COGNITIVE INHIBITION ABILITY, ANXIETY,

SELF - EFFICACY, AND LISTENING

COMPREHENSION IN CHINESE

EFL STUDENTS

Shasha Bao

A Thesis submitted in Partial Fulfillment of the Requirements for

the Degree of Doctor of Philosophy in English Language Studies

Suranaree University of Technology

Academic Year 2016

การมีสมาธิ ความวิตกกังวล การรับรู้ความสามารถของตนเอง และความเข้าใจในการฟังของนักศึกษาชาวจีนที่เรียนภาษาอังกฤษในฐานะภาษาต่างประเทศ

นางชาช่า เปา

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต
สาขาวิชาภาษาอังกฤษศึกษา
มหาวิทยาลัยเทคโนโลยีสุรนารี
ปีการศึกษา 2559

COGNITIVE INHIBITION ABILITY, ANXIETY, SELF-EFFICACY,

AND LISTENING COMPREHENSION

IN CHINESE EFL STUDENTS

Suranaree University of Technology has approved this thesis submitted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy.

Thesis Examining Committee

_____
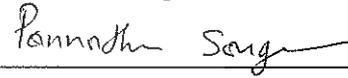
(Assoc. Prof. Dr. Pannathon Sangarun)

Chairperson

_____

(Assoc. Prof. Dr. Anchalee Wannaruk)

Member (Thesis Advisor)

_____
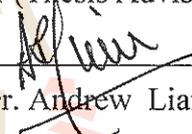
(Prof. Dr. Andrew Lian)

Member

_____

(Asst. Prof. Dr. Harald Kraus)

Member

_____

(Asst. Prof. Dr. Arjuna Chaiyasena)

Member

_____
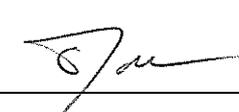
(Dr. Adcharawan Buripakdi)

Member

_____   _____
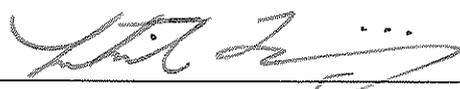
(Prof. Dr. Sukit Limpijumnong)   (Assoc. Prof. Dr. Weerapong Polnigongit)

Vice Rector for Academic Affairs   Dean of Institute of Social Technology

and Innovation

ชาช่า เปา : การมีสมาธิ ความวิตกกังวล การรับรู้ความสามารถของตนเอง และความเข้าใจ
ในการฟังของนักศึกษาชาวจีนที่เรียนภาษาอังกฤษในฐานะภาษาต่างประเทศ
(COGNITIVE INHIBITION ABILITY, ANXIETY, SELF-EFFICACY, AND
LISTENING COMPREHENSION IN CHINESE EFL STUDENTS)
อาจารย์ที่ปรึกษา : รองศาสตราจารย์ ดร.อัญชลี วรรณรักษ์, 269 หน้า

งานวิจัยนี้มีวัตถุประสงค์ที่จะศึกษาความสัมพันธ์ระหว่างการมีสมาธิ ความวิตกกังวล
การรับรู้ความสามารถของตนเอง และความสามารถในการฟังของนักศึกษาปริญญาตรีสาขา
ภาษาอังกฤษชาวจีน ผู้เข้าร่วมวิจัยเป็นนักศึกษาสาขาภาษาอังกฤษในมหาวิทยาลัยจีนจำนวน
272 คน มีการเก็บข้อมูลจากแบบทดสอบการมีสมาธิ แบบสอบถามความวิตกกังวลในการฟัง
แบบสอบถามการรับรู้ความสามารถของตนเองในการฟัง แบบทดสอบความเข้าใจในการฟัง และ
การสัมภาษณ์แบบกึ่งโครงสร้าง สถิติเชิงพรรณนา การทดสอบค่าเฉลี่ยของกลุ่มตัวอย่างสองกลุ่มที่
มีความเป็นอิสระต่อกัน การวิเคราะห์ความแปรปรวนแบบจำแนกทางเดียว สัมประสิทธิ์สหสัมพันธ์
เพียร์สัน การวิเคราะห์การถดถอยพหุคูณ และการวิเคราะห์สมการโครงสร้างถูกนำมาใช้ในการ
วิเคราะห์ข้อมูลเชิงปริมาณ และการวิเคราะห์เนื้อหาถูกนำมาใช้ในการวิเคราะห์ข้อมูลเชิงคุณภาพ

ผลการวิจัยพบว่า 1) ผู้เข้าร่วมวิจัยส่วนใหญ่ได้คะแนนในการทำแบบทดสอบการมีสมาธิ
ในช่วงพิสัยกลาง ความวิตกกังวลของผู้เข้าร่วมวิจัยโดยรวมอยู่ในระดับปานกลาง อย่างไรก็ตาม
พบว่าผู้เข้าร่วมวิจัยมีระดับความวิตกกังวลสูงเมื่ออยู่ในการสอบ ฟังการพูดภาษาอังกฤษที่เร็ว ตอบ
คำถามโดยไม่ได้เตรียมตัว และเจอประโยคที่ยาก โดยรวมแล้วผู้เข้าร่วมวิจัยมีการรับรู้ความสามารถ
ของตนเองในระดับต่ำ 2) นักศึกษาเพศหญิงมีระดับการมีสมาธิสูงกว่าเพศชายปานกลาง
ในขณะเดียวกันนักศึกษาเพศหญิงมีระดับความวิตกกังวลในการฟังสูงกว่าเพศชายปานกลาง
อย่างไรก็ตามนักศึกษาเพศชายมีระดับการรับรู้ความสามารถของตนเองสูงกว่าเพศหญิงโดยมีค่า
ขนาดอิทธิพลปานกลาง 3) นักศึกษาจีนเชื้อสายฮั่นมีระดับการมีสมาธิและการรับรู้ความสามารถ
ของตนเองสูงกว่าเชื้อสายเหมียวและตัง โดยมีค่าขนาดอิทธิพลปานกลาง นักศึกษาเชื้อสายเหมียวมี
ระดับความวิตกกังวลสูงกว่านักศึกษาเชื้อสายฮั่นอย่างมีนัยยะสำคัญโดยมีค่าขนาดอิทธิพลปานกลาง
4) พบความสัมพันธ์ที่ค่อนไปเชิงลบระหว่างการมีสมาธิและความวิตกกังวลและความสัมพันธ์ที่
ค่อนไปเชิงบวกระหว่างการมีสมาธิและการรับรู้ความสามารถของตนเอง การรับรู้ความสามารถ
ของตนเองทั้งสองด้าน (SELA และ SELB) มีความสัมพันธ์เชิงลบกับความวิตกกังวลสามด้าน
(TA CA และ FNE) 5) การมีสมาธิ ความวิตกกังวล และการรับรู้ความสามารถของตนเองของ
นักศึกษาสามารถทำนายความสามารถในการฟังได้ โดยที่การมีสมาธิเป็นตัวทำนายที่แม่นยำที่สุด

ตามมาด้วยการรับรู้ความสามารถของตนเอง และความวิตกกังวลเป็นตัวทำนายที่แม่นยำน้อยที่สุด 6) มีการสร้างแบบจำลองสหสัมพันธ์และแบบจำลองเชิงสาเหตุ 7) กลวิธีบางกลวิธีที่ได้จากการสัมภาษณ์ผู้เข้าร่วมวิจัยสามคนทำให้เกิดความเข้าใจเกี่ยวกับการจัดการกับความวิตกกังวลและการพัฒนาการมีสมาธิของนักศึกษามากขึ้น

ผลการวิจัยนี้ได้ให้หลักฐานเชิงทฤษฎีที่จะเป็นประโยชน์ต่องานวิจัยด้านความแตกต่างระหว่างบุคคลและความสัมพันธ์ระหว่างการมีสมาธิและอารมณ์ รวมไปถึงหลักฐานเชิงการสอนที่จะเป็นประโยชน์ต่อผู้ปกครอง ครู ผู้วางนโยบาย และนักเรียนในการพัฒนาความสามารถในการฟังภาษาอังกฤษต่อไป

สาขาวิชาภาษาต่างประเทศ ลายมือชื่อนักศึกษา_____

ปีการศึกษา 2559 ลายมือชื่ออาจารย์ที่ปรึกษา_____

ลายมือชื่ออาจารย์ที่ปรึกษาร่วม_____

SHASHA BAO : COGNITIVE INHIBITION ABILITY, ANXIETY,
SELF-EFFICACY, AND LISTENING COMPREHENSION IN
CHINESE EFL STUDENTS. THESIS ADVISOR : ASSOC. PROF.
ANCHALEE WANNARUK, Ph.D., 269 PP.

COGNITIVE INHIBITION/ANXIETY/SELF-EFFICACY/LISTENING
COMPREHENSION

This study aimed at exploring the possible relationships between Chinese English major EFL undergraduates' cognitive inhibition ability (CIA), anxiety, self-efficacy, and listening performance. Participants were 272 English majors in a Chinese university. Data were collected from a CIA test, a Listening Anxiety Questionnaire (LAQ), a Listening Self-efficacy Questionnaire (LSEQ), a listening comprehension test, and semi-structured interviews. Descriptive statistics, Independent-samples t-test, One-Way ANOVA, Pearson's correlation coefficient (r), multiple regression analysis, and Amos were employed to analyze the quantitative data, and content analysis method was utilized to analyze the qualitative data.

The findings indicate that: 1) Most participants achieved scores in the middle of the range for the CIA test. Participants' overall anxiety fell into a moderate level. Participants reported high levels of anxiety when taking exams, listening to fast English speech, being asked to answer questions without preparation, and facing difficult sentences. Participants on the whole reported having low self-efficacy levels. 2) Female students had a moderately higher CIA level than their male counterparts. Meanwhile, females reported experiencing moderately higher levels of listening anxiety than males.

However, male students reported having higher levels of self-efficacy than female students with a medium effect size. 3) Chinese Han students reported having higher CIA and self-efficacy levels than Miao and Dong with a medium effect size. Miao students reported having significantly higher anxiety levels than Han students with a medium effect size. 4) There was a slightly negative relationship between CIA and anxiety; and a slightly positive relationship between CIA and self-efficacy. Both categories of self-efficacy (SELA and SELB) negatively correlated with three categories of anxiety (TA, CA, and FNE). 5) Students' CIA, anxiety, and self-efficacy had a large predictive power for listening performance, among them CIA was the strongest positive predictor, followed by self-efficacy, and anxiety was the least accurate predictor. 6) A correlation model and a causal model were built. 7) Some strategies elicited from 3 interviewees provided insights on dealing with students' anxiety and self-efficacy, and developing students' CIA.

These findings provide theoretical evidence for individual differences research and the relationship between inhibition and emotion; and pedagogical evidence for parents, teachers, policy-makers and students so as to further improve students' English listening performance.

School of Foreign Languages

Academic Year 2016

Student's Signature _Shasha Bao_

Advisor's Signature___ A. Wannaruk

Co-advisor's Signature___

ACKNOWLEDGEMENTS

This dissertation could not have been accomplished without the support, assistance, and generous cooperation of several individuals, to whom I wish to express my sincere gratitude. My deepest gratitude goes first and foremost to my supervisors, Assoc. Prof. Dr. Anchalee Wannaruk and Prof. Dr. Andrew Lian, for their inspiring guidance, insightful advice, timely feedback and constant encouragement. Without their guidance, it would have been impossible to complete this dissertation.

I would like to extend my sincere gratitude to the members of my thesis examining committee, Assoc. Prof. Dr. Pannathon Sangarun—chair of the committee, Dr. Adcharawan Buripakdi, Assoc. Prof. Dr. Harald Kraus, and Assoc. Prof. Dr. Arjuna Chaiyasena, for their willingness and attentiveness to read my work patiently and to make valuable comments and insightful suggestions.

My sincere thanks also go to all the teachers in the School of Foreign Languages, Institute of Social Technology, Suranaree University of Technology, Thailand, for their instruction which laid the academic foundations for my work. Special thanks also go to the staff of the School of Foreign Languages for their patient help and assistance.

Special thanks also go to my home university, Guizhou University, China. I would like to thank Prof. Bai zhen, the Secretary of the Party Committee, College of

TABLE OF CONTENTS

CHAPTER

CHAPTER

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

IDs	Individual Differences
EFL	English as a Foreign Language
L1	First Language
L2	Second Language
TL	Target Language
NL	Native Language
TEM	Test for English Majors
LAQ	Listening Anxiety Questionnaire
LSEQ	Listening Self-efficacy Questionnaire
CIA	Cognitive Inhibition Ability
LCT	Listening Comprehension Test
TBR	To-be-forgotten
TBF	To-be-remembered
TA	Test Anxiety
CA	Communication Apprehension
FNE	Fear of Negative Evaluation
SELA	Self-efficacy in Listening Ability
SELB	Self-efficacy in Listening Behavior

CHAPTER 1

INTRODUCTION

The present study aims at investigating the correlations between the levels of cognitive inhibition, anxiety, self-efficacy, and listening performance of Chinese EFL college students. This chapter is an introduction to the whole study covering the background to the study, and the statement of the problem. It also includes the rationale of the study, the research purpose, research questions, and research hypotheses. Based on what was mentioned above, the significance of the study is presented. This is then followed by definitions of some of the key terms used in the present study as well as a summary of this chapter.

1.1 Background of the Study

With the development of science and technology, the world is now experiencing such trends as globalization, networking and the creation of a global village. English, as a Lingua Franca (House, 2003) is widely used in almost every field in the world. Thus, more and more people are beginning to learn English to make communication easier in such a globalized context and we are beginning to realize that most communication in English will occur between non-native speakers of English rather than with native-speakers of English. In this context, a good command of English has become more necessary than ever before. In particular, face-to-face talk or oral communication requires English learners to equip themselves with the

skills of listening and speaking.

Each human being is unique, and individuals differ from each other because of their operational histories (Lian, 2011). The process of knowledge-construction is thus influenced by this individual diversity. With different logical and representational systems (Lian, 2011) in operation, individuals will demonstrate differences in learning. As Lian (2004) put it, learning implies an act of comprehension which challenges the learner's logical and representational systems i.e. which challenges their past. When using the past as a filter to understand the present, comprehension will certainly be different from person to person, since individuals have different personal histories. Therefore, individual differences (IDs) play a very important role in knowledge construction.

In recent decades, since the focus of education has shifted from teacher-directed to learner-oriented instruction, an increasing number of studies have been conducted from the perspective of learners, and their individual differences. The study of individual learner differences (IDs) is a prominent feature of SLA, because a great deal of the variation in language learning outcomes is attributable, either directly or indirectly, to various learner characteristics (Dörnyei, 2006). As the term suggests, individual differences are "characteristics or traits in respect of which individuals may be shown to differ from each other" (Dörnyei, 2009, p.181). Individual differences turn each of us into a distinct and unique human being, and also produce different language learning outcomes. The study of individual differences (IDs) has a long

history that pre-dates the beginning of SLA as a field of enquiry. Early experiments of IDs have predicted which learners would be successful. More recent research has sought to explain why some learners succeed better than others (Ellis, 2008). Among many individual differences (IDs), some factors like language aptitude, motivation, personality, and anxiety are considered as the "core factors" according to Skehan (1989), Robinson (2002a), and Dörnyei (2005). Other elements like beliefs, self-efficacy, learning strategies, intelligence are considered less central but still responsible for individual differences (IDs) in foreign language learning. In addition, factors from cognitive psychology, such as memory, attention, emotion, perception, have also become important topics in interdisciplinary studies.

