of pauses made by Chinese students before and after the SEA treatment (refers to section 9.3.2.5, p.264) demonstrated that Chinese students successfully paused at appropriate syntactic location. It can be interpreted that they develop their grammar knowledge.

Learning sentences with their prosodic features such as stress, rhythm and intonation not only aids memory (Mandel et al, 1994; Mandel et al, 1996), but also helps in the acquisition of syntax according to research findings from L1 acquisition

TAP with SEA used prosody in authentic materials and promoted Chinese students use prosodic cues (such as stress, rhythm and pause) to identify of a phrase boundary and group words into a chunk. With this way, prosodic bootstrapping was encouraged.

From dramatically increased number of appropriate locations of pauses made by Chinese students after the SEA treatment, it can be interpreted that prosodic bootstrapping of language theory does not only apply to L1 acquisition, it might also apply to L2 learning of a foreign language. In other words, prosodic bootstrapping might be responsible for Chinese students’
production of longer, fluent, and intelligible utterances in the post speaking test in the experimental group. L2 students taught with SEA, therefore, seem to develop a better ‘feel’ for the Thai language which enabled them to produce more acceptable spoken language in Thai.

2) SEA also helped Chinese students lessen their L1 sieve by using physical movements and gestures and pronunciation in the teaching of prosody of Thai. Body movements and gestures assisted Chinese students develop synchrony of their body with the TL. Chinese students experienced the tending of the body tension when pronouncing Thai prosody. In other word, learning through spoken, aural, and modality with body movement and gestures is more efficient than doing passive listening exercises based on minimal pairs. As a result, Chinese students produced and perceived Thai sounds merely correctly. SEA in TAP helped them know certain words not only by sight but also by sound.

11.2.2. Listening difficulties encountered by Chinese students learning Thai

Findings based on the immediate written recall protocol identified real-time listening difficulties faced by Chinese students in their listening in academic lectures.

The findings revealed 10 real-time comprehension problems related to the three cognitive processing phases: perception, parsing and utilisation while they engaged in the listening tasks.

Chinese students before the SEA treatment revealed that they had problems during the perception processing stage in that they could hear the word at the end of a sentence; they were either unable to identify word boundaries in a long stream of speech or recognize words or phrases which they knew. Some students could recognize a word but could not remember its meaning. Some students could pay attention to only familiar words. Some could not pay attention to the next part because they were still thinking about what they previously heard. Recognizing sounds as distinct words was a main problem in the perception phase.

The possible reason of the problem on processing phases could be L2 students’ difficulty perceiving reduced forms in connected speech. Fluent Thai speech is usually fast. Not every word is clearly produced. Consequently, some syllable or words are not pronounced in full forms but rather are spoken in reduced forms. As a result, L2 learners of Thai have difficulty perceiving reduced forms in connected speech. Another factor could be Chinese students’ inability to store
learnt words in their long term memory because they knew certain words by sight but not by sound.

Some problems experienced at the parsing phase had to do with establishing a meaningful representation in short-term memory. Chinese students quickly forgot what they heard. Some students could not derive a reasonable mental representation of the input by connecting the words they heard to written forms. In the utilization phase, students failed to understand intended messages of a speaker. They were also unable to comprehend a keyword.

The data on comprehension processing barriers concurred with Goh’s study (2000) which used diaries, interviews, and think aloud reports in order to identify listening difficulties encountered by a group of ESL learners (More detail of Goh’s study was discussed in section 3.20.3 and 6.3.2).

There is no research on identifying listening comprehension processing barriers encountered by foreign learners learning Thai. Therefore, by identifying listening difficulties, this study hoped to help teachers in Thai language teaching for foreigners better understand the different cognitive demands that students encountered when listening to academic lectures. This study also provides teaching techniques which can be employed to help learners overcome or cope with such difficulties.

**11.2.3. SEA in TAP could improve L2 students’ listening proficiency**

As demonstrated the analysis of the test scores from three papers based tests using t-test, TAP with SEA benefited on Chinese students’ listening proficiency by making them more effective listeners.

1) By using connected speech, SEA in TAP assisted Chinese students feel familiar with rhythm and reduced forms in Thai. Consequently, Chinese students not only could lessen their Mandarin filter but also could keep up with normal speech rate of Thai native speakers.

2) By allowing learners to learn through body movement and gesture, Chinese students managed to lessen the effect of mother tongue sieve on their L2. Consequently, Chinese students in TAP group could produce and perceive Thai sounds correctly. As a result, they could match the sounds they heard with the sounds they stored the sounds of lexical items efficiently in long-term
memory. Besides “The exaggerated nature of the movements and gesture certainly created very strong memory traces in the students” (Zhang, 2006: 297). Therefore, SEA in TAP also helps L2 students effectively store form, sound and meaning of a word in their long-term memory. Then their listening vocabulary was no longer underdeveloped.