Almost all human intelligence behaviors rely both on the ability to activate task-relevant information as well as on the ability to inhibit or eliminate task-irrelevant information. According to Anderson (2005), people have a certain capacity to suppress unwanted memories and experiences, and inhibitory control processes can be recruited to stop or override memory retrieval and thereby to exclude unwanted memories from consciousness. In the performance of tasks, individuals with higher inhibitory capacity are able to expel the irrelevant information out of memory, and thus make a greater portion of their limited mental capacity available for relevant processing or storage (Borella and Ribaupierre, 2014). This leaves less information in working memory to be processed, and makes more memory space available to deal with information relevant to task-completion. Such ability to control unwanted

memories is called "cognitive inhibition ability", one of the variables to be examined in the present study.

The occurrence of listening anxiety either in the classroom or in real-life communication prevents listeners from comprehending information effectively. Many studies imply that anxious students are common in foreign language classrooms, and that listening activities are proved to be the most anxiety-provoking and problematic for foreign language learners (Horwitz, Horwitz and Cope, 1986; Xu, 2013; Golchi, 2012; Wang, 2010). In listening, different students experience different levels of learning anxiety. It can be assumed that more self-confidence and self-fulfillment will probably result in less anxiety, and thus improve their listening comprehension (Ghonsooly, and Elahi's, 2010; Nie, Lau, and Liau's, 2011; Akin and Kurbanoglu's study, 2011). Also it is considered that high anxiety will lead to a reduction in listening efficiency (Horwitz, 2001; Cakici, 2016; Awan, Azher, Anwar and Naz, 2010).

Self-efficacy, a construct grounded in social cognitive theory, is another individual learner difference examined in the present study. The self-efficacy concept plays a great role in influencing human performance, and represents individual convictions of what they can accomplish in given situations. Self-efficacy reflects one's beliefs about successful performance in a given task. Research (Bandura, 1986) has shown that performance can be facilitated by the enhancement of self-efficacy, that is, "people's judgments of their capabilities to organize and execute courses of

action required to attain designated types of performances" (p.391). Students' sense of efficacy affects their academic performance in various ways. Students with a strong sense of academic self-efficacy have been shown to willingly undertake challenging tasks, expend greater effort, and show increased persistence in the presence of obstacles and self-regulate better than other students (Mills and Herron, 2006).

Based on many researchers, such as Borella, Carretti and Pelegrina (2010), Eysenck and Calvo (1992), Pimperton and Nation (2010), Fox (1994), Yang (2006), it is assumed that cognitive inhibition ability, anxiety, and self-efficacy are highly correlated, and students' performances are the results of the mutual interactions of them. In particular, when considering the characteristics of English listening, which requires listeners' higher abilities in concentration, memory, attention, and inhibition, investigating the cognitive inhibition ability, anxiety, and self-efficacy in the listening context will produce more important findings.

1.2 Statement of the Problem

1.2.1 English Teaching and Learning in China

English language teaching and learning has been playing a significant role in China. It is estimated that there is a total of 415.95 million people studying one or more foreign languages in mainland China. Among these people, as many as 93.8% have studied English, 7.1% Russian, and 2.5% Japanese, while only 0.3% people reported learning other foreign languages. That is to say, among 415.95 million

Chinese foreign-language learners, 390.16 million are English language learners, which represents about one third of the country's 1.3 billion people (Wei and Su, 2012). English is taught from year three in primary schools and continues up to secondary and tertiary education. Children in big cities even begin their English learning in pre-school or kindergarten.

Millions of EFL learners in China take regular English courses, 4 class hours a week, 18 weeks a term (Wu, 2001). English is a compulsory course for all students at all levels, and for those majoring in English, English occupies most of their study time. At the same time, in 2007, there was an estimated number of 500,000 teachers of English involved in teaching English in the whole country, of which 470,000 were teaching at primary and secondary level and 30,000 at tertiary level (Wang, 2007). Therefore, English teaching and learning is a really heavy task in China.

1.2.2 The Role of Listening in English Teaching

With the request from the National Entrance Examination that listening should be considered an important part of the examination, and with the increasing proportion of the listening comprehension component in the College English Test (CET) in China, the teaching of listening is drawing more and more attention. According to the Chinese Ministry of Education (2007), the College English Curriculum Requirements are as follows:

> The objective of college English teaching is to cultivate
> students' comprehensive application ability, especially the ability

of listening and speaking, so that they can effectively use English to carry out oral and written information exchange in later study, work, and social contact. Meanwhile, students' independent ability and comprehensive literal quality should be enhanced in order to adapt to the needs of Chinese economic development and international communication (MOE, 2007).

These requirements emphasize the importance of students' communicative competence. To meet the needs of economic development and international communication, students should enhance their listening and speaking abilities.

1.2.3 Main problems of English Listening Teaching and Learning

Listening is the most frequently used language skill in everyday life, and it plays a crucial role in communication: there is evidence to indicate that learners spend at least 42% of time listening, 32% of time speaking, 15% of time reading and about 11% of time writing in daily communication (Ai, 2015). The role of listening is as a tool for understanding and a key factor in facilitating language learning (Krashen, 1981). However, English listening learning is hardly fruitful in China. Our students are famous for their high marks in examinations and low competence in real-life communication. They lack communicative competence. The main problems and challenges of English listening teaching and learning in China can be summarized as follows.

First, the teaching and learning of English listening is not emphasized as much as other skills like reading and writing. Before college study, few Chinese learners have the chance to take listening training in their English courses. Only in

some well-developed areas, can the listening class occupy a (small) portion of time in the curriculum. Even in college study, time for listening is still limited. Based on the Chinese Ministry of Education (2000), and the *English Syllabus Design for English Majors*, the weekly study time for language skills in total and for listening only is listed as follows.

Table 1. 1 Weekly Study Time for English Majors in China

Academic Year	First-year		Second-year		Third-year		Fourth-year		Total	Proportion
Semester	1	2	3	4	5	6	7	8		
Weekly Study time for all language skills (hours)	14	12	14	12	6	8	4	4	74	100%
Weekly Study time for listening (hours)	2	2	2	2	0	0	0	0	8	10.80%

From the above table, we can see that for English majors a listening course is available in the first two years in college, and compared to other skills totalling 74 hours in all, it takes up only 8 hours, accounting for only 10.80% of teaching time for English.

For non-English majors, we can take as an example Guizhou University, where the researcher works. An English course is available in the first two years of study. Students take English listening every two weeks, that is, the weekly listening study time is 1 hour on average.

Second, standard traditional pedagogical methods still dominate the class. By employing the Grammar-translation method in the listening class, teachers act essentially as sound recorder operators. Teaching listening is conducted in a fixed

mode: before listening to the materials, the teacher explains the Chinese equivalents of the new words appearing in the listening material and the students take them down. Then the teacher plunges the students into listening directly without any preparation, and then, students do comprehension exercises. Next, the teacher checks their answers. If most of the students fail to answer correctly, he/she would let them listen to the materials for a second time or even a third or fourth time until they completely understand them. In lessons such as this, students' individual differences are ignored.

Third, the same series of textbooks are used in the whole university, or even the whole city. Especially for the non-English majors, the exact same series of textbooks is used no matter what major they belong to. Teachers strictly follow the textbooks chapter by chapter using the same textbook in a class, so slow students may complain that the listening tasks are difficult, but top students may feel that they are not challenging enough.

Finally, from the perspective of teachers, they ignore the core of teaching listening. Some teachers think that listening is the easiest skill to teach, because it doesn't require much painstaking lesson preparation and all they need to do is play the tapes and test the students' comprehension regardless of learners' differences. In fact, what teachers can do in the class is far more than these things. Gilakjani and Ahmadi (2011) suggested that teachers should give the learners with variety of listening comprehension, provide them with different kinds of input, and design listening activities according to the students' level. All these emphasize differences, and it is

IDs that have been ignored by teachers.

It is evident that most problems in listening teaching and learning in China are related to the failure to take account of IDs. Teachers use the same textbooks and the same teaching method, acting as a tape operator within a very limited number of teaching hours. These problems also point to the necessity of the present study.

1.3 Rationale of the Study

Knowledge construction is understood as an act of individual meaning-making rather than an act of what is commonly called information-passing or simple memorization (Lian, 2004). Indeed information-passing and memorization are also clearly based on meaning-making, but this is not often recognized. However, when facing the same input, different individuals will interpret it differently, and it will thus lead to different comprehension. The reason is as Lian (2004) put it, that meaning is never found but constructed by individuals based on their operational systems which are the product of their personal histories. Since each individual differs in terms of their past then, when using the past as a filter to understand the present, it is not surprising to see a diversity of meaning-making processes.

Listening comprehension is no exception. The listening process is also a meaning-making process. Learners differ in understanding when facing the same listening materials. These differences are attributed to their different personal histories. Such individual differences (IDs) are very important, and IDs are considered as a

good predictor of learner's achievements. The different performances in language learning, either directly or indirectly, are attributable to different learner characteristics (Dörnyei, 2006). Therefore, a better understanding of learners' differences would certainly lead one to expect that learners will increase their success in learning a language. The present study will investigate individual diversity in the context of listening performance.

Second, among many IDs, cognitive and affective factors are regarded as important factors by many scholars. Great importance is attached to learning styles, learning strategies, and affective variables (like motivation, self-efficacy, anxiety, and personality) (Ehrman, Leaver, and Oxford, 2003; Leaver, Ehrman, and Shekhtman, 2005). Ellis (2012) divided IDs into cognitive, affective and motivational factors, accordingly language aptitude, memory mechanism, language anxiety, and self-efficacy are crucial individual learner factors that will lead to different learning outcomes.

Third, Krashen's (1982) Affective Filter hypothesis also demonstrates the importance of affective variables. According to Krashen, people acquire second languages only if their affective filters are low enough to allow the input "in". In his theory, the affective factors, including motivation, self-confidence and anxiety is responsible for individual variation in second language acquisition (SLA), and the higher affective filters will block the input. The Affective Filter hypothesis implies that teachers' pedagogical goal is not only supplying comprehensible input, but also

creating a situation that encourages a low filter. So affective variables examined in the present study will certainly add new evidence to the study of individual differences.

Fourth, the relationship between inhibition and emotion is still a controversial issue. Some researchers (e.g. Wegner, Schneider, Carter & White, 1987; Muris, Merckelbach & Horselenberg, 1996) claim that suppressing unwanted thoughts and memories seem to be a maladaptive strategy because of the "rebound" effect (the recurrence of the unwanted thoughts). However, researchers like Hertel and Gerstle (2003) propose that reducing the chance that certain memories will come to mind might be a valuable cognitive skill in depression, especially when the memories are unhappy ones. Therefore, the present study will help answer the question that whether inhibition is beneficial to emotions or not.

Finally, a large amount of research concerns ID factors like learning strategies, learning styles, aptitude, personality etc. (Hong-Nam and Leavell, 2006; Šafranj, 2013; Uhrig, 2015; Sadeghi and Khonbi, 2015), but fewer studies have been conducted about cognitive and affective factors. Variables such as cognitive inhibition ability, anxiety, self-efficacy are essentially ignored and less investigated. Meanwhile, most research is concerned with the relationship between language performance and cognitive inhibition ability, anxiety, and self-efficacy respectively (Shi, 2008; Woodrow, 2006; Todor, 2012; Mun and Hwang, 2003). Seldom do any of these research studies combine these four variables, and explore their relationships. In particular, the cognitive inhibition ability is explored in other disciplines

(Harnishfeger and Pope, 1996; Yang, Yang, Xiao and Zhang, 2012), but little research has been done in the language learning field. The filling of this research gap, which will be discussed in detail in the next chapter, is another reason for conducting the present study.

The theoretical framework for the present study includes two factors: gender and ethnicity. The following discusses the rationale for selecting gender and ethnicity as a focus for the present study:

1) Ethnicity

As a large united multi-national state, China is composed of 56 ethnic groups including Han. Although the 55 minority ethnic groups make up only a small proportion of the overall Chinese population, they are distributed extensively throughout different regions of China. The regions where they are most concentrated are Southwest China, Northwest China and Northeast China. Guizhou province, located in Southwest China, is a province with 49 ethnic minority groups, and the second largest ethnic minority group in China. The major minorities are: Miao, Dong, Buyi, Man, Zang, Bai, Shui etc.. Different from the Han students, minority students face somewhat different social and family contexts. Hannum and Wang (2010) point out the fundamental differences in terms of socioeconomic status and social welfare between Han and ethnic minority groups. Meanwhile, among the student participants in the present study, the minority students took a larger amount than the Han students. Thus, to explore whether there is a difference in the cognitive and affective factors

between Han and minority students will provide important and interesting findings for the English listening.

2) Gender

While brain structure, function, and neurochemistry of healthy men and women are similar in many ways, there are important differences. According to Cosgrove, Mazure and Staley (2007), the brain volume is greater in men than women; yet, when controlling for total volume, women have a higher percentage of gray matter (responsible for muscle control sensory perception, such as seeing and hearing, memory, emotions, speech, decision making, and self-control) and men a higher percentage of white matter (associated with processing and cognition). Such physical differences in brain structure will definitely lead to differences between women and men in many ways. Sunderland (2000) indicates that a wide range of language phenomena, including learning styles, strategies, motivation, self-esteem, language test performance, and learners' identities, have been proved to be connected with learners' gender. Ellis (2008) also considers gender as an important factor which may influence the second language acquisition. Therefore, it is worth exploring the gender differences in terms of the cognitive and affective factors.

1.4 Purpose of the Study

The purpose of the present study is to investigate the possible relationships between Chinese EFL English majors' cognitive inhibition ability (CIA), anxiety,

self-efficacy and listening performance. More specifically, the purposes are:

1) To explore the overall state of the Chinese EFL students' cognitive inhibition ability (CIA), anxiety and self-efficacy; whether there are significant differences depending on gender and ethnicity;

2) To investigate the correlation between students' cognitive inhibition ability (CIA), anxiety, and self-efficacy;

3) To examine whether developing CIA, improving self-efficacy, and reducing anxiety will improve listening proficiency among the Chinese EFL college students;

4) To explore teachers' suggestions of how to deal with students' anxiety, self-efficacy, and help students decide what is irrelevant in terms of their personal meaning-making systems so as to listen more effectively.

1.5 Research Questions

Based on the above research purposes, the present study will address the following research questions:

1) What is the overall state of Chinese EFL students' cognitive inhibition ability (CIA), anxiety and self-efficacy? Are there any significant differences in terms of learners' gender and ethnicity?

2) What are the correlations between the students' cognitive inhibition ability (CIA), anxiety, and self-efficacy?

3) To what extent can the students' listening performances be predicted by their levels of cognitive inhibition ability (CIA), anxiety, and self-efficacy?

4) What are the teachers' suggestions for dealing with students' anxiety, self-efficacy, and cultivating students' cognitive inhibition ability (CIA) in their actual listening practices?

1.6 Research Hypotheses

The present study adopted a cognitive approach to learning emotions (including anxiety and self-efficacy) and assumed that the mechanism of cognitive inhibition determines the efficiency in implementing inhibition and plays an important role in regulating emotion. Given the fact that learning a language tends to arouse strong emotions, this assumption implies that individual differences in cognitive inhibition may exert effects on the results of emotion-regulation in learning experience such as EFL listening. Therefore, it is assumed that the mechanism of cognitive inhibition facilitates regulating some learning emotions such as anxiety and self-efficacy, which are likely to be affected by past negative learning experiences, by suppressing access to these unpleasant memories, therefore, ultimately leading to a better performance in EFL listening comprehension. Based on this assumption, the following hypotheses are formulated:

1) Chinese EFL students' cognitive inhibition ability, anxiety, and self-efficacy are observed in the listening context; there are significant differences in

terms of learners' gender and ethnicity;

2) Students' cognitive inhibition ability is positively related to their self-efficacy, but negatively related to their anxiety; students' self-efficacy and anxiety are negatively correlated;

3) Students' cognitive inhibition ability and self-efficacy contribute positively to their listening performances, but anxiety contributes negatively to their listening performance;

1.7 Significance of the Study

The present study will enable us to understand more clearly the relationship between listening comprehension, cognitive inhibition ability, anxiety, and self-efficacy. In particular, it will be interesting to see whether a high cognitive inhibition ability will result in a better listening comprehension score, or whether low anxiety will improve listening comprehension scores or whether high self-efficacy will also contribute positively. As a consequence of these findings, additional points of significance may include:

Theoretical implications for individual differences research. The findings yielded in the present study about the correlations between cognitive inhibition, anxiety, and self-efficacy will offer additional evidence to demonstrate the influence of IDs on language learning and teaching. More important, investigating the listening from both the cognitive and affective aspects is still a gap in the research where no

empirical studies have been conducted so far in China.