3) Apart from the use of body movements, the procedure of walking and clapping to the rhythm of the language was important way for aiding L2 learners’ experience and feeling of rhythm in Thai. As a result, Chinese students not only could stress at appropriate syllables and words but also could recognize reduced forms they heard in connected speech.

4) Using formulaic sentences seemed to have helped with L2 students’ vocabulary retention; developed in them the ability to chunk works and have better memory of what they heard. Their chunking ability seemed to have facilitated L2 learners’ decoding ability. In other words, students’ decoding processes could become quicker, then could follow and keep up with a normal speech rate of Thai native speakers.

5) To improve listening skills in the utilization phase, TAP raise awareness of the role of discourse markers in structuring academic discourse. Signal relations from discourse markers equipped Chinese students to become actively involved in listening and recalling information. As a result, majority of Chinese students could comprehend keywords and understand intended messages after the SEA treatment.

6) Listening strategies (how to listen to lectures)

In second language acquisition, it is accepted that L2 learners need to develop certain listening strategies that help them overcome listening difficulties (Thompson & Rubin, 1996; Goh, 1998, 2000; Chamot, 2005). However, researchers could not agree on ‘how’ strategies should be taught. For instance, would it effective for student learning if we provide them with a list of strategies at the beginning of a course? This course of action might not be effective because not all strategies are available to all learners because of the existence of individual learning styles (McDonald, 1995). Lian and Lian (1997) and Lian (1985) claimed that each student may employ a variety of unknown and unknowable learning styles, experiences and understandings when s/he attempts to learn a language or deal with a task. The person who decides what to utilize is the student. S/he will make decisions as to what they feel is suitable for them.
Based on the FD hypothesis (Bley-Vroman, 1989), L2 adult learners tend to rely on the problem-solving skills more than children learning L1. The ability to employ problem-solving skills will vary among individual learners. Because of this, teachers should not try to direct them to learn in a particular style. Instead, teachers should aim to provide the learning conditions and materials that would enable the initiation of individual directed strategies.

TAP with SEA allows students to experiment and experience their own listening strategies by ‘learning by doing’. Instead of adopting the strategy of attempting to cater for everyone’s predictable and unpredictable needs, listening strategies should be built into the learning environment instead. Behaviour routines in TAP enable students to discovery and decide which strategies they feel is suitable for them to cope with academic lectures.

11.3. Implications for course design

Most Thai textbooks for adult learners devote little attention to phonetic explanations and provide few phonetic exercises, usually confining these to the preface or the beginning lessons. The minimal phonetic instruction available in standard textbooks has usually been focused on the articulation of segmental and tones presented in the form of repetition drills and minimal pair drills. Meaning is usually not provided at all. The use of dictation and reading aloud in citation form are also popular in Thai language classrooms. Not only these traditional methods do not seem to decrease the effect of L1 interference in the TL, they might also encourage the formation of bad learning habits in L2 students thus creating induced errors.

Current study proposes a set of behavioural routine and practices that seemed to initiate ‘Directed Motivational Currents’ (DMC) (Dönyei, Ibrahim, & Murir, 2014) in L2 students. The following student’s feedback in the questionnaire seems to indicate that moving the body and hands seemed to encourage focus thus a stream of actions such as clapping, humming, stamping the foot in order to pronounce words enabling longer lasting retention of words and phrases.

“In fact, we had a pronunciation course when we were in year 1. In that time, we just sat and repeated the words after the teacher. It was so boring. Then I did not want to pronounce any words and remember them. Unlike the traditional pronunciation class, TAP was fun, active, and beneficial. I preferred TAP. I found I gained more benefits from TAP especially
pronunciation and listening sessions. I preferred this relaxing class to the formal class in the last semester. This class could encourage me to focus on new words and sentences. When I moved my arms and clapped my hands, I need to focus on the words and sentences. After that I could remember and recall them easily. Because of this benefit, I really wanted to pronounce them, move my arms, clap my hands and stamp my feet. I just loved to join all activities in TAP. I could remember new words more quickly and also for a long time when I learnt them through the pronunciation activities”.

Indeed the sensitization stage of the SEA routine represents the regular behavioural routine that requires L2 students spend regular amounts of time on task. The successful production of each sentence by L2 students represented the proximal sub-goals achieved by the L2 students (Dönyei, Ibrahimb, & Murir, 2014). As L2 students’ progress, they felt their sense of satisfaction. The sensory components of the SEA procedure (humming, clapping, using movement and gesture) not only produces very strong memory traces in L2 students, they also allowed students to visualise what it feels like to be an intelligible speaker of Thai. This vision or image is also reinforced when the L2 student’s production of their limited Thai is intelligible when interacting with native speakers of Thai.