Theoretical contributions to the relationship between inhibition and emotion. Findings of the present study will contribute to establishing the theoretical framework of the relationship between inhibition and emotion, which has always been a highly controversial issue. The findings of the relationship between CIA, anxiety, and self-efficacy will shed light on whether cognitive inhibition plays a positive role in emotion or not. Moreover, these findings will help explain the "rebound" effect that happens in the inhibition process.

Pedagogical implications for college EFL teachers. The traditional Grammar-translation method has been dominating the Chinese classroom for many years, and teachers now have the responsibility to change the situation. The present study might help teachers improve their awareness of IDs in specific ways and suggest specific courses of action to take account of them. For example, teachers might help students improve their emotional states, establish good self-beliefs, and cultivate a strong sense of inhibition ability. Teachers can improve traditional classroom situations by adjusting teaching to the learners' individual characteristics.

Insights for curriculum or syllabus reform in China. To solve problems in English teaching and learning in China, the government has been making efforts to put forward innovation in the Chinese education field. A diverse learning environment with great freedom will be expected. So the present study might provide recommendations for future college English syllabus reform.

From the perspective of learners, the present study gives direction as to what can be done in their future learning. Whether they are successful learners or not, they will know the importance of controlling their emotions and establishing self-confidence, and then adjust themselves to achieve their objectives.

Finally, the results of this study might provide insights for parents in children's pre-school education. Parents play a very important role in children's brain architecture and early year education. The foundations of brain architecture, and subsequent lifelong developmental potential are laid down in a child's early years. Early experiences in the home, in other care settings, and in communities interact with genes to shape the developing nature and quality of the brain's architecture. Diamond's (2001) study shows that important developments in inhibitory control take place in the first 6 years of life, with marked improvement between 3-6 years, which is a pre-school period. McCall and Carriger's (1993) results even indicate that a person's IQ can be predicted by his/her inhibition ability in his/her early childhood. Therefore, this study may highlight the important role of parents in children's pre-school education, brain architecture, as well as CIA training.

1.8 Definitions of Some Key Terms

The key terms that will be used throughout the present study include:

Inhibition

Clark (1996) defines inhibition as "any mechanism that reduces or dampens

neuronal, mental, or behavioral activity" (p.128). According to Hamishfeger (1995) inhibition is defined as "a basic cognitive suppression that contributes to task performance by keeping task-irrelevant information from entering and being maintained in working memory" (p. 178).

People's competence in inhibiting irrelevant or unwanted information is critical for the focalization of attention, accuracy of parallel processing, memory and learning, reasoning, decision and problem solving, planning, emotion regulation, social functioning and personal well-being (Todor, 2012). Inhibition in the present study refers to the suppression of unnecessary or irrelevant information while performing listening tasks.

Cognitive Inhibition

Cognitive inhibition is "the stopping or overriding of a mental process, in whole or in part, with or without intention. The mental process so influenced might be selective attention or memory retrieval or a host of other cognitive processes" (MacLeod, 2007, p.5). It reflects peoples' ability to suppress the stimuli that are irrelevant to the task/process at hand, which is an important factor used to account for the individual psychological differences. It also has great influence on people's intelligence, attention, memory, reading comprehension, emotion and so on (Song & Bai, 2003).

Harnishfeger (1995) distinguishes cognitive inhibition from behavior inhibition. According to her, cognitive inhibition involves "the control of cognitive

contents or processes, and can be intentional and conscious, or unintentional and unavailable for conscious introspection" (p.184). In the present study, cognitive inhibition refers to students' ability to suppress task-irrelevant information from their memory while performing English listening tasks in class.

Anxiety

Anxiety in the present study refers to the language anxiety, that is, "the worry and negative emotional reaction aroused when learning or using a second language" (Young, 1999, p. 27). To be specific, the present study focuses on listening anxiety, which means a feeling of apprehension, nervousness, or worry that interrupts students' listening performance just before or while and that persists after they are performing English listening tasks in class.

Self-efficacy

Bandura (1977) defines self-efficacy as "the conviction/beliefs that one can successfully execute the behavior required to produce the outcomes" (p.193). According to Schunk (1991), self-efficacy refers to individuals' convictions that they can successfully perform given academic tasks at designated levels. Self-efficacy represents individuals' expectations and convictions of what they can accomplish in given situations. In the present study it refers to learners' beliefs that they can successfully finish English listening tasks.

Listening Performance

Listening performance refers to how learners perform a listening task in a

language test. In the present study, the term listening performance refers to how well they perform in the context of a listening comprehension test. To be specific, their listening performance is measured by the listening section of a retired version of the Test for English Majors Grade four (TEM-4).

1.9 Summary

This chapter provides an introduction to the present study. It first describes the background of the study. The main problems of English teaching and learning in China are then discussed, followed by the rationale of the study. After that, the research purpose, research questions, research hypotheses and significance of the study are demonstrated. Finally, the definitions of some key terms are briefly given. In the next chapter, a review of relevant theories and literature on cognitive inhibition, anxiety, and self-efficacy in the present study will be presented.

CHAPTER 2

LITERATURE REVIEW

This chapter focuses on a review of related theories and literatures relevant to the present study. It begins with a number of theories which cover cognitive inhibition, anxiety, self-efficacy, and listening comprehension. What follows this is a literature review of the interrelationship between cognitive inhibition, anxiety, self-efficacy, and listening comprehension. This review will provide a basis for the choices made in Chapter Three and subsequent chapters.

2.1 Theories Related to Cognitive Inhibition, Anxiety, Self-efficacy, and Listening Comprehension

In this section, the relevant theories of the present study will be presented, including cognitive inhibition, anxiety, self-efficacy, and listening comprehension.

2.1.1 Cognitive Inhibition

Keeping attention focused on the important information for current tasks by the suppression of irrelevant information plays a vital role in the successful performance of the tasks. Such a special mechanism responsible for suppressing the unwanted information is called a mechanism of inhibition by psychologists. Cognitive inhibition not only happens in people's everyday life, but also in foreign language learning. The present study focuses on cognitive inhibition in English listening.

In this part, it will begin with the definition of cognitive inhibition, followed

by its relationship with memory and comprehension. After that, the neural systems involved in inhibition will be discussed, and end with the method employed to measure the cognitive inhibition ability in the present study.

2.1.1.1 Definition of Cognitive Inhibition

The term inhibition, with the same concept but different expressions (e.g. suppression, or interference control) is often broad and with different meanings across authors. Clark (1996) defines inhibition as "any mechanism that reduces or dampens neuronal, mental, or behavioral activity" (p.128). Harnishfeger and Pope (1996) state that inhibition is a basic cognitive suppression mechanism which contributes to task performance by keeping task-irrelevant information from entering and being maintained in working memory. Banich and Depue (2015) consider inhibition as a prominent aspect of cognitive control, and it refers to the ability to override, interrupt, or abort ongoing processes. Inhibition has been found popular in many research aspects like selective attention, memory, emotion, and language comprehension.

Cognitive control processes successfully encode and store the relevant information, while also suppress the encoding of irrelevant information. Cognitive inhibition is "the stopping or overriding of a mental process, in whole or in part, with or without intention. The mental process so influenced might be selective attention or memory retrieval or a host of other cognitive processes" (MacLeod, 2007, p.5). It is associated with the control of mental processes involved in suppressing unwanted or irrelevant thoughts and context-inappropriate meanings, as well as gating irrelevant

information from working memory (Friedman and Miyake, 2004). It refers to people's ability to tune out stimuli that are irrelevant to the task/process at hand or to the mind's current state, which can be done either in whole or in part, intentionally or otherwise.

Harnishfeger (1995) distinguishes cognitive inhibition with behavior inhibition. According to her, cognitive inhibition involves "the control of cognitive contents or processes, and can be intentional and conscious, or unintentional and unavailable for conscious introspection" (p.184). She claims that cognitive inhibition is the ability to clear irrelevant attention from consciousness. For example, thought suppression, the intentional control of the contents of consciousness, the clearing of incorrect inferences from memory, and the gating of irrelevant information from working memory during memory processing. In contrast, behavioral inhibition involves the control of overt behavior, such as temptation resisting, delay of gratification, and impulse control.

2.1.1.2 Cognitive Inhibition in Memory and Comprehension

Successful memory encoding depends on the ability to intentionally encode relevant information and intentionally forget that which is irrelevant (via inhibition). So cognitive inhibition plays a critical role in people's lives by excluding unhappy memories and unwanted information from consciousness. It is indispensable in peoples' happy lives and for effective task performance. Research on memory and attention shows that people have executive control processes directed at minimizing

perceptual distraction and overcoming interference during short and long-term memory tasks (Anderson and Green, 2001). As Todor (2012) puts it people's ability for cognitive inhibition is very important in terms of attention focalization, information processing, memory and learning, reasoning, decision making, problem solving, emotion regulation and so on.

Cognitive inhibition becomes particularly important in working memory and comprehension tasks. It is an active and automatic process that regulates the information within working memory by resisting intrusions from information. Research indicates that difficulty with the suppression of irrelevant and/or distracter information is associated with of poor cognitive inhibition skills (Friedman and Miyake, 2004; Pimperton and Nation, 2010; White, 2007). The ability to suppress irrelevant information from working memory is important for listening because it dampens irrelevant information that might otherwise interfere with the development of an accurate mental representation of the listening text. Through efficient cognitive inhibition, less irrelevant information will be involved, and a larger part of working memory (involving storage and manipulation of information) can be allotted to deal with relevant information (Borella and Ribaupierre, 2014). In contrast, weak cognitive inhibition skills can lead to an interference of competing information and an overburdening of the working memory system, making the development of a coherent representation more difficult. The entrance of irrelevant information into working memory will increase the processing time and reduce comprehension accuracy.

Meanwhile, poor comprehenders are found to encounter inhibitory problems. According to Borella, Carretti and Pelegrina (2010), good comprehenders outperform poor comprehenders on measures of cognitive inhibition. Poor comprehenders tend to recall irrelevant information and obtain a significantly lower performance in the memory task. That is, poor comprehenders have a larger number of interferences. Carretti, Borella, Cornoldi and De Beni (2009) also hold that working memory and comprehension deficits in poor or less-skilled comprehenders may be due to a deficit in inhibiting information that has been activated and elaborated, and later needs to be inhibited.

In short, cognitive inhibition, memory, and comprehension have a strong and positive relationship. Therefore, it is reasonable to assume that cognitive inhibition also correlates with listening comprehension, which is one of the focal points of the present study.

2.1.1.3 Neural Systems Involved in Inhibition

From the above discussion, it is known that unwanted memories can be excluded from awareness. The following section will discuss in which parts of people's brain are responsible for the inhibition mechanism.

Through the use of Functional Magnetic Resonance Imaging (fMRI) and the Think/No-Think Paradigm, Anderson, Ochsner, Kuhl, Cooper, Robertson, Gabrieli, Glover and Gabrieli (2004) identified the neural systems involved in memory inhibition. According to their study, the inhibition of unwanted information is

associated with increased dorsolateral prefrontal activation and reduced hippocampus activation bilaterally. Both prefrontal cortical and right hippocampal activations predicted the extent of forgetting.

However, based on Aron, Robbins, and Poldrack's (2004) research, cognitive inhibition could be one of a set of functions implemented by different, possibly overlapping, prefrontal cortex (PFC) regions. They claim that the left-lateral PFC maintains goals/sets, and right inferior frontal cortex (IFC) suppresses the irrelevant response. Although they agree that the right IFC plays an inhibitory role, but the left IFC damage in human crucially affects stop-signal inhibition (Aron, Fletcher, Bullmore, Sahakian, and Robbins, 2003), so they think that the left IFC might play some role related to inhibition too.

Banich and Depue (2015) agree that the right IFC plays a predominant role in inhibitory function because of its sensitivity to environmental context, the ability of re-orienting of behavior, and the tendency to control of avoidance behaviors. However, they comment that there is no current consensus as to what specific role the right IFC plays in cognitive control, which needs further research.

Garavan and Stein (1999) identify regions responsible for inhibitory control, which are strongly lateralized to the right hemisphere and include the middle and inferior frontal gyri, frontal limbic area, anterior insula, and inferior parietal lobe. Their results suggest that response inhibition is accomplished by a distributed cortical network.

By employing the Directed Forgetting paradigm together with fMRI, Rizio and Dennis (2014) examine the age-related differences in both cognitive control of memory. Their results indicate that neural processes that support cognitive control of memory through inhibition differ between the younger and the older. Older adults exhibit reduced activity in the right superior prefrontal cortex, a region shown to be critical to inhibitory processing, and exhibit increased reliance on processing in right inferior parietal lobe associated with successful forgetting. That is, the older adults have poor performance in cognitive inhibition, and a higher tendency to forget.

2.1.1.4 Directed Forgetting Effect

With the popularization of research of cognitive inhibition, direct forgetting effect (DFE), as the main measure of cognitive inhibition, has been widely and deeply studied. In laboratory settings, cognitive inhibition is studied using a wide variety of experimental methods, such as: Stroop test, Directed Forgetting (DF) paradigm, Think/No-think paradigm etc.. Among them, the DF paradigm has been shown to be a useful method for studying such control processes in cognition. Zacks, Radvansky, and Hasher (1996) point the DF paradigm investigates "the ability to forget some inputs that one has recently attended to while at the same time remembering others presented in the same context and near the same time" (p.143). Therefore, DFE, as a measure of cognitive inhibition, can tell individuals' cognitive inhibition abilities (CIA). It is one of the accesses to further understand the inhibition mechanism.

Directed forgetting is firstly studied by Bjork, LaBerge, and LeGrand (1968). In the DF paradigm, there are two methods: the item-method and the list-method. In the present study, the cognitive inhibition ability (CIA) is assessed by means of the list-method, which will be justified in chapter 3. In addition, the DFE/CIA is calculated as the arithmetical difference between the correctly recalled to-be-remembered (TBR) and to-be-forgotten (TBF) words, divided by the total number of correctly recalled words (Todor, 2012). That is: (TBR-TBF)/ Total words, so the range of the score is between 0-1.

2.1.2 Anxiety

Since the mid-1960s scholars have been interested in how anxiety interferes with second language learning and performance. In the 1990s, a number of studies on language anxiety were conducted. It is widely accepted that anxiety plays a crucial role while learning a foreign language. The negative effect of anxiety on learners in foreign language classes has concerned foreign language educators for years. Over the last decade, foreign language (FL) educators have hypothesized that anxiety plays an important role in success or failure in the FL classroom (Ganschow et al, 1994). To have a better understanding of anxiety, the following parts will cover the definition of anxiety and the theoretical framework of anxiety.

2.1.2.1 Definition of Anxiety

Anxiety is commonly described by psychologists as "a state of apprehension, a vague fear that is only indirectly associated with an object" (Scovel,

1978, p.134). Sdorow (1998) states, "anxiety is a feeling of apprehension accompanied by sympathetic nervous system arousal, which produces increases in sweating, heart rate, and breathing rate" (p. 485). However, when discussing the effect of anxiety on language learning, one must specifically consider the anxiety aroused in second language contexts, and that language anxiety is not a simple transfer from the general sense of anxiety.

Horwitz, Horwitz and Cope (1986) examine anxiety related to foreign language learning and argue that foreign language learning anxiety is "a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process" (p.128). Besides, MacIntyre and Gardner (1994) define foreign language learning anxiety as "the feeling of tension and apprehension specifically associated with second language context, including speaking, listening, reading and writing" (p.284).

More specifically, the present study deals with foreign language anxiety in terms of listening. Listening anxiety in the present study is defined as a feeling of apprehension, nervousness, or worry that interrupts students' listening performance just before or while they are performing English listening tasks in class.

2.1.2.2 Different Perspectives on the Nature of Anxiety

Anxiety is a common phenomenon happening in people's everyday life, and it affects people in different ways. It may be mild, moderate or excessive, and it may last a short time or be permanent. Psychologists make a distinction between three

categories of anxiety: trait anxiety, situation-specific anxiety, and state anxiety.

Trait anxiety is "a feature of an individual's personality and therefore is both stable over time and applicable to a wide range of situations" (MacIntyre, 1999, p. 28). People with high levels of trait anxiety are usually nervous people, and they are not emotionally stable. Whereas, people with low levels of trait anxiety are often calm, they are relaxed and emotionally stable.

Like trait anxiety, situation-specific anxiety is also a feature of an individual's personality, but the only difference is that trait anxiety manifests itself in any situation, and situation-specific anxiety is applied to a single context or situation only. Thus, people's emotions are stable over time but not necessarily consistent across situations. Each situation and context is different, some people may feel nervous in taking a test, but may not be nervous in making a speech. Examples of situation-specific anxieties are stage fright, test anxiety, math anxiety, and language anxiety.

State anxiety is a temporary state of feeling nervous that can differ over time and vary in intensity. No matter what are the causes of being nervous, it emphasizes the experience of anxiety itself. People with state anxiety tend to think over the real or imagined failures, and attempt to plan to escape from the situation. The usefulness of discussing trait and situation-specific anxieties is to predict who will more likely experience state anxiety. Applied to language learning, students with higher level of language anxiety will have the tendency to experience the state anxiety

more often.

Another important insight concerning different types of anxiety exists in the distinction between *facilitating* and *debilitating* anxiety (Scovel, 1978), or what Oxford (1999) called *harmful* and *helpful* anxiety. Facilitating anxiety results in improved performance, while debilitating anxiety leads to poor performance. Scovel (1978, p.139) has noted that facilitating anxiety "motivates the learner to 'fight' the new learning task; it gears the learner emotionally for approach behavior". Debilitating anxiety, in contrast, "motivates the learner to 'flee' the new learning task; it stimulates the individual emotionally to adopt avoidance behavior".

Many studies get the conclusion that anxiety is negatively correlated to academic performance (See details in section 2.2.2). However, several studies have suggested the benefits of anxiety. Research by Brooks (2014) at Harvard Business School found that when participants interpreted their nerves as excitement (for example, by saying to themselves "I'm excited!"), they gave better public presentations than those who tried to relax.

Thus, results of the correlation between anxiety and language learning have shown inconsistent, and take Scovel's (1978) summary as an example: the directions of the correlations between test anxiety and language learning in three languages (French, German, and Spanish) were not consistent. Three levels of correlation (positive, negative, and near zero) between anxiety and language performance in those three languages were found.

Therefore, language anxiety, as a kind of situation-specific anxiety, plays a two-sided role in language learning, which needs further discussions, and the present study will focus on anxiety in the listening context.

2.1.2.3 Horwitz, Horwitz, and Cope's (1986) Original Three-Part Model of Language Anxiety

Horwitz, Horwitz, and Cope (1986) made a valuable contribution to theorizing and measurement of language learning anxiety. They proposed three components of language anxiety: communication apprehension, test anxiety and fear of negative evaluation, which is demonstrated in Figure 2.1:
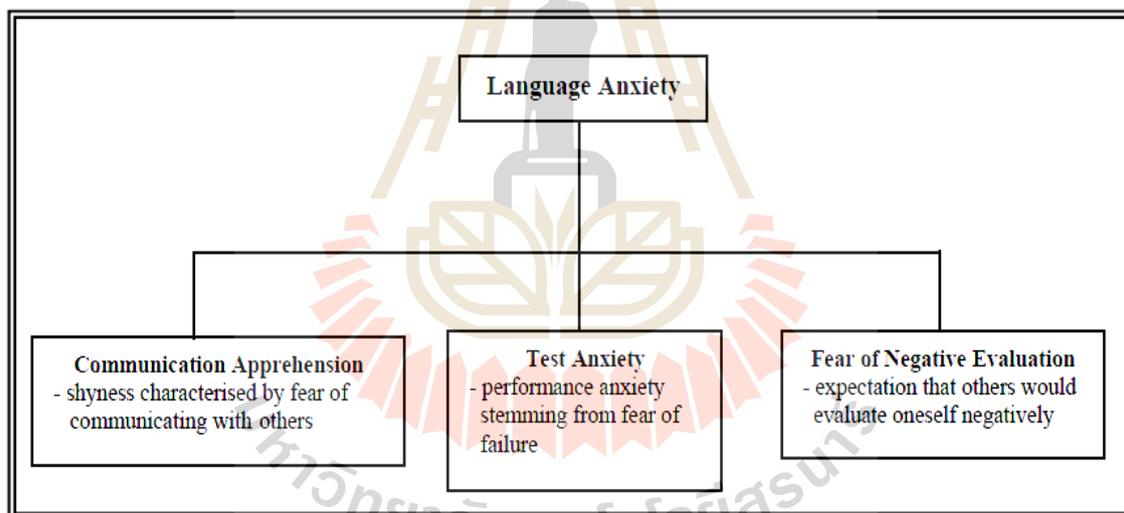
(Source: Horwitz and Young, 1991, p. 30)

Figure 2.1 Horwitz, Horwitz, and Cope's Original Three-Part Model of Language Anxiety

Communication apprehension is a fear of communicating with others. Difficulty in speaking in public, and listening to a spoken message are manifestations of communication apprehension. Students with communication apprehension always have trouble in listening or speaking, understanding others, and being understood by

others as well. The inability either to express oneself or to comprehend another person leads to frustration and apprehension.

Test anxiety stems from a fear of failure. Test-anxious students are always perfectionists, and they think that anything less than a perfect performance in a test is a kind of failure. Students who are anxious about tests may experience great pressure, since the tests and quizzes are frequently occurring evaluations. Sometimes they may "freeze" during the tests because of nervousness, even though they know the answers (MacIntyre and Gardner, 1994).

Learners' fear of being negatively evaluated often happens in Chinese classroom contexts, since Chinese students care about others' evaluations so much. Taking the group discussion as an example, some students may fear "losing face" in front of their peers, and thus ending up with silence. Such feelings of apprehension will be intensified when teachers constantly correct students' errors. From this perspective, in classroom settings, negative evaluations include both teachers' evaluations of the students and the perceived reactions of other students.

Horwitz, Horwitz, and Cope's model of language anxiety bridges two perspectives of language anxiety: the first perspective views language anxiety as the transfer of other forms of anxiety, such as communication apprehension, test anxiety; the second perspective holds that language anxiety is a unique type of anxiety. According to them, language anxiety is not a simple transfer, but a complex feelings arising from the language learning contexts. In the present study Horwitz, Horwitz,

and Cope's model of language anxiety is employed as the theoretical framework, and the measure of anxiety in the present study is based on this model.

2.1.2.4 Tobias' (1986) Model of the Effects of Anxiety on Learning from Instruction

Tobias' (1986) model including input, processing, and output stage, can be applied to many types of situation-specific anxiety (see Figure 2.2). The following explanations of Tobias' model will base on the anxiety in foreign language classroom settings.
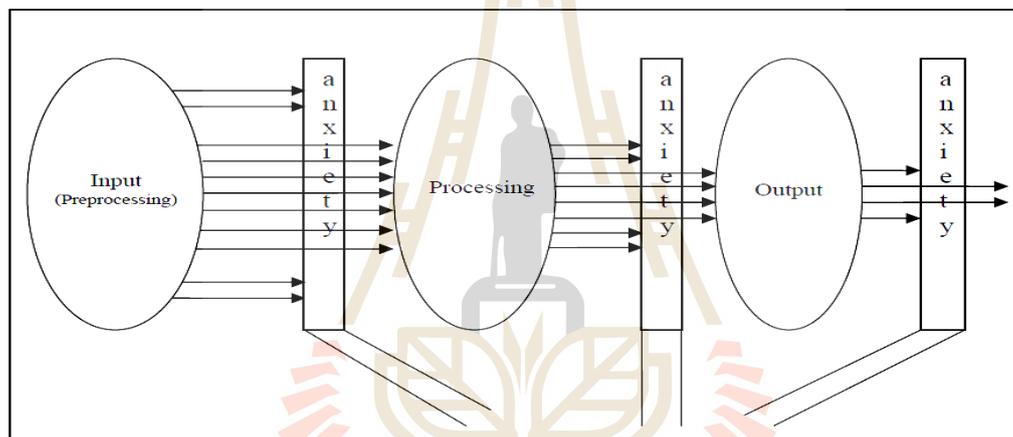
(Source: Young, 1999, p.35)

Figure 2.2 Model of the Effects of Anxiety on Learning from Instruction (Tobias, 1986)

At the input stage, anxiety prevents some information from getting into the cognitive processing system. Anxious-arousal at this stage will have a subsequent influence on the following stages. It is hoped that, at this stage students store information as much as they can. Anxious students may have difficulties in listening because anxiety interferes with their ability to take in the information. So they may ask for sentences to be repeated or replayed more often. In contrast, relaxed students

will not experience such interference, and would be better at absorbing the information.

In the processing stage, cognitive operations are involved including organization, storage, and assimilation of the material. That is, the internal manipulations of information taken in at the input stage (MacIntyre and Gardner, 1994). At this stage, anxiety hinders both the speed and accuracy of learning. Anxious students will take more time dealing with words, phrases, or grammar and they cannot understand the materials properly and accurately.

At the output stage, how well students will perform depends on the extent of understanding in the processing stage. Anxiety happening in this state will influence the language communication. At this stage, students with anxiety may have a poor performance in the test, or in verbal communication. This stage shares the same features of Horwitz, Horwitz, and Cope's model of test anxiety. Anxiety occurring in the test will impair students' performance. Even though sometimes students know the answers or the correct word may be on the "tip of their tongue", they still fail to bring it to the mind.

Tobias' (1986) model demonstrates the anxiety which happens in each stage of language learning. It also provides a clearer picture of the anxiety experienced in the communication. It is not difficult to see that no matter in which stage anxiety occurs, it will prevent language learning and communication.

2.1.3 Self-efficacy

During the past three decades, self-efficacy has been considered as an effective predictor of students' learning. It is not until the 1970s that Bandura first proposed a theory of the origins of beliefs of personal efficacy. Meanwhile he provided guidelines for measurement of self-efficacy beliefs. After that researchers began to study self-belief in a more task-specific way, and one of these efforts is about self-efficacy (Zimmerman, 2000).

The next parts will begin with the definition of self-efficacy, followed by its dimensions, then distinguish it from related constructs, and finally discuss its role in academic settings.

2.1.3.1 Definition of Self-efficacy

Self-efficacy is "an individual's judgments of his or her capabilities to perform given actions" (Schunk, 1991, p.207). It reflects "an individual's confidence in his/her ability to perform the behavior required to produce specific outcomes" (Kinzie and Delcourt, 1991, p.4). It has a direct impact on how much effort or persistence is engaged in performing a task. Bandura (1977) offered a theoretical definition of self-efficacy:

> Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments. . . . Such beliefs influence the course of action people choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental

demands, and the level of accomplishments they realize. (Bandura,
1977, cited in Bong & Skaalvik, 2003, p. 5)

Moreover, self-efficacy is one's own judgments of his/her capacities to organize and execute courses of action required to attain designated types of performances Bandura (1986, p.94). Without doubt, self-belief/self-efficacy are beliefs or perceptions about one's abilities to perform given tasks, and it plays an important role in individuals' learning. Students with different self-efficacy demonstrate different levels of cognitive, social, and emotional engagement in learning. In the present study self-efficacy refers to learners' beliefs that they can successfully finish English listening tasks.

2.1.3.2 Characteristics of Self-efficacy

Self-efficacy affects people's behaviors in many ways. It influences the choices people make. People tend to choose tasks which make them feel confident and avoid those they feel difficult. Efficacy beliefs help people decide how much efforts they will need and how long they will persist in when facing difficulties. The higher sense of efficacy, the greater effort, and determination they will hold. Efficacy beliefs also influence people's emotions. People with low level of self-efficacy tend to believe that things are more difficult than they really are, and people are likely to feel depressed. In contrast, people with high sense of self-efficacy will feel more confident in solving problems and finishing tasks.

Zimmerman and Cleary (2006) distinguish self-efficacy from other constructs by the following distinctive characteristics of self-efficacy:

First, self-efficacy is about one's perceived abilities to perform a task instead of relating to physical or personality features. It focuses on performance capabilities rather than on personal qualities (Zimmerman, 2000). In other words, self-efficacy focuses on questions like "How much certainty do I have to do something?", or "How well can I do something?" rather than "What's my personality?", or "What am I like?".

Second, self-efficacy is context- and task-specific. For example, a judgment of whether one is competent in high-jumping in general is not an efficacy judgment. But a judgment of how strongly a person believes that he or she can successfully jump that particular height is an efficacy judgment. For example, the expectation that one can high-jump 6 feet is an efficacy judgment. In addition, a student may have a lower sense of efficacy in a competitive classroom than a collaborative one, or may express a higher sense of efficacy in listening than in writing. Different contexts and tasks show the multi-dimensionality of self-efficacy.

Third, the judgments of one's self-efficacy beliefs depend on a mastery criterion of performance rather than on normative or other criteria. Taking writing as an example, students' self-efficacy is measured on the basis of how well they can do in writing in an absolute sense, rather than on how much better they can write in comparison to their classmates.

2.1.3.3 Self-efficacy and Related Constructs

Self-efficacy beliefs conceptually differ from some related constructs,

and among these are the constructs of outcome expectation and self-concept. So a comparison between them will provide a better understanding of self-efficacy.

Self-efficacy and Outcome Expectation

Before self-efficacy was introduced by Bandura (1977) as a key factor in social cognitive theory, outcome expectation was discussed. Self-efficacy is distinguished from outcome expectations, and they represent different phenomena. Self-efficacy is a judgment of one's capability to finish a certain level of task, while the outcome expectation is a judgment of the likely consequence that such behavior will produce. Take writing as an example, self-efficacy assesses a student's perceived ability to finish the writing tasks, whereas outcome expectation is the estimate of the writing results by using some writing skills. The difference is presented in Figure 2.3:
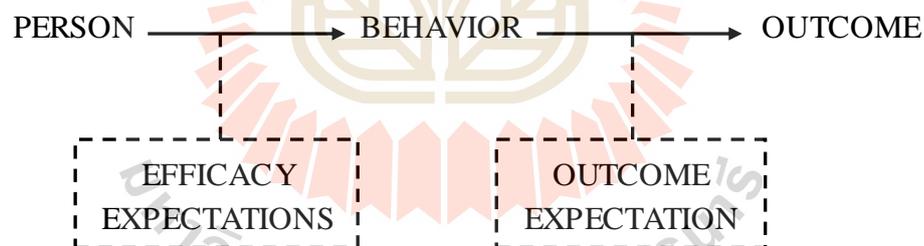
(Source: Bandura, 1977, p 193)

Figure 2.3 Diagrammatic Representation of the Difference Between Efficacy Expectations and Outcome Expectations

An efficacy expectation is a belief that one can successfully perform a particular action, and it is a judgment of one's personal efficacy. Outcome expectation is an estimate that a given action will lead to a certain outcome and it emphasizes the outcomes (Bandura, 1977). Although outcome expectations are important for

understanding behavior, research has shown that self-efficacy is a better predictor of behavior than outcome expectations (Shell, Murphy, and Bruning, 1989). This supports Bandura's idea that self-efficacy plays a larger role than outcome expectations in motivation (Zimmerman and Cleary, 2006). Bandura (1986) also suggests that self-efficacy would play a more important role than outcome expectations, because the outcomes people anticipate largely depend on their judgments of how well they will be able to perform in given tasks.