Furthermore, in the SEA procedure affirmative feedback was not only provided by the teacher but also by the biofeedback provided by L2 students’ bodies. The success at every step within the procedure fuels further action from students. Most important of all, every step within the procedure projects positive emotionality which encouraged emotional stability within the student group.

In terms of pronunciation training, the following principles improved SEA’s effectiveness on L2 learners’ pronunciation:

1) Teaching L2 by allowing learners to ‘enter’ the language through body movement and gestures.

The exaggerated nature of the movements and gesture certainly created very strong memory traces in students thus enabling them to deal with the issue of prosodic features in various ways. As indicated by one student:
“I found it was easy to remember sentences when we did body movements and gestures in the TAP class” (Student AA 02).

2) The selection of the teaching materials should be based on student’s needs. For instance, in this study, Chinese students felt that they were learning things that they could use and hear in academic lectures taught in Thai. Of course, in this case the best source of learning material is then authentic academic lectures.

3) SEA does not work on one isolated aspect or element of the language. In fact, SEA works simultaneously on segmental, suprasegmental and syntactic systems by using sentences with their prosodic aspects preserved. With integrated element of language taught in relevant contexts, L2 students learning Thai not only learned the correct tones they also learned rules of prosodic features (such as stress and pauses) and grammar implicitly. The bootstrapping theory of language might even apply here in L2 learning contexts.

4) Speaking and listening should be priority rather than reading and writing. As mentioned before, listening has been regarded as the most frequently used language skills in the classroom. It plays even more important role in one’s academic success than reading skills (Conaway, 1982; Powers, 1985). For instance, with SEA’s priority, as adult learners, L2 students had more opportunities to perceive and produce speech. Consequently, students rapidly improved their oral proficiency to a level sufficient to cope with academic lectures.

5) Massive and continued exposure to new language input in TAP is an effective tool in improving L2 learners’ perception and production of prosody of the new language. To provide massive and continued exposure to Thai language input, the provision of data CD and audio CD in TAP was designed to provide students with increased opportunities for direct experience of the language and for exploration. Moreover, the provision of data CD and audio CD could cater for individual learning needs and procedures for building an inclusive and relaxed learning atmosphere. This way could increase Chinese students’ direct experience of Thai language. It could enable learners to meet their personal learning needs and allow learners to follow their learning path.

Existing Thai language courses for foreigners both in Thailand and PRC have rarely used CD-ROMs for academic listening. Money has been spent in purchasing Thai song and movie DVDs
which are used a spoken language. Moreover, most of these DVDs are equipped with Thai subtitles or Chinese subtitles. Learners, therefore, spend time reading the subtitles while they are watching movies instead of practicing listening skills as they are supposed to. As a result, students create a belief in their heads that they can understand Thai. Unfortunately, in fact most of them cannot function well when they have to interact in Thai in real academic situations.

Findings obtained from the questionnaire and face-to-face interview in the study revealed that students perceived the use of audio and data CD were beneficial to practice academic listening. The use of CD-ROMs also catered for individual differences as they allowed L2 students to determine the pace of the lesson. They can choose what part to explore and how many practice exercises are required. This allows them to tailor the amount of material to complete according to their need and learning styles.

Similar to many teachers in other South East Asian countries, such as Malaysia (Darus & Luin, 2008), most of teachers in Thai language courses are reluctant to introduce computers and CD-ROMs into the classroom. Some Thai language teachers claim that they do not have the technical knowledge to create CD-ROMs. Some teachers argue that they do not have time to design and create such learning resources because of their heavy teaching schedule each semester. Some seem to think that learner and teacher interaction is the only way to promote acquisition and should not be replaced by technology. Consequently, existing Thai language classes are still using traditional lectures or traditional equipment to practice listening using a teacher’s very clear voice for dictation or watching Thai song and movies with subtitles.

As Darus and Luin suggestion (2008), in order to encourage teachers use hi-technology in their class, teacher should be trained how to use computers to teach a foreign language. Teachers should have a positive attitude towards the use of computers and CD-ROMs in foreign language learning.
11.4. Some raised questions

11.4.1. Is this method similar to that of the Total Physical Response (TPR)?

The question might arise as to whether SEA is similar to the Total Physical Response (TPR) (Asher, 1977). TPR was developed by Professor James Asher in 1977. Zhang (2006) argued that SEA is not similar to TPR.