Self-efficacy and Self-concept

Self-concept is a global construct comprising self-efficacy and other aspects of the self (Schunk, 1991), like self-confidence, self-esteem, self-worth and so on. Self-concept is a general self-judgment of many beliefs, and a composite view of oneself (Bong and Skaalvik, 2003), however, self-efficacy is the conviction of what people can accomplish in given situations. The former is a more global judgment, and the measures of it may include self-efficacy, and other items like self-esteem. Self-efficacy is a context-specific judgment, and focuses more on the tasks that one feels capable of performing rather than a global assessment.

Questions of self-concept are "How good are you at writing?", or "How confident are you in listening?". By contrast, self-efficacy is task-specific, and questions are concerned with one's beliefs of being able to accomplish given tasks, such as "How certain are you that you can make up a sentence with the passive voice?", "How certain are you that you can complete the writing within 30 minutes?".

Self-concept judgment is more general and global, whereas, self-efficacy is more specific and task-based. Research indicates that self-efficacy is a better predictor of academic performance, and it enhances academic performance directly as well as indirectly by influencing one's self-concept (Zimmerman and Cleary, 2006; Doordinejad and Afshar, 2014; Naseri and Zaferanieh, 2012).

2.1.3.4 Academic Self-efficacy

Academic self-efficacy refers to "self-efficacy beliefs that are formed specifically toward academic (as distinct from nonacademic, general, social, emotional, or physical) domains" (Bong and Skaalvik, 2003, p.6). Or as Schunk (1991) put it, academic self-efficacy refers to the individuals' beliefs that they can successfully perform the given academic tasks. That is, unlike self-efficacy in general, academic self-efficacy focuses on the self-efficacy in academic settings.

In academic settings, self-efficacy beliefs influence students' behaviors in many ways. First, they influence the choices that students make. Students' self-efficacy beliefs are found to correlate significantly with students' choice of majors in college, success in course, and persistence in study (Hackett and Betz,1989; Lent, Brown, and Larkin, 1984). Second, self-efficacy beliefs help decide how much effort students will expend on a task, and how long they will keep. Students with higher sense of efficacy will put more effort and more persistence in a task. For example, Schunk and colleagues found that perceived self-efficacy for learning correlates positively with students' solution of mathematical problems (Schunk and

Hanson, 1985; Schunk, Hanson, and Cox, 1987). Third, self-efficacy beliefs influence students' emotional reactions. Students with low sense of efficacy tend to believe that things are difficult and impossible to complete, and such beliefs will foster anxiety, stress, and a narrow vision of how best to solve a problem. On the other hand, a high level of academic self-efficacy is found to be related to low level of test anxiety (Nie, Lau, and Liau, 2011). High self-efficacy students will create feelings of serenity in approaching difficult tasks, increase optimism, lower anxiety, raise self-esteem, and foster positive emotions (Pajares and Schunk, 2002).

According to Pintrich and De Groot (1990), academic self-efficacy includes the perceived competence and confidence in performance of class work. Based on their research, Liang (2000) divides academic self-efficacy into ability self-efficacy and behavior self-efficacy. The former refers to the confidence in ability, and the latter means the confidence in behavior. For example, learners' beliefs towards the ability of the successful performance in a listening task is the self-efficacy in ability. While, if learners believe that they can successfully achieve the listening tasks by employing some strategies or skills, such beliefs are behavior self-efficacy beliefs.

In the present study, self-efficacy refers to academic self-efficacy instead of self-efficacy in general, especially academic self-efficacy in English listening. Liang's (2000) classification of academic self-efficacy, that is, self-efficacy in ability, and self-efficacy in behavior, will be employed as the theoretical framework,

and the measure of listening self-efficacy.

2.1.4 Listening Comprehension

The importance of listening for language acquisition has been emphasized by researchers (Brown, 2006; Krashen, 1982; Rost, 2013). Listening is an important language skill to develop, and is at the heart of L2 learning. The development of L2 listening skills is beneficial to the development of other skills (Vandergrift, 2007). In this section, the definition and nature of listening comprehension, the models of listening process as well as the factors influencing listening comprehension will be reviewed.

2.1.4.1 Definition of Listening Comprehension

Comprehension is an act requiring individuals to confront, contrast and contest their understandings and beliefs against what they can perceive of the complexity of events unfolding around them, be they linguistic or non-linguistic events (Lian, 2000). It is influenced by individuals' personal histories i.e. individuals' past. Since individuals' experiences have been different in the past, their understandings are likely to be different even when they are facing the same information. Comprehension is usually viewed as the first-order goal of listening, the highest priority of the listener, and the sole purpose of listening (Rost, 2002). So in many cases, the main function of listening in second language learning is to facilitate understanding the spoken discourse. Based on this assumption, listening and listening comprehension are synonymous in most methodology manuals.

Listening is the process of receiving, attending to, and constructing meaning to aural stimuli (Jones and Plass, 2002). It is a process in which people use their linguistic knowledge, common sense, special knowledge and analyzing and colligating ability to distinguish, understand, analyze, summarize, remember and rehearse the sounds they heard (Littlewood, 2000). It is a complex, active process of interpretation in which listeners match what they hear with what they already know (Vandergrift, 2002). Moreover, Vandergrift (1999) claims, "listening comprehension is anything but a passive activity. It is a complex, active process in which the listener must discriminate between sounds, understand vocabulary and grammatical structures, interpret stress and intonation, retain what was gathered in all of the above, and interpret it within the immediate as well as the larger sociocultural context of the utterance" (p. 168). It is then viewed not only as a linguistic skill, but also a social skill involving non-linguistic judgments by the listener (Rost, 1993).

From an information-processing point of view, listening comprehension is subject to limitations of human memory capacity, which performs two functions: storage of information for later retrieval, and processing (Wu, 1998). From this perspective, listening comprehension is an information storage and processing procedure.

In sum, listening comprehension is the ability to actively understand what others say. It is the interwoven processes of decoding and meaning-making. A listener has to deal with acoustic signals reached to his ear and decode them based on

his prior knowledge and context.

2.1.4.2 Nature of Listening Comprehension

In order to understand the nature of listening comprehension, some of the characteristics of spoken discourse should be considered. Spoken discourse has very different characteristics from written discourse. These characteristics are described as follows:

> Spoken discourse is usually instantaneous. The listener must process it "online" and there is often no chance to listen to it again. Often, spoken discourse strikes the second-language (L2) listener as being very fast, although speech rates vary considerably. Unlike written discourse, spoken discourse is usually unplanned and often reflects the processes of construction such as hesitations, reduced forms, fillers, and repeats. Spoken discourse has also been described as having a linear structure, compared to a hierarchical structure for written discourse. Whereas the unit of organization of written discourse is the sentence, spoken language is usually delivered one clause at a time, and longer utterances in conversation generally consist of several coordinated clauses. Most of the clauses used are simple conjuncts or adjuncts. Also, spoken texts are often context-dependent and personal, assuming shared background knowledge. Lastly, spoken texts may be spoken with many different accents, from standard or non-standard, regional, non-native, and so on (Richards, 2009).

Therefore, these listening characteristics determine that listening comprehension process is a complex process involving many unpredictable factors. It is by no means a passive process, instead it is an interactive process of meaning creation, working on various levels simultaneously to produce an understanding of the incoming speech (Peterson, 2001).

2.1.4.3 Models of the Listening Process

One theoretical framework for describing what is involved in understanding spoken input is the three-phase model developed by Rost (2011, cited in Prince, 2014, p.96): the first phase, perception, involves the initial decoding of the acoustic signals into phonemes and words. These are then parsed into the thematic and grammatical roles they serve in a sentence. Finally, utilization involves constructing a personal interpretation. In this phase, listeners add their own knowledge and understandings to what they have perceived. However, this model does not mean the three phases follow each other linearly. They can overlap for different segments because listeners can interpret a sentence while decoding the sounds of the next sentence.

The model can be extended to include two types of processing: bottom-up and top-down, which are commonly recognized to interact during any listening activity.

Bottom-up, Top-down and Interactive Models

Bottom-up processing refers to the use of the incoming input for understanding the message (Richards, 2009). It means "using the information we have about sounds, word meanings, and discourse markers like *first*, *then* and *after that* to assemble our understanding of what we read or hear one step at a time" (Brown, 2006, p.2). This model focuses on linguistic features, and learners are encouraged to pay attention to the individual words and grammatical structures. Comprehension is

viewed as a decoding process, in which linguistic knowledge is used. The process of comprehension will continue until the meaning is obtained by gradual analysis of sound, words, clauses, sentences, and text. Bottom-up processing goes from language to meaning, and listeners' lexical, grammatical, pragmatic, and cultural competence play a very important role in this process.

Top-down processing, on the other hand, means the use of general understanding of the text being listened to in constructing the meaning of a message, and using the newly-constructed meanings to provide further guidance in understanding the rest of the text being studied. It refers to how we use our knowledge plus our current general understanding of the text to attribute meaning to language input; how our knowledge helps us understand meaning (Liubinienė, 2009). It is the previous knowledge that leads to the creation of the meaning. The prior knowledge includes the cultural awareness of the context, the text type or other information kept in long-term memory. While bottom-up processing goes from language to meaning, top-down processing goes from meaning to language.

Bottom-up and top-down processing often overlap. It is generally agreed that listening requires a combination of both forms of processing, and both of them often occur together (Graham, 2006). Rost (2002) referred this overlap as an interactive processing. It means listeners use both linguistic knowledge (bottom-up) and prior knowledge (top-down) in understanding a message. It is a continuum where the degree to which each process takes priority depends on listeners' level of

communicative proficiency, knowledge, or the listening objectives.

It is assumed that CIA plays a positive role in the interactive model, and successful listeners are those who can efficiently process listening with both bottom-up and top-down strategies. It is known that listening is perceived as the most difficult skill to learn because of its temporal and implicit nature (Graham, 2006). Listeners must process speech while simultaneously attending to new input at a speed controlled by the speaker. Listening to speech is often demanding because of signal degradations and the presence of distracting sounds. These characteristics of listening require listeners' higher abilities in working memory, inhibition, concentration and attention.

According to Strau, Wöstmann and Obleser (2014), at the central neural level, two complementary mechanisms of top-down control should be considered: first, top-down selective attention to relevant information could facilitate target processing by enhancing the neural response to the attended stream. Second, top-down selective inhibition of maskers could help to direct limited processing capacities away from irrelevant information, thereby avoiding full processing of distractors. These two mechanisms of top-down processing emphasize the importance of cognitive inhibition ability in listening process. The deficiency of inhibition may lead to the failure of performing top-down strategy.

The same can be true in the bottom-up processing. Bottom-up strategy involves people's linguistic knowledge, which also requires listeners' inhibitory

ability. When performing listening tasks, for example, listeners may be confronted with a number of competing phonologically similar alternatives in the working memory buffer. If incorrect alternatives are not prevented from entering working memory, people may provide an incorrect response. Therefore, people would need efficient inhibitory mechanisms to avoid such confusion. However, disabled listeners show difficulties in preventing irrelevant information from entering the working memory buffer, and may encounter difficulties in performing bottom-up strategy.

Therefore, in the present study it is assumed that successful listeners are those who have high CIA and can efficiently process listening with both bottom-up and top-down strategies.

2.1.4.4 Factors Influencing Listening Comprehension

Based on a survey of Hong Kong teachers and students, Boyle (1984) identifies three factors that influence EFL listening Comprehension: listener factor (variation in memory ability, knowledge, motivation, and attitude), speaker factor (variation in the linguistic ability of the speaker, and the speed of the delivery), and material factor (variation in text type, complexity of material, and phonological features). Rubin (1994) believes there are five major factors that affect listening comprehension: text characteristics, interlocutor characteristics, task characteristics, listener characteristics, and process characteristics. Among these factors, listener characteristics appear to have considerable impact on the listening comprehension. Individual's language proficiency level, memory, affect, confidence level, and

motivation are attached great importance. Takeno and Takatsuka's (2007) study also confirms that individual factors like short-term memory, vocabulary/grammar proficiency, and the articulation speed for English words have significant impact on the listening comprehension.

Far from passively receiving aural input, listeners are actively involved in the listening process. Among many factors influencing listening comprehension, individual listener characteristics such as memory, affect, confidence level, as well as language proficiency level are especially crucial. Thus, listener characteristics will be the focus in the present study.

2.1.5 Summary

In conclusion, section 2.1 reviews the related theories to the present study, including cognitive inhibition, anxiety, self-efficacy, and listening comprehension. The next section (section 2.2) will review the previous studies related to cognitive inhibition, and studies on the relationship between anxiety, self-efficacy, and listening performance.

2.2 Previous Research Studies Related to Cognitive Inhibition, Anxiety, Self-efficacy, and Academic/Listening Performance

In this section, previous studies on cognitive inhibition, and studies on the relationship between anxiety, self-efficacy and academic performance will be reviewed. The related research will be discussed in terms of purposes, participants,

instruments, data analysis methods, and results/findings.

2.2.1 Previous Studies on Cognitive Inhibition

Cognitive inhibition has been studied in many aspects like attention, memory, emotion, and language comprehension. Kramer, Humphrey, Larish, and Logan (1994) discussed the age differences and inhibition in attention. To examine whether the decrease in the efficiency of inhibition processes with aging, 30 elderly and 32 young adults were sampled as the participants, and the results of T-test and Pearson's correlation showed that only limited evidence for age-related differences in inhibitory function was obtained; old adults had more difficulty than young adults in stopping an overt response and adopting new rules in a categorization task.

Andrés, Van der Linden, and Parmentier (2004) focused on the age differences and inhibition in working memory. To explore the effects of aging on working memory by means of the directed forgetting procedure, 144 adults including 72 young and 72 elderly were the participants, and trigrams (three letters) list task was the main instrument. The results revealed that elderly participants inhibited the no-longer-relevant information less efficiently; sensitivity to interference increased in the condition in which no inhibition was directly required.

Besides, Borella and Ribaupierre (2014) investigated the age-related differences in a larger context, and they analyzed the joint influence of working memory, inhibition-related mechanisms, and processing speed on the text comprehension performance. Participants are 60 students from the 4th, 5th and 6th

grades, respectively. The text comprehension task was conducted in two conditions: text-present condition (in which the memory load was manipulated by allowing them to see the text while answering) and text-absent condition (in which the memory load was manipulated by withdrawing the text while answering). The results were that age-related differences were not significant in the text-present condition, whereas older children performed better than younger ones in the text-absent condition; only working memory accounted for a significant part of the variance in the text-present condition, whereas in the text-absent condition comprehension performance was explained by the combined contribution of working memory and inhibition.

Paz-Alonso, Ghetti, Matlen, Anderson and Bunge (2009) discussed the age differences in memory suppression. Think/No-Think (TNT) paradigm and the memory test were the main instruments; descriptive statistics, ANOVA, and correlation analyses were the data analysis methods. The findings were that children exhibited age-related improvements in memory suppression from age 8 to 12 in both memory tests, which suggested that memory suppression was an active process that developed during late childhood. By employing the same research instruments and data analysis methods, Anderson, Reinholz, Kuhl, and Mayr (2011) also discussed the age differences in memory inhibition. Their results indicated that older adults exhibited significantly less forgetting of the suppressed items compared to younger adults, indicating that older adults failed to inhibit the to-be-avoided memories.