TPR suggests that listening should be developed before speaking because this is what happens when a child learns his/her L1 and delaying speech seems to reduce stress (Gary, 1975). Unlike L1 younger learners, L2 adult learners might already be fully functioning in their L1. Therefore, even if we want to delay production in L2, the developed coordination in the phonological store and the articulatory rehearsal might not be able to be stopped. Therefore, SEA does not adopt the strategy of delayed speech in the arrangement of learning activities and materials. With SEA, L2 students need to produce their speech almost immediately (Zhang 2006).

TPR uses physical movement to react to an imperative verbal. Conversely, SEA does not use gesture as a device for enhancing the acquisition of vocabulary items only (Zhang 2006). In fact, body movement and gestures in SEA play a role as a reminder of a whole set of known and unknown memory traces. Furthermore, body movement in prosody training helps L2 students to experience and feel the target language. That leads them to be able to segment the language stream.

In terms of classroom activities, the ordering of classroom activities in TPR seem to build on the structural view of language in that the mastery of a language is through the sequential mastery of phonemes, grammatical units, lexical items and grammatical operations (Richards & Rodgers, 1986). SEA, on the other hand, does not order classroom activities according to structural views. Activities in SEA are based on the communicative needs of L2 students.

11.4.2. Does this study support the critical age theory of language acquisition?

Evidences by Neufeld (1977) and McCandliss et al (2002) reveal that perceptual sensitivities are not lost in late L2 learners. Moreover, native-like pronunciation is not impossible, as studies by Birdsong (2003) and Bongaerts (1999) have shown. Besides, the perceptual abilities can be amenable by training (Bradlow et al., 1997; McClelland et al., 2002).
L2 adult learners can achieve a high level of proficiency in a TL by (1) using as highly exaggerated stimuli and feedback (McCandliss et al., 2002); (2) imitating the rhythm or intonation Neufeld’s (1977); (3) highlighting the relevant units in the speech input (Newport cited in Jusczyk, 1998); (4) providing opportunities for non-native speakers to produce comprehensible output (Swain, 1985); (5) removing the capacity for inhibition increases the effect of perception on behaviour (Dijksterhuis & Bargh, 2001); (6) acculturation hypothesis (Schumann, 1975); (7) reducing the affective filter (Krashen, 1981, 1982, 1985); and (8) inducing ego-permeability by lowering learner’s level of inhibition (Guiora, 1983).

This thesis not only contends that the unused neurons are not lost and might be able to be reactivated in future learning at any age even after puberty but also agrees that L2 adult learners can achieve in a L2. TAP with SEA, therefore, turn these suggestions into concrete practices in order to assist adult learners to achieve a TL and attain acceptable pronunciation according to the NS standard. Furthermore, TAP with SEA attempts to integrate biological, cognitive, experiential, linguistic, and affective dimensions of L2 learning and processing in order to encourage late L2 learners to ultimate attainment in a TL.

11.5. Limitations and suggestions

The results flowing from this study should be treated with some caution. First of all, the sample of students involved was a convenience sample. The experiment on speaking proficiency involved only the experimental group due to institutional and time constraint. Even though this study involves comparison of listening test results between the experimental and control groups, it was difficult to attribute the gains in achievement made by students in the experimental group to either SEA or the CD-ROMs or drama techniques. It is possible that a combination of all three contributed to the achievement of the students in the experimental group.

One more limitation of the study is pause measurement. In a testing situation, pauses can be made longer for purposes other than speech planning. Pauses can be used for different purpose (Goldman-Eisler, 1968; Riazantseva, 2001). Although this study did not discuss stylistic factors and reasons, it was not free from such confounding variables. In a language testing situation where an examinee is asked to narrate something to an imaginary interlocutor, a speech pause can be a period of time in which the speaker pretends to use time to hear and see an addressee’s
response. With this limitation, the number of pause and phonation time ratio, might not be perfect indicator of students’ speech fluency.

So far, SEA has only been applied to the teaching of Mandarin Chinese and Thai. SEA is no more than a suggestion for changing the pedagogic practice in the field of teaching Thai as a L2. Theoretically, it can be applied to the learning of any languages. It follows that in the teaching of other languages, the principle of making what the students select with the needs of the target language communities still holds. SEA can also be applied to alphabetic languages such as English. For example, one of the most noticeable problems in L2 learners' English is the lack of stress in L2 learners' spoken speech (Benrabah, 1997; Hahn, 2004). SEA and Drama techniques used in this study to highlight the discourse features of Thai can be modified to correct similar problems affecting L2 learners’ English.
Appendices

Appendix One: Academic listening test (ALT): Pretest

第 1 次 听力测试（35 分）

编号：AA............