Sego, Golding and Gottlob (2006) investigated the directed forgetting

phenomenon in older adults through the use of item and list methods. Experiments showed evidence of directed forgetting for both younger and older adults; both older and younger adults engage in adaptive memory strategies. Besides the studies on age differences in inhibitory ability, Lorsbach and Reimer's (1997) study showed that there were developmental improvements in the ability to inhibit irrelevant information, that is, people's inhibitory ability improved as they grew old.

In recent years, through the use of Functional Magnetic Resonance Imaging (fMRI), researchers have accesses to identify the neural systems involved in the suppression of unwanted memory, which becomes into another aspect of study on inhibition. According to Anderson et al. (2004), controlling unwanted memories was associated with increased dorsolateral prefrontal activation, reduced hippocampal activation, and impaired retention of those memories; both prefrontal cortical and right hippocampal activations predicted the magnitude of forgetting. In addition, according to Booth, Burman, Meyer, Lei, Trommer, Davenport, Li, Parrish, Gitelman, and Mesulam (2003), the development of neural systems also differed in age: there were large developmental differences in the response inhibition task, with children showing greater activation than adults in a fronto-striatal network including middle cingulate, medial frontal gyrus, medial aspects of bilateral superior frontal gyrus, and the caudate nucleus on the left; children also showed greater bilateral activation for the response inhibition task in posterior cingulate, thalamus and the hippocampo-amygdaloid region.

However, Yang (2010) and Todor's (2012) studies focused on the relationship between directed forgetting and academic performance. Yang's (2010) study examined the relationships among intentional forgetting, anxiety, and EFL listening comprehension among Chinese college students. In his study, listening anxiety questionnaire, listening comprehension test, and the list-method were the instruments, and the results revealed that directed forgetting was negatively related to anxiety, but it bore no direct relation with EFL listening comprehension. In contrast, Todor (2012) focused on the relationship between directed forgetting and mathematics performance in secondary school students, in which both list- and item-methods were employed. Through the use of descriptive statistics and Pearson correlations, the results showed that there were bivariate correlations between the item-by-item directed forgetting effect and the mathematics average grade as well as between the item-by-item directed forgetting effect and the cumulative average grade; there was significant bivariate correlation between the list directed forgetting effect and mathematics average grade.

With regard to gender differences, while brain structure, function, and neurochemistry of healthy men and women are similar in many ways, there are important differences. According to Cosgrove, Mazure and Staley (2007), the brain volume is greater in men than women; yet, when controlling for total volume, women have a higher percentage of gray matter (responsible for muscle control sensory perception, such as seeing and hearing, memory, emotions, speech, decision making,

and self-control) and men a higher percentage of white matter (associated with processing and cognition). Such physical differences in brain structure will definitely lead to differences between women and men in many ways.

Pauls, Petermann, and Lepach's (2013) study indicated that women outperformed men on auditory memory tasks, whereas male adolescents and older male adults showed higher level performances on visual episodic and visual working memory measures. In Reddington, Peverly and Block's (2015) study, they examined some of the cognitive and motivation variables related to gender differences in lecture note-taking. Results indicated that females recorded significantly more information in notes and written recall than males and performed significantly better on measures of handwriting speed, working memory, language comprehension, and conscientiousness.

With regard to ethnicity differences, Consedine, Magai, Cohen, and Gillespie (2002) examined the relations between negative affect and emotion inhibition and that of illness (hypertension, respiratory disease, arthritis, and sleep disorder) in a sample (N = 1,118) of community-dwelling older adults from four ethnic groups: U.S.-born African Americans, African Caribbeans, U.S.-born European Americans, and Eastern European immigrants. Participants completed measures of stress, lifestyle risk factors, health, social support, trait negative emotion, and emotion inhibition. As expected, the interaction of ethnicity with emotion inhibition, and, to a lesser extent, negative affect, was significantly related to illness, even when other

known risk factors were controlled for.

According to Consedine, Magai and Bonanno (2002), West Indian families, at least those from the English-speaking islands, "tend to be quite stoical and have a covert agreement among themselves not to reveal feelings" (p.218). McConatha, Lightner, and Deaner (1994) showed that Americans inhibited emotional expression to a greater extent than British participants, and Matsumoto (1993) has demonstrated considerable differences in both display rules and self-reported expressions among Caucasian, Black, Asian, and Hispanic individuals.

In short, the studies on cognitive inhibition discussed above can be summarized as follows:

1. Most of the research purposes are either to identify the neural systems involved in cognitive inhibition or to investigate the relationship between cognitive inhibition ability (CIA) and age.

2. To examine the age differences in cognitive inhibition development and CIA, the healthy children, young and elderly adults are participants in the research.

3. Memory test and questionnaire are the main instruments; descriptive statistics, ANOVA, correlation analyses, and regression analyses are the data analysis methods used.

4. The results indicate that both the younger and the older adults exhibit CIA, however, the elderly adults have less efficient CIA. Moreover, CIA seems to develop with age until it begins to regress.

It is obvious that most research focuses on the age-related aspect of cognitive inhibition. Only three research studies (Yang, 2010; Todor, 2012 and Borella, and Ribaupierre, 2014) are about the correlation between CIA and academic performance. With regard to the ethnicity differences in inhibition, all the studies conducted in non-Chinese context concern about the variation patterns between ethnicity and emotion inhibition. Moreover, the gender-specific differences in the healthy brain highlight the need to evaluate gender differences in terms of cognitive inhibition ability.

2.2.2 Previous Studies on the Relationship between Anxiety and Academic/Listening Performance

In the past few years, studies on anxiety and academic performance for EFL learners have attracted great attention by many scholars. The following parts will illustrate the main studies conducted in the past few years.

To investigate the foreign language anxiety level of EFL primary school learners in Taiwan, to find out the relationship between students' anxiety and their English achievement, and to determine the sources of students' anxiety, Chan and Wu (2004) selected 601 students from Taipei County as the participants. Through the use of questionnaires, interviews, and classroom observation, the results revealed that primary school students' anxiety was quite obvious, and the correlation between foreign language anxiety level and English learning achievement was significantly negative. Low proficiency, fear of negative evaluation, and pressure from students

themselves and their parents were the main sources of language anxiety. Liu's (2012) study conducted in Taipei also revealed that learning motivation, followed by listening proficiency, reading proficiency, and learner autonomy, had the highest negative correlation with foreign language anxiety.

In mainland China, Wang's (2010) study focused on the English majors, through the use of descriptive data and Pearson correlation coefficient, results showed that there existed certain negative correlations both between English listening classroom anxiety and listening achievement. However, Chen's (2015) study focused on the non-English majors in Chinese university, by employing the questionnaires and College English Test-4 (CET-4), the results indicated that college English vocabulary learning anxiety is significantly and negatively correlated with the CET-4 scores; but this correlation is lower than that between the English language class anxiety and the CET-4 scores. In contrast, Cui (2011) focused on the high school students' English learning anxiety. A Chinese version of Horwitz, Horwitz, and Cope's (1986) Foreign Language Classroom Anxiety Scale and an achievement test were the main instruments, by employing descriptive analysis, t-tests, and correlation analysis, the results were as follows: students had comparatively high anxiety in English learning; males had higher anxiety than females; high anxiety plays a somewhat debilitative role in high school students' language learning.

In Iran, to explore English language learning anxiety and its relationship with overall English achievement, Atef-Vahid and Kashani (2011) conducted a study

among 38 third-year high-school students. The results were that one-third of the students experienced moderate to high-anxiety levels, and students' language anxiety scores had a significantly moderate negative correlation with the English language achievement. Golchi's (2012) study was about Iranian IELTS learners, and the purpose was to investigate listening anxiety and its relationship with listening strategy use and listening comprehension among Iranian IELTS learners. By using descriptive data, Pearson correlation coefficient, Independent sample t-test and Two-Way ANOVA, the results were as follows: listening anxiety had negative correlation with listening comprehension and listening strategy use; low anxiety learners used meta-cognitive strategies more than high anxiety learners did; female learners were more anxious than male learners; and years of studying English also had a significant negative effect on IELTS learners' anxiety. Atasheneh and Izadi's (2012) study was to question the role teachers can play in either alleviating or aggravating the anxiety triggered in the listening test takers. The results revealed that there was a moderate but significant negative correlation between foreign language class anxiety and listening comprehension; high anxious informants had a significant improvement in the second listening comprehension test results due to the reduction of their level of anxiety in the treatment session.

Studies on anxiety were also conducted in other countries like: U.S., Korea, Australia, and Pakistan. Elkhafaifi's (2005) study conducted in U.S. focused on the listening comprehension, Park and Lee's (2005) study in Korea and Woodrow's (2006)

study in Australia focused on students' oral performance, while Awan, Azher, Anwar, and Naz's (2010) study conducted in Pakistan focused on the overall English language performance. All these studies showed that students' anxiety contributed negatively to their English performance, and Woodrow's (2006) study pointed out that students' most frequent source of anxiety was interacting with native speakers.

Regarding to the gender differences in anxiety, Cui's (2011) study revealed that female students are less anxious in learning English as a foreign language than male students, which was consisted with Awan et.al's (2010) findings. However, in the mathematics study, Devine, Fawcett, Szűcs and Dowker (2012) had different findings, and they got the results that levels of mathematics anxiety and test anxiety were higher for females than for males. Test anxiety was negatively correlated with mathematics performance, but this relationship was stronger for females than for males. Regression analyses revealed that mathematics anxiety was a significant predictor of performance for females but not for males.

Regarding to the ethnicity differences in anxiety, Rasor, L. and Rasor, R. (1998) conducted a study in order to determine the correlational values among the variables of test anxiety and study behavior, and the student characteristics of age, gender, and ethnicity. Students at American River College and Sacramento City College in California participated in the study by completing the Study Behavior Inventory and Sarason's Test Anxiety Scale. Students' demographic information included ethnicity, gender, age, academic background, and language background. One

of the findings indicated that non-white students may need more instruction about study habits and help with combating test anxiety than whites.

In Lee, Okazaki, and Yoo's study (2006), European American and Asian American participants completed a 2-week diary chronicling events in which they experienced social discomfort. Results indicated that individuals of both ethnic backgrounds experienced an equal number of social interactions eliciting discomfort, but Asian American participants reported statistically higher levels of anxiety afterward. Additionally, research has indicated that Asian Americans and European Americans may experience equal amounts of evaluative apprehension, but Asian Americans may report higher levels of distress and avoidance concerning anxiety provoking social circumstances (Okazaki, 1997). The prevalence of social anxiety have also been proved between European American and African American populations (Melka, Lancaster, Adams, Howarth and Rodriguez, 2010). In this study, African Americans endorsed lower levels of social anxiety when compared to their European American peers.

In short, the above discussions can be concluded as follows:

1. All the studies were concerned about the relationship between language anxiety and academic performance. The academic performance investigated in these studies included the overall English language performance, the listening and speaking performance.

2. Questionnaire, interview, and classroom observation were the main

instruments used. Among them, The Foreign Language Classroom Anxiety Scale (FLCAS) adapted from Horwitz, Horwitz, and Cope (1986) was the main instrument used to collect the data of language anxiety.

3. To test the correlations, the data analysis methods mainly covered the descriptive statistics, Analysis of Variance (ANOVA) and the Pearson Correlation Coefficient. However, only one study (Liu, 2012) employed regression analysis to predict the extent of the anxiety contributed to the language proficiency.

4. All the results came to the conclusion that students experienced anxiety in English learning, and that language anxiety was negatively related to English language performance, but that there were differences in degree. However, only two studies (Wang, 2010; Atasheneh and Izadi, 2012) proposed coping strategies for teachers and learners with anxiety.

5. Regarding to the ethnicity, most studies investigated the ethnicity variations in social anxiety, and few studies concerned about the ethnicity differences in English listening anxiety. In addition, the gender differences really exist in language anxiety, however, the results were not consistent, which requires more evidences and further research.

2.2.3 Previous Studies on the Relationship between Self-efficacy and Academic/Listening Performance

Since the investigation of learners' affective variables has been emphasized in recent years, the studies of self-efficacy have also been developing. Rahimi and

Abedini (2009) focused on the relationship between EFL learners' self-efficacy and listening proficiency. In their study, questionnaire and a listening test were the main instruments, by employing the descriptive statistics, Pearson correlation, and Paired sample T-Tests, the results revealed that students' self-efficacy was significantly related to listening proficiency. By using the questionnaire and English language achievement test, Doordinejad and Afshar's (2014) study revealed that there was a moderately significant relationship between foreign language learners' self-efficacy and English achievement. In addition, Naseri and Zaferanieh's (2012) study revealed that there were significant strong positive correlations between reading self-efficacy beliefs and reading comprehension and also between reading self-efficacy beliefs and reading strategies use.

In Chemers, Hu, and Garcia's (2001) study, to examine the effects of academic self-efficacy and optimism on students' academic performance, stress, health, and commitment to remain in school, 256 first year class at the University of California were sampled as the participants. Through the use of the questionnaire, and test, the results revealed that students' academic self-efficacy and optimism were strongly related to performance and adjustment, both directly on academic performance and indirectly through expectations and coping perceptions on classroom performance, stress, health, and overall satisfaction and commitment to remain in school.

Besides self-efficacy, other affective constructs like self-concept,

self-esteem, and motivation were also explored. Piran (2014) investigated the relationship between self-concept, self-efficacy, self-esteem and reading comprehension achievement. 92 Iranian EFL learners were the participants, and through the use of descriptive statistics and Spearman correlation, the results were that the relationship between self-concept and reading comprehension, and that of self-esteem and reading comprehension score was significant while the relationship between self-efficacy and reading comprehension score was not. Pajares and Graham's (1999) study conducted in the south of America indicated that there were significant relations between self-efficacy, motivation, and academic performances, and self-efficacy beliefs predicted the mathematics outcomes.

However, through the use of descriptive statistics and Pearson correlation, Anyadubalu's (2010) study conducted in Bangkok showed that there was no significant relationship between self-efficacy and English language performance.

Regarding the gender differences in students' academic self-efficacy, Chavez, Beltran, Guerrero, Enriquez, and Reyes (2014) discussed three of the variables of self-efficacy: the excellence variable (including accomplishing assigned tasks, submitting assigned tasks/papers on time, and attending class meetings). Compared to men, women perceived themselves as more self-efficient, with a greater need and possibility of being more self-efficient. Moreover, women showed lower dissatisfaction and improvement possibility. Similarly, in the attention variable (including being attentive and listening to professors and classmates, asking or

making comments during lectures and class meetings) women perceived themselves as more self-efficient, with a greater need and possibility of improving their self-efficacy; in the communication variable (including expressing ideas clearly, making relevant comments and contributions, being able to argue when in disagreement, being at ease with public speaking), women perceived themselves with a lower possibility of being more self-efficient than men do. Huang's (2013) study indicated that females displayed higher language arts self-efficacy than males. Meanwhile, males exhibited higher mathematics, computer, and social sciences self-efficacy than females.

Regarding the ethnicity differences, Stevens, Olivarez, Lan, and Tallent-Runnels (2004) evaluated self-efficacy and motivational orientation across Hispanic and Caucasian students to predict variables related to mathematics achievement, including mathematics performance and students' plans to take additional mathematics courses. Participants were 358 high school students and the sample was split by ethnicity. The findings indicated that the relationship between prior mathematics achievement and self-efficacy was stronger for Hispanic students; similar motivational systems existed to predict mathematics achievement across ethnicity; however, Caucasian students did not place as much emphasis on prior mastery experiences as did Hispanic students.

In Britner and Pajares' study (2001), the purpose was to discover whether the science motivation beliefs of middle school students (N = 262) vary as a function

of their gender or race/ethnicity and to determine whether science self-efficacy beliefs predict science achievement when motivation variables shown to predict achievement in other academic areas are controlled. Findings revealed that White students had stronger self-efficacy and achievement, and African American students reported stronger task goals. Self-efficacy was the only motivation variable to predict the science achievement of females, males, and White students. Self-efficacy and self-concept predicted the science achievement of African American students.

In Usher and Pajares' study (2006), the aim was to examine the influence of the four hypothesized sources of self-efficacy (including mastery experience, vicarious experience, social persuasions, and physiological state) on the academic and self-regulatory efficacy beliefs of students entering middle school. It also explored how these sources differ as a function of gender, reading ability level, and race/ethnicity. Participants were 263 Grade 6 students (140 females and 123 males) from a public suburban middle school in the Southeastern United States. Analyses involving student race/ethnicity differences included only White and African American students, the two largest racial/ethnic groups in the sample. Findings indicated the sources of self-efficacy differed as a function of race/ethnicity. For White students, mastery experience and physiological state were predictive of academic and self-regulatory self-efficacy. For African American students, however, social persuasion also predicted academic self-efficacy and accounted for greater unique variance than did mastery experience.

Klassen's study (2004) found that ethnicity played a role in how Grade 7 students interpret the sources of self-efficacy for mathematics. Indo-Canadian (immigrant) students reported receiving more information from vicarious influences and social persuasions than did their Anglo-Canadian peers, suggesting that these students experience a more "other-oriented" than "self-oriented" formation of self-efficacy.

In short, articles about the relationship between self-efficacy and academic performance can be summarized as follows:

1. Academic performance mentioned above included English performance in general, English reading performance, and mathematics performance. Only one article was about English listening performance (Rahimi and Abedini, 2009).

2. Participants covered the middle school students, high school students and college students from America, Bangkok, and Iran. But no correlation research between self-efficacy and academic performance has been conducted in China.

3. With regard to the instruments, self-efficacy questionnaires and achievement tests were the main tools.

4. Descriptive statistics, Pearson correlation, and the Spearman correlation were the main data analysis methods. Only one article (Pajares and Graham, 1999) employed multiple regression analysis to predict how much variance in the academic performance could be explained by self-efficacy.

5. Almost all the studies revealed a significantly positive relationship

between self-efficacy and academic performance, except two. Anyadubalu (2010) and Piran's (2014) research indicated that the relationship between self-efficacy and reading performance was not significant, even though it was positive.

In addition, consensus of whether females or males have more academic self-efficacy in language learning has not been reached. This needs further discussion. Regarding ethnicity, most of the studies focused on the ethnicity variations in the sources of self-efficacy, and particularly, were concerned about the ethnicity differences in terms of mathematical self-efficacy.

2.3 Summary

This chapter reviews the previous theories and studies related to the study. It begins by introducing the definitions and theories of cognitive inhibition, anxiety, self-efficacy, and listening comprehension. Then it follows with a review of the research on cognitive inhibition, and relationship between anxiety, self-efficacy, and academic performance. Meanwhile, the gender and ethnicity factors are also reviewed according to the inhibition, anxiety, and self-efficacy. Subsequently, the research is reviewed in terms of the purposes, the participants, research instruments, data analysis methods and results/findings. The next chapter will introduce the research methods of the present study.

CHAPTER 3

METHODOLOGY

This chapter provides a description of the research methodology. The purpose of this chapter is to describe how the study is carried out. The research design and characteristics of the participants are presented at first, followed by the conceptual framework, the instruments used, the procedures for data gathering, the ethical issues in data collection and the data analysis methods. In the end, validity as well as reliability checks for the research instruments and the pilot study are elaborated.

3.1 Research Design

The present study was a mixed-methods research, which employed both quantitative and qualitative methods. Based on factors like implementation, priority, integration, and theoretical perspective, Creswell (2003) divided mixed-methods strategies into six types: sequential explanatory strategy, sequential exploratory strategy, sequential transformative strategy, concurrent triangulation strategy, concurrent nested strategy, and concurrent transformative strategy.

The present study employed the sequential explanatory strategy. It is the most straightforward strategy, and it is characterized by the collection and analysis of quantitative data followed by the collection and analysis of qualitative data. The purpose is to use qualitative results to assist in explaining and interpreting the findings

of a primarily quantitative study.

Since the purpose of the present study was to investigate the relationship between cognitive inhibition, anxiety, self-efficacy, and listening performance, it was a correlation (non-experimental) research design. As Fraenkel and Wallen (2007) state, in their opinion, "Correlational studies investigate the possibility of relationships between variables. It is also sometimes referred to as a form of descriptive research because it describes an existing relationship between variables" (p. 335). Fraenkel and Wallen (2007) also illustrate the basic purposes of correlational research are either to help explain important human behaviors or to predict likely outcomes.

The statistic that expresses a correlation statistic as a linear relationship is the product-moment correlation coefficient *(r)*. Creswell (2012) lists some common characteristics as to identify a study as an explanatory correlational study:

● *The investigators correlate two or more variables.* They report the correlation statistical test and mention the use of multiple variables.

● *The researchers collect data at one point in time.* In explanatory correlational research, the investigators are not interested in either past or future performance of participants.

● *The investigator analyzes all participants as a single group.* Compared to an experiment that involves multiple groups or treatment conditions, the researcher collects scores from only one group and does not divide the group into categories (or factors).

● *The researcher obtains at least two scores for each individual in the group---one for each variable.* In the method discussion, the correlational investigator will mention how many scores were collected from each participant.

● *The researcher reports the use of the correlation statistical test (or an extension of it) in the data analysis.* This is the basic feature of this type of research.

● *The researcher makes interpretations or draws conclusions from the statistical test results.* The conclusions do not establish a probable cause-and-effect (or causal inference) relationship because the researcher can use only statistical control rather than the more rigorous control of physically altering the conditions. (Creswell, 2012, p. 340)

The present study mainly aimed to investigate the possible relationships among cognitive inhibition ability (CIA), anxiety, self-efficacy, and listening performance, and further to find out the extent to which the dependent variable --- listening performance can be predicted by the independent variables---cognitive inhibition ability, anxiety, and self-efficacy. For participants, they needed to finish more than one questionnaires and tests. These elements as well as the purposes of the present study were all in line with the characteristics of a correlational research design, therefore, from the quantitative part, the present study was a correlational research design.

Apart from the quantitative research design, the present study also employed a qualitative design in which a semi-structured interview was conducted to collect in-depth information from the perspective of teachers. The interview protocol was conducted aiming at answering the qualitative research question about teachers' suggestions for dealing with students' anxiety, self-efficacy, and cognitive inhibition ability (CIA).

3.2 Participants

Participants in the present study included 336 English majors from eight

intact classes, and three teachers at Guizhou University, Guizhou Province, China. Student participants are foreign language learners of English (EFL learners), and between 18 and 22 years of age, including both male and female. Most have been learning English as a foreign language in Chinese schools for about 8 years on average. They are all full-time college students.

To exclude the influence of the extraneous variables, which could threaten the internal validity of the present study, and to keep the homogeneity of participants, the entire body of students in the third academic year of the English program participated in the present study. Thus, the participants could be considered to constitute a fairly homogeneous group in terms of their learning history. In addition, the third year English majors have taken a listening course in the first two years of university study, so they have some experience in English listening learning.

All 336 students voluntarily took a TEM-4 listening test, a Cognitive Inhibition Ability Test (CIAT), a Listening Self-efficacy Questionnaire (LSEQ), and a Listening Anxiety Questionnaire (LAQ). However, due to students' carelessness or other unknown reasons, some personal information was missed and statements in the questionnaires were wrongly marked. After excluding the invalid data, data collected from 272 students for all the instruments were valid and kept for further analysis.

Of the 272 participants, a majority of the participants were females (N=231), while the number of males was 41 (N=41). With regard to the ethnicity, Chinese Han accounted for the majority (N=113), followed by Miao (N=71), Dong (N=35) and

others (N=53) like Buyi, Man, Zang, Bai, Shui etc.. Therefore, in the present study, ethnic groups reviewed were limited to Hang, Miao and Dong. The detailed information on the student participants is shown in Table 3.1.

Table 3.1 Participants' Distribution in Terms of Gender and Ethnicity

Gender	Ethnicity				Total
	Chinese Han	**Miao**	**Dong**	**Other minorities**	
Male	17	12	4	8	41
Female	96	59	31	45	231
Total	113	71	35	53	272

To elicit the qualitative data, and get in-depth information on how to deal with students' anxiety, self-efficacy, and students' cognitive inhibition ability in the listening context, the teacher participants were interviewed. Considering all student participants were third year English majors, the teacher participants were chosen from those who taught the third year students too. All three English listening teachers from the third year were selected on the basis of convenience and availability. Teacher participants were all experienced EFL university teachers of many years' standing. All of them have experience in teaching English listening, and one of them specializes in teaching listening. The semi-structured interview was conducted after data from the student participants had been gathered. It was held when the interviewees were in their office. All the data were recorded with the interviewees' permission, and the

interview records were kept for further content analysis.

With regard to the author, as a result of parental choices, she is formally identified as belonging to the Buyi minority group. In reality, she has been living in a completely Han cultural environment from birth. She is not for or against any group, has no partial biases, and always tries to see things as objectively as possible.

3.3 The Conceptual Framework of the Study

Based on the literature reviewed in Chapter 2, the present study investigates the correlation among variables, and the conceptual framework presented below demonstrates the variables investigated in the present study.
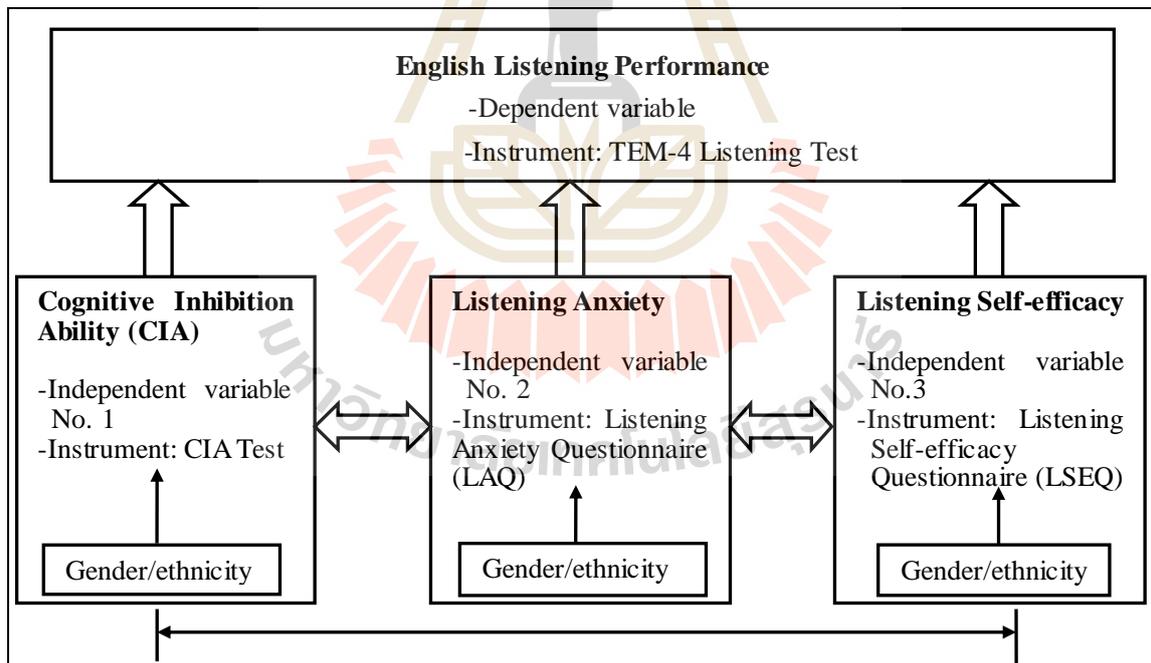
Figure 3.1 The Conceptual Framework of the Study

In the present study, to examine whether the listening performance can be predicted by the CIA, anxiety, and self-efficacy, the listening performance was

identified as the dependent variable, and the CIA, anxiety, and self-efficacy were identified as independent variables. Besides, the relationship among these three independent variables were also examined. Moreover, to examine whether students' CIA, anxiety, and self-efficacy were significantly different in terms of their gender and ethnicity, the CIA, anxiety, and self-efficacy became the dependent variables, and gender and ethnicity were identified as the independent variables.

3.4 Research Instruments

The instruments used in the present study were two questionnaires, two tests, and a semi-structured interview. They were the Listening Anxiety Questionnaire (LAQ), Listening Self-efficacy Questionnaire (LSEQ), Cognitive Inhibition Ability Test (CIAT), and TEM-4 listening test.

The questionnaire, a self-report data-collection instrument, is one of the most popular and most accepted research instruments applied in the social sciences. It is used to obtain information about the thoughts, feelings, attitudes, beliefs, values, perceptions, personality, and behavioral intentions of research participants (Johnson and Christensen, 2012). The questionnaire can be designed to collect vast amounts of data from a variety of people in a variety of situations targeting a variety of topics. The advantages of questionnaire are illustrated by Dörnyei (2003) like this:

> The main attraction of questionnaires is their unprecedented efficiency in terms of (a) researcher time, (b) researcher effort, and (c) financial resources. By administering a questionnaire to a group of people, one can collect a huge amount of information in

less than an hour, and the personal investment required will be a fraction of what would have been needed for, say, interviewing the same number of people. Furthermore, if the questionnaire is well constructed, processing the data can also be fast and relatively straightforward, especially by using some modern computer software. These cost-benefit considerations are very important, particularly for all those who are doing research in addition to having a full-time job. (Dörnyei, 2003, p. 9)

Therefore, a questionnaire suits the purposes of the present study, and it is one of the main instruments used in the study.

3.4.1 Listening Anxiety Questionnaire

The instrument used in the present study to measure students' listening anxiety was adapted from Horwitz, Horwitz, and Cope (1986). The original version is called the Foreign Language Classroom Anxiety Scale (FLCAS), which is a 5-point rating scale questionnaire, ranging from "strongly disagree" to "strongly agree". It consists of 33 items covering three aspects of anxiety: communication apprehension, test anxiety, and fear of negative evaluation.

The reasons for adapting Horwitz, Horwitz, and Cope's (1986) FLCAS were as follows: first, it demonstrates high internal reliability with an alpha coefficient of .93. According to Devellis (2003), a widely advocated level of adequacy for Cronbach's Alpha (α) Coefficient is a minimum of 0.70 (α ≥ 0.70). So an alpha coefficient of .93 is an acceptable, higher index of reliability. Second, it is one of the original scales employed to measure language anxiety, and many studies adapt it as the main instrument to measure the language reading, listening, or speaking anxiety (See 2.2.2 in Chapter 2). Third, it is Horwitz, Horwitz, and Cope's (1986) theory in

anxiety that was employed in the present study, and thus their questionnaire was appropriate and adapted accordingly. According to them, language anxiety is not a simple transfer from other forms of anxiety, and there are three components: Communication Apprehension (CA), Test Anxiety (TA), and Fear of Negative Evaluation(FNE), which makes great contributions to theorizing and measurement in language learning anxiety.

Since the purpose of the present study was to measure students' listening anxiety level, and Horwitz, Horwitz, and Cope's (1986) original version measures the foreign language anxiety, some items had been modified to suit the context. What follows were examples of the questionnaire modification, including a slightly changed item, no change item, deleted item, and additional item:

- I tremble when I know that I am going to be called on in language class.

  I tremble when I know that I am going to be called on in English listening class. (Slightly changed item)

- I get upset when I don't understand what the teacher is correcting.

  I get upset when I don't understand what the teacher is correcting. (No change item)

  - I do not understand why some people get so upset over foreign language classes. (Deleted item)

  - I feel more anxious about the English listening test, than with other course tests. (Additional item)

Finally, a 5-point rating scale Listening Anxiety Questionnaire (LAQ) with 30 items adapted from Horwitz, Horwitz, and Cope (1986) was used in the present study. It ranged from 'never or almost never true of me', valued as 1; 'usually not true of me', valued as 2; 'somewhat true of me', valued as 3; 'usually true of me', valued as 4; to 'always or almost always true of me' valued as 5. The total scores of these 30 items revealed the degree of participants' anxiety in listening English.