您将听到 4 篇小短文，每篇短文将播放 2 遍。在您听短文的过程中，您可以在发下去的草稿纸上做笔记。

在听力测试结束后，请您就调查问卷中的问题阐述一下自己的看法。

第 1 题 请选择正确的答案。（5 分）

1. 颂斯刚刚从哪里回来？

A. 市场  B. 银行
C. 曼谷  D. 家

2. 颂斯正准备去哪里？

A. 市场  B. 银行
C. 曼谷  D. 家

3. 曼谷银行在哪里？

A. 在大学的后面  B. 在大学的前面
C. 在大学的旁边  D. 在大学的对面

4. 玛丽拜托颂斯做什么事情呢？

A. 帮忙缴话费  B. 帮忙打包炒青菜
C. 帮忙打扫家里的卫生  D. 帮忙借书
5. 当玛丽拜托颂斯去做上述事情时，玛丽给了他什么东西？

A. 话费发票  B. 食物清单
C. 扫帚  D. 借书证

第2题 请选择正确的答案。（5分）

1. 清迈府在泰国的哪个地区？

A. 中部  B. 北部
C. 东北部  D. 东部

2. 清迈府全年气候如何？

A. 热  B. 很凉爽
C. 较凉爽  D. 较热

3. 清迈的雨季是什么时候？

A. 5月初至10月  B. 5月中旬至10月
C. 5月初至11月  D. 5月中旬至11月

4. 以下哪个说法是错误的？

A. 清迈府共有3个季节，即雨季、冬季和夏季
B. 曼谷离清迈大约750公里
C. 清迈府有许多高山，因此不适宜种植温带水果
D. 我们可以乘火车、汽车或者飞机去清迈
5. 现在去清迈人们使用最多的是哪种交通方式？

A. 火车  
B. 汽车  
C. 飞机  
D. 公共汽车

第 3 题
请您在正确的说法前打“√”，错误的说法前打“×”，原文没有提及的说法前画“O”。（5 分）

_____1. 如果回不了家，那么你可以在医务室过夜。

_____2. 从图书馆步行到医务室需要 5 分钟的时间。

_____3. 医生和护士从早上 10 点到晚上 7 点都会在医务室。

_____4. 每次到医务室看病都需要出示学生证。

_____5. 假设从图书馆出来往医务室方向走，那么医务室会在我们的左手边。

第 4 题
请简要概述文中的图书馆每层都有些什么？（10 分）

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
第 5 题

请归纳总结出 E-Ticket 的优点。（10 分）

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________
Appendix Two: Academic listening test (ALT): Posttest

第 2 次 听力测试（35 分）

编号：AA....

您将听到 4 篇短文，每篇短文将播放 2 遍。在您听短文的过程中，您可以在发下去的草稿纸上做笔记。在听力测试结束后，请就调查问卷中的问题阐述一下自己的看法。

第 1 题 请根据录音选择正确答案。（5 分）

1. napa 准备去银行做什么？
   A. 存钱   B. 贷款
   C. 取钱   D. 换钱

2. somjai 让 napa 帮忙做什么？
   A. 缴付话费和电费   B. 缴付水费和电费
   C. 缴付学费和电费   D. 缴电费和房租

3. napa 从银行出来后将要去哪里呢？
   A. 市场   B. 百货商场
   C. 大学   D. 医院

4. 电费多少钱？
   A. 600 泰铢   B. 840 泰铢
   C. 1440 泰铢   D. 1500 泰铢

5. 今天 napa 几点下课？
   A. 凌晨 5 点   B. 早上 6 点
   C. 傍晚 5 点   D. 傍晚 6 点
第 2 题 请根据录音选择正确答案。（5 分）

1. 普吉府在泰国的哪个地区？
   A. 南部   B. 北部
   C. 中部   D. 东部

2. 从曼谷到普吉府可以采用哪些交通方式？
   A. 汽车、飞机、火车
   B. 面包车、公交车、轮船
   C. 汽车、火车、公交车
   D. 面包车、汽车、飞机

3. 现今泰国国内和外国的游客去普吉岛最喜欢采用哪一种交通方式？
   A. 面包车   B. 火车
   C. 公交车   D. 飞机

4. 普吉府的气候怎么样？
   A. 白天和晚上都比较炎热
   B. 白天和晚上都比较凉爽
   C. 早上比较炎热，但是下午和晚上比较凉爽
   D. 白天比较炎热，但是晚上比较凉爽

5. 哪个时期普吉岛天气很好，降雨较少，因此最适合去旅游？
   A. 11 月至次年的 4 月   B. 7 月至 11 月
   C. 9 月至 11 月   D. 12 月至次年 4 月

第 3 题
请您在正确的说法前打“√”，错误的说法前打“×”，原文没有提及的说法前画“O”。（5 分）

____ 1. 期中考试成绩占总成绩的 60%。
____ 2. 课堂练习占总成绩的 20%。
____ 3. 在课堂上作报告的主题是泰国的旅游景点。
____ 4. 在课堂上作报告为小组作业，每个小组 2-3 人。
____ 5. 在课堂上作报告结束后，需要把纸质版的报告内容交于老师。
第 4 题
请简述办理图书馆会员卡的方法。（10 分）
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________

第 5 题
请简述导致泰国发生通货膨胀的原因。（10 分）
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
______________________________________________________________________
广西民族大学课程考试试卷
（2011-2012 学年度第二学期期考）

课程名称：泰语基础（Ⅳ） 考核时长：120 分 考核方式：闭卷

<table>
<thead>
<tr>
<th>题号</th>
<th>一</th>
<th>二</th>
<th>三</th>
<th>四</th>
<th>五</th>
<th>六</th>
<th>七</th>
<th>八</th>
<th>总分</th>
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<td>得分</td>
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（一）听说部分（30 分 20 题目）
a. 以下内容正确/错误
  1. มากและสบายจะไปเรียนที่ประเทศไทย √
  2. นักษาไปประเทศไทยกว่า 20 ปีอยู่นี่แล
  3. เพื่อนๆ บางคนของฉันไปเรียนที่จีนได้
  4. นักษาไม่กลับบ้านเลย ก่อนจะไปประเทศไทย
  5. มหาวิทยาลัยที่ประเทศไทยเปิดสอนห้องเดื่นในกฎหมาย

选择题。（题号 1 - 题号 20）

1. ห้องสมุดอยู่ใน
   A. ชั้น 1    B. ชั้น 2
   C. ชั้น 3    D. ชั้น 4

2. เราจะทำบัตรห้องสมุดได้ในชั้นไหน
   A. ชั้น 1    B. ชั้น 2
   C. ชั้น 3    D. ชั้น 4

3. เราจะอ่านหนังสือเพิ่มเติมได้ในชั้นไหน
   A. ชั้น 1    B. ชั้น 2
   C. ชั้น 3    D. ชั้น 4

4. ชั้น 4 ได้หนังสืออะไร
   A. หนังสืออังกฤษ    B. หนังสือฝรั่ง
   C. หนังสือเรียน    D. หนังสืออ่านแล้ว

（考生注意：
1. 学号、姓名、专业班级等应填写准确。
2. 考试作弊者，责令停考，成绩作废。）
5. เราสามารถเล่นอินเทอร์เน็ตได้ที่ขับใน ( )
   A. ซัม 1  B. ซัม 3  C. ซัม 5  D. ซัม 6

3.
1.  cúณมาการลั้งจะไปเที่ยวไร่ที่ขับผ้า
   A. ผ้ากันน้ํา B. ผ้ากันน้ําและผ้าไผ่
   C. ผ้าแกร่ง D. ผ้าแกร่งและผ้าไผ่

2.  cúณสมไงผ่าคูณมาการเที่ยวไร่ที่ขับผ้า
   A. ข่ายค่าเขียวและค่าไผ่ B. ข่ายค่าเขียวและค่าไผ่
   C. ข่ายค่าเขียวและค่าไผ่ D. ข่ายค่าไผ่และค่าเข้าบ้าน

3.  cúณมาออกขับผ้าที่ขับผ้าเสร็จแล้ว จะไปไหน
   A. ตลาด B. ห้างสรรพสินค้า
   C. มหาวิทยาลัย D. โรงพยาบาล

4. ค่าไฟกี่บาท
   A. 600 บาท B. 840 บาท
   C. 1,440 บาท D. 1,500 บาท

5. วันนี้คูณมามีเรียนตอนไหน
   A. ตอนเช้า B. ตอนสาย
   C. ตอนบ่าย D. ตอนเย็น

4.
A) คูณจะออกผ้าเที่ยวไร่
B) คูณจะเปิดบัญชีแบบใหญ่
C) คูณจะเปิดบัญชีไปเที่ยวไร่
D) คูณจะเปิดบัญชีฝากประจำไปเที่ยวไร่
E) คูณจะผ้ากันน้ํากี่บาท
F) คูณต้องการเที่ยวบัตร ATM ไปเที่ยว
G) บัตรใช้ได้ตลอดไป
F) คูณมีบัตร ATM ที่ไป
มาลี : ดินสอเป็นน้ำยืนและตกอินค่ำ
เจ้าหน้าที่ : (1)______________
มาลี : บัญชียอดทรัพย์สิน
มาลี : (2)______________
เจ้าหน้าที่ : ดอกเบี้ย 2.5% ต่อปีค่ำ
เจ้าหน้าที่ : (3)______________
มาลี : 1000 บาทค่ำ
เจ้าหน้าที่ : นิสบบัญชีค่ำ
เจ้าหน้าที่ : (4)______________
มาลี : ข้อคิดก่อน คำนวณบัตร ATM เท่าไหร่ค่ำ
เจ้าหน้าที่ : 200 บาทค่ำ
มาลี : จำนวนบัตร ATM ด้วยกัน นิสบเงิน
เจ้าหน้าที่ : ครบหกที่เครื่องนิสบค่ำ
เจ้าหน้าที่ : เรียบร้อยแล้วค่ำ นิสบบัตรของทุน
มาลี : (5)______________
เจ้าหน้าที่ : รอบประมาณ 20 นาทีที่ใช้ได้เลยค่ำ
มาลี : ชอบบุคคลค่ำ

๕.
1. ผู้ Aydınเป็นเนื้องที่มีอะไรสวยงาม ( )
   A. ปูซ่ำและน้ำตก            B. สวนย์การกับและบาร์เบิร์ท
   C. ทะเลและชายหาด            D. เครื่องประดับ และของที่ระลึก

2. ผู้ Aydınในจังหวัดอะไร ( )
   A. เพชรบุรี                B. กาญจนบุรี
   C. ตรัษฎาบุรี              D. ชลบุรี

3. เยาวินทางไปพัทยาใต้อย่างไร ( )
   A. รถดื่ม            B. รถยนต์
   C. รถประจำทาง        D. ยุกทุกขึ้น
<table>
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<th>4. หากต้องการลูกนายไทยต้องไปพักผ่อนส่วนใด</th>
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<td>B. พักกลาง</td>
</tr>
<tr>
<td>C. พักยาใต้</td>
<td>D. หลังของเท้าหน้า</td>
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<th>5. หากต้องการเล่นกีฬาทำนองต้องไปพักผ่อนส่วนใด</th>
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<td>B. พักกลาง</td>
</tr>
<tr>
<td>C. พักยาใต้</td>
<td>D. หลังของเท้าหน้า</td>
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<thead>
<tr>
<th>1. คุณสมบัตรไปไหนสิ่งที่โจ๊กบั๊กกรี</th>
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<tr>
<td>A. กรอบครัว</td>
<td>B. เอนเนียส</td>
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<tr>
<td>C. อาจารย์ที่มีควาภวิทยาลัย</td>
<td>D. เทนนิสที่ทำงาน</td>
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<th>2. คุณสมบัตรได้กลับประเทศไทยวันที่เท่าไร</th>
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<tr>
<td>A. 20 ชั่วโมงม</td>
<td>B. 25 ชั่วโมงม</td>
</tr>
<tr>
<td>C. 26 ชั่วโมงม</td>
<td>D. 27 ชั่วโมงม</td>
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<th>3. วันที่ 20 ชั่วโมงคุณสมบัตรจะเดินทางออกจากกรุงเทพฯ ไปสิ่งที่โจ๊กบั๊กกรี</th>
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<td>A. ที่โมงเช้า</td>
<td>B. เล็กโมงเช้า</td>
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<td>C. สามสุ่ม</td>
<td>D. เที่ยงคืน</td>
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<th>4. ค่าภาษีสนามบินเท่าไร</th>
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<tbody>
<tr>
<td>A. 2,000 บาท</td>
<td>B. 3,000 บาท</td>
</tr>
<tr>
<td>C. 9,000 บาท</td>
<td>D. 12,000 บาท</td>
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<th>5. คุณสมบัตรข้ามละน้ําที่หมวดกี่บาท</th>
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<tbody>
<tr>
<td>A. 3,000 บาท</td>
<td>B. 9,000 บาท</td>
</tr>
<tr>
<td>C. 12,000 บาท</td>
<td>D. 24,000 บาท</td>
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</table>
Appendix Four: A sample of Chinese student’s summarizing answer in the Summarizing test

学生编号：

请概括你所听到的内容。

国家银行是该国最大的银行。

泰国国家银行的特点是：

1. 维护国家金融稳定。
2. 联系其他国家的中央银行。
3. 承担了大部分银行业务，没有存款、取款和贷款业务。

中国国家银行的职责是：

1. 印刷和发行货币。
2. 控制汇率。
在听力过程中，你遇到了什么问题？哪一题最难？哪一题最简单？什么方法能使你更好地理解听力内容，帮助答题？

在听力开始前，我努力放松自己，让情绪平静下来。在听第1-3段话的时候，我先读题目所给的选项，抓住关键字。听力中有些地方讲得太快，我不能马上理解。我会为了理解某生词句的意思而不听其它的内容，但是有些词句我会直接忽略。实际上，我重点听我在题目选项中所得到的关键词和关键信息。

在听第4-5段话的时候，我先读题目所给的选项，认真听那些生语句语调、音高较高的词语或句子，因为我觉得那些一定是关键词。我会重点听关键词，这些词一般音量大、语速慢、发音清晰。第4-5题不太难，因为听力的开头和结尾都有一个小结，这让我有时间思考、理解和答题。在听力过程中，我努力集中注意力，当听到重点信息时，我会在纸上做笔记。做笔记可以帮助我分心，将听到的内容按顺序写下来，以免忘记。

第1题最简单，听力内容的长度刚好合适。第5题最难，因为我不明白“通货膨胀原因之一”是什么意思。
泰语课程培训问卷调查

1) 学生情况
1. 性别： □ 女 □ 男
2. 年龄 ___ 岁
3. 您一共学习泰语______ 课时，本次课程培训您一共上了______ 节泰语课
4. 您认为在参加泰语课程培训之前，您的泰语水平如何？
   听力能力 □ 不好 □ 一般 □ 好 □ 很好
   口语能力 □ 不好 □ 一般 □ 好 □ 很好
   阅读能力 □ 不好 □ 一般 □ 好 □ 很好
   写作能力 □ 一般 □ 好 □ 很好 □ 不好

2) 关于本次课程培训的看法
1. 在课堂上，您最喜欢哪项活动？为什么？

______________________________________________________________
______________________________________________________________
______________________________________________________________

2. 您认为哪项课堂活动对您口语和听力水平的提高帮助最大？

______________________________________________________________
______________________________________________________________
______________________________________________________________

3. 您在泰语听说课上练习发音有什么看法？

______________________________________________________________
______________________________________________________________
______________________________________________________________
4. 您会在课外继续练习课堂上的哪项活动？

________________________________________________________________________________________________________

________________________________________________________________________________________________________

________________________________________________________________________________________________________

5. 您认为课堂上讲解类短文的听力练习对您听力水平的提高有帮助吗？

________________________________________________________________________________________________________

________________________________________________________________________________________________________

6. 请您对本次泰语课程培训给予一些意见或建议。

________________________________________________________________________________________________________

________________________________________________________________________________________________________

3) 请按照您的实际情况填写以下表格

<table>
<thead>
<tr>
<th></th>
<th>做(✓) / 不做 (X)</th>
<th>小时 / 天（或星期）</th>
<th>做/ 不做的原因</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 利用教材复习课文</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 利用CD复习课文</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
您认为在参加泰语课程培训之后，您的泰语水平如何？

听力能力

口朗诵能力

阅读能力

写作能力

非常感谢您的积极配合！
Appendix Seven: End of course questionnaire (Translated version)

Section 1: General information

1. Gender: ___  2. Age: ___

3. Have you studied Thai before you started this subject? ____ If yes, for how long? ____ And how many hours in this semester? ______

4. In your opinion, which was your level of Thai proficiency before participating in the Intensive Thai Course for Academic Purposes (TAP)?

<table>
<thead>
<tr>
<th></th>
<th>Poor (1)</th>
<th>Fair (2)</th>
<th>Good (3)</th>
<th>Very Good (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening</td>
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<td></td>
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<tr>
<td>Speaking</td>
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<tr>
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<tr>
<td>Writing</td>
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</tbody>
</table>

Section 2: Student’s opinion on the TAP course

1. In our class, what was your most favourite activity? And why?

__________________________________________________________________________

2. What activities in our class did you find helpful for your speaking and listening improvement? And why?

__________________________________________________________________________

3. What do you think about pronunciation training in our class?

__________________________________________________________________________

4. What activities in our class did you use in your own learning or out of class?

__________________________________________________________________________

5. Do you think lecture listening practices help you improve listening? If yes, why?

__________________________________________________________________________

6. What other comments or suggestions do you have?

__________________________________________________________________________
**Section 3: Student’s opinion on the CD in TAP**

Did you use any of the following activities in your study this semester? Please write down “Yes” or “No”. Write down approximately how often or how much you used them and reasons why you used or did not use them.

<table>
<thead>
<tr>
<th>Yes (✓) / No</th>
<th>How often? (hours/days per week)</th>
<th>Reasons for not doing or using the material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Reviewing the lessons from your notes and textbooks when you have free time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Reviewing the lessons with CD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In your opinion, which level of your Thai proficiency after participating in the Intensive Thai Course for Academic Purposes (TAP)

<table>
<thead>
<tr>
<th></th>
<th>Poor (1)</th>
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<td></td>
</tr>
</tbody>
</table>

Thank you
References

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