3.4.2 Listening Self-efficacy Questionnaire

In the present study, Liang's (2000) Academic Self-efficacy Questionnaire was used to measure participants' self-efficacy ability. Liang's (2000) questionnaire is a 5-point rating scale questionnaire, ranging from "strongly disagree" to "strongly agree". It is a Chinese version of the test with 22 items, and contains two levels: self-efficacy in ability and self-efficacy in behavior.

The present study adapted Liang's (2000) questionnaire for the following reasons: first, Liang's (2000) Academic Self-efficacy Questionnaire is more suitable in the Chinese context. Since his study is conducted in China, there must be some similar characteristics with the present study. Moreover, his questionnaire is written in Chinese, and there is no translation problem. Thus his self-efficacy questionnaire is more appropriate to Chinese context compared with the questionnaires employed in other countries. Second, the alpha coefficient in his study is .89 ($\alpha \geq 0.70$), which also indicates a high reliability. Third, it is easy to obtain, and is available online for free.

Liang's (2000) questionnaire measures students' self-efficacy in language

learning, in contrast, the present study focuses on English listening. So considering the research purposes of the present study, Liang's (2000) self-efficacy questionnaire had been modified. What follow were the examples of the questionnaire modification, including a slightly changed item, no change item, deleted item, and additional item:

• I believe I have the ability to solve the problems in study.

I believe I have the ability to solve the problems in the study of listening.

(Slightly changed item)

• I know more about my major, compared with other students in my class.

(Deleted item)

• I work on exercises and answer end of chapter questions even when I do not have to.

I work on exercises and answer end of chapter questions even when I do not have to. (No change item)

• I enjoy meeting tourists because I can understand them well. (Additional item)

Finally, a 5-point rating scale Listening Self-efficacy Questionnaire (LSEQ) with 25 items adapted from Liang (2000) was used in the present study. It consisted of two levels: Self-efficacy in Listening Ability (SELA)and Self-efficacy in Listening Behavior (SELB). It ranged from 'never or almost never true of me', valued as 1; 'usually not true of me', valued as 2; 'somewhat true of me', valued as 3; 'usually true of me', valued as 4; to 'always or almost always true of me' valued as 5. The total

scores of these 25 items revealed the degree of participants' self-efficacy in English listening.

3.4.3 Cognitive Inhibition Ability Test

In the present study, a directed forgetting experiment using the list-method was employed to elicit students' cognitive inhibition ability (CIA). In General, there are two main methods used in directed forgetting experiments: the item-method, and the list-method. The following sections justified why the list-method was employed in the present study, and how to implement it to measure students' CIA.

3.4.3.1 Item-method and List-method

The item-method and the list-method are the two main methods used in cognitive inhibition testing. The procedure of the item-method is as follows: the participants are provided with a series of words, and each word is then associated with an instruction of "remember" or "forget". To-be-remembered (TBR) words and to-be-forgotten (TBF) words are presented in a mixed order. Participants are required to memorize only the words followed by the instruction of "remember". After the presentation of the whole words, a free recall memory test will be given, that is, participants are required to recall all the words in any order. Then participants' cognitive inhibition ability will be calculated based on the scores obtained in the memory test.

The list-method follows a different order of instruction presentation. In this method, a series of words is also used (take 30 words as an example), and these

words are equally divided into 2 lists (15 words in each list). The participants are provided with the first list of 15 words to memorize, and then they receive a mid-list instruction to forget these words (with the explanation that the words have been given only for practice). Then the second list of 15 words is presented, and they are instructed to memorize this list. Finally, a free recall memory test is given, and the value of CIA will be calculated. The different order of presenting instructions between item-method and list-method is shown in **Figure 3.2**:
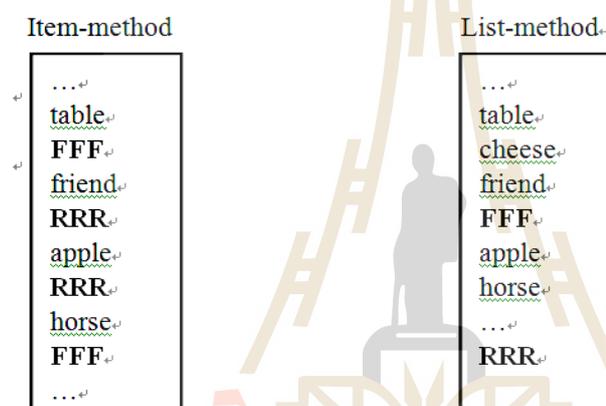
(Source: MacLeod, Dodd, Sheard, Wilson, and Bibi, 2003; FFF means "forget", RRR means "remember")

Figure 3.2 The Different Order of Instruction Presentation Between Item-method and List-method

In short, in the item-method, an instruction of "remember" or "forget" is given immediately after each word is presented. Whereas, in the list-method, the instruction is given in the middle of two lists. At the neural level, the "forget" instruction strongly activates the frontal cortex, suggesting that directed forgetting is not memory decay but an active process. Forgetting of the negative self-referential information are associated with a more widespread activation, including the orbital frontal gyrus, the inferior frontal gyrus, and the middle frontal gyrus. Thus, forgetting

of the self-referential information seems to be a more demanding and difficult process (Yang, Liu, Cui, Wei, Li, Qiu and Zhang, 2013). In addition, Wylie, Foxe, and Taylor's (2008) study also suggests that directed forgetting can be viewed as an active process. Encoding TBF items is associated with higher activation in the right middle frontal and posterior parietal cortex, known to intervene in attention control.

In the list-method paradigm, the "forget" instruction typically has a dual effect on memory- it impairs memory for the pre-cue items, and it also enhances memory for the post-cue items. Sahakyan and Foster's (2009) study support for the argument that the two directed forgetting methods have different underlying mechanisms. According to them, these two methods involve different encoding mechanism. In the item-method, participants stop committing the TBF items to memory once they get the "forget" cue, and use that time to encode the TBR items. In contrast, in the list-method, the "forget" cue is given unexpectedly after the first list has been coded, and therefore the pre-cue items must be encoded equally well till the middle instruction occurs. The memory then is driven by processes operating retrieval, and the process of retrieval involves the inhibition of TBF.

Studies have been done using the two procedures more or less interchangeably until Basden, Basden, and Gargano (1993) make a crucial observation and confirm it empirically. Basden et al. (1993) point out that the item method fosters selective rehearsal favoring the TBR words whereas the list method promotes inhibition of the TBF words. So the list-method places a greater emphasis

on the inhibition mechanism, which explains why, in the present study, the list-method was employed.

3.4.3.2 Implementation of the List-method

In the list-method test, 30 two-character Chinese words chosen from the Chinese Frequency Dictionary (Wang, 1986) were used in the lists (see Appendix A). Furthermore, these 30 words were randomly divided into two lists, with 15 words in each list. Then the implementation of the list-method in the present study followed three phases: learning phase, interference phase, and test phase.

The first phase was learning phase. At the beginning of this test, students were informed that this was a memory test, and they needed to learn some words. Then each word was presented by the teachers at a reading speed of about 2-3 seconds/word. After all the words in list 1 were presented, teachers informed participants that the first list just presented was only for practice and must be forgotten and that the target words which should be remembered would come next. So words in list 1 are designated as To-be-forgotten (TBF) words, and words in list 2 are designated as To-be-remembered (TBR) words. The spoken instruction lasted about 30 seconds. The whole process was recorded in the format of "wav", that is, both the presentation of the words and teachers' instructions were recorded beforehand.

After the learning phase, the next phase was called interference phase: about 20 mathematical calculations were displayed on a sheet of paper (for example: 534-215=?), and participants were asked to complete all the calculations. This phase

lasted 2 minutes. The mathematical tasks before the free-recall task played a role of

interference. Because some people may argue that the second list (TBR words) may

have the priority to be remembered immediately after being presented. So this

interference task put these two lists more or less at an equal distance from each other

while participants retrieving their contents. The instructions in this phase were also

recorded.

The final phase was the test phase. Participants were required to do a

free-recall task. They were told to recall all the words from BOTH lists in any order,

including those they had previously been instructed to forget. The recalling period

lasted 3-4 minutes. Instructions in this phase were recorded too. The implementation

of the list-method could be shown in **Figure 3.3**:
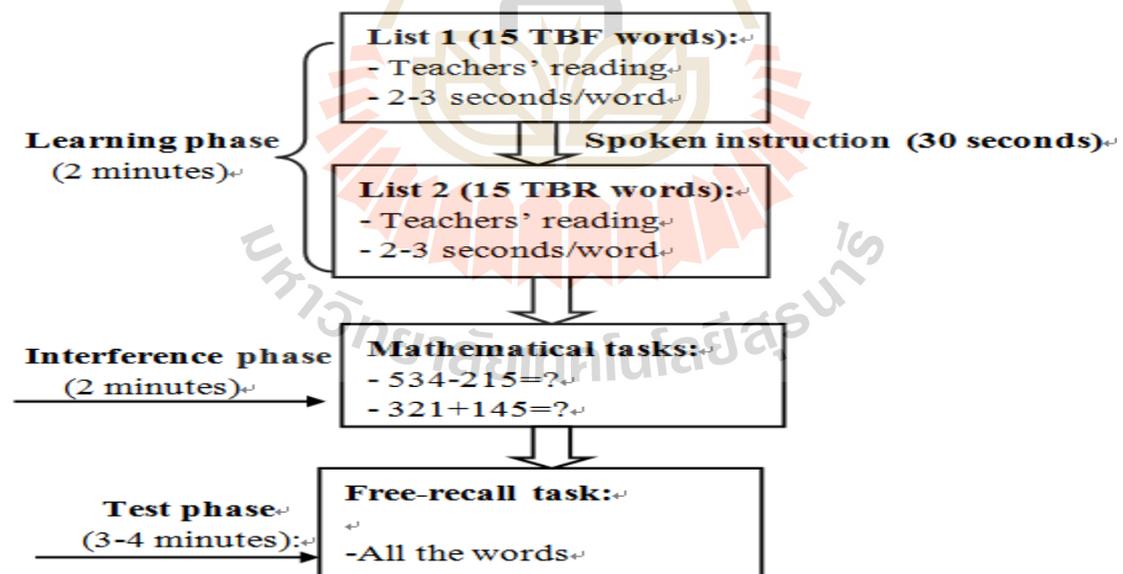
Figure 3.3 Implementation of the List-method

To make sure that the implementation of the list-method in each class

keep the same process with accuracy, and thus improve the reliability of the test, all

the three processes were recorded, including teachers' presentation of the words, as well as teachers' instructions. Therefore, when testing students' CIA, the recorded audio file was played. In addition, to make this test clearer, the researcher clarified it from time to time while testing.

3.4.3.3 Measurement of Cognitive Inhibition Ability

In the present study, the measurement of CIA was adopted from Todor (2012). In the free-recall task, 30 words were tested, and 1 point awarded for each word remembered. So the total scores in the free-recall task were based on the number of words correctly recalled. The CIA was calculated as the arithmetical difference between the correctly recalled to-be-remembered (TBR) and to-be-forgotten (TBF) words, divided by the total number of correctly recalled words. That was: (TBR-TBF)/Total words, so the score revealed the respondent's CIA. The range of scores was between 0-1. The higher the score, the higher CIA the respondent had.

3.4.4 TEM-4 Listening Test

The Test for English Majors (TEM) is an important test for students majoring in English in Chinese colleges and universities. The TEM assesses the language performance of English majors and is administrated by the National Advisory Commission on Foreign Language Teaching in Higher Education (NACFLT) in China. The test consists of two levels: Test for English Majors Grade four (TEM-4) and Test for English Majors Grade eight (TEM-8). The former is administered at the end of the 2nd year, and the latter is conducted at the end of the 4th year in their

undergraduate program. As English major students, they are required to take and pass the Test for English Majors Grade Four (TEM-4) in April within the first three academic years, which is one of the important qualifications for graduation.

In the present study, participants were all grade three English majors, so the listening comprehension section of a retired TEM-4 (2013) was used to judge the listening proficiency of the participants. There were 30 questions in all in the TEM-4 listening test including three sections: conversations, passages, and news broadcast (See Appendix D).

3.4.5 Semi-structured Interview

To elicit the necessary qualitative data, a semi-structured interview was employed in the present study. The interview is one of the dominant data-collection methods in qualitative research. According to Nunan (1992), interviews can be characterized in terms of their degree of formality, ranging from unstructured through semi-structured to structured interviews. In a semi-structured interview, the interviewer has a general idea of where he or she wants the interview to go, meanwhile the interviewee still has degree certain amount of freedom to control the course of the interview. Nunan (1992) stated the advantages of the semi-structured interviews as follows:

> The advantages of the semi-structured interview are, in the first instance, that it gives the interviewee a degree of power and control over the course of the interview. Secondly, it gives the interviewer a great deal of flexibility. Finally, and most profoundly, this form of interview gives one privileged access to other people's lives (p. 150).

Dowsett (1986, cited in Nunan, 1992) also described that semi-structured interviews are "quite extraordinary":

> ...the interactions are incredibly rich and the data indicate that you can produce extraordinary evidence about life that you don't get in structured interviews or questionnaire methodology.... It is not the only qualitative research technique that will produce rich information about social relationships but it does give you access to social relationships in a quite profound way (p. 149).

Thus, a semi-structured interview involves asking a list of structured questions and then, depending on the responses of the interviewees, probing more deeply with open questions to obtain additional information. In the present study, to elicit teachers' suggestions on dealing with students' anxiety, self-efficacy, and helping students exclude the irrelevant information while listening. A semi-structured interview was conducted among teachers who teach the third year English majors.

3.5 Data Collection Procedures

Data were collected from five steps: the first step was the pilot study; the second step involved administering the two questionnaires---Listening Anxiety Questionnaire and Listening Self-efficacy Questionnaire; the third step was the TEM-4 Listening Test; the fourth step was conducting the CIA test; and the last step was the semi-structured interview. Table 3.2 illustrates these procedures.

Table 3.2 Data Collection Procedures

Step	Data collection instrument	Place	Time
1	Pilot study	Classroom	Week one, Week two
2	Listening Anxiety Questionnaire (LAQ);	Classroom	Week six,
	Listening Self-efficacy Questionnaire (LSEQ)		Week seven
3	TEM-4 Listening Test	Classroom	Week nine, Week ten
4	CIA Test	Classroom	Week twelve,
			Week thirteen
5	Semi-structured interview	Teacher's office	Week fifteen

3.5.1 The Two Questionnaires

The two questionnaires were bound together, and the participants were told to complete all the questions at one time. Before distributing the questionnaires, all participants were informed of the requirements of the survey and of the fact that there was neither right nor wrong answers, and were asked to express their honest opinions of each item. Finally, the researcher examined these questionnaires to avoid some missing information because of participants' carelessness.

3.5.2 The Two Tests

All the 336 participants took The Listening Test and CIA Test after the completion of the questionnaires. Considering these tests may cost some time, they were conducted separately and cost two weeks respectively. Especially, during the process of CIA test, the researcher carefully illustrated the list-method procedures

through the use of audio file and oral explanations, which improved the reliability and validity of the test.

3.5.3 The Semi-structured Interview

The semi-structured interview was conducted one week after the CIA Test. All three teachers from the third-year listening course were interviewed. The interviewees were asked questions, such as: What kind of measures or techniques do you use to reduce students' anxiety in the listening class? What do you think are the main sources of students' anxiety in the listening class? Have you found any students confident in English listening class? Why do they have such a feeling? What, do you think, are the effective methods to improve students' self-confidence in learning English listening? All the data were recorded with the interviewees' permission, and the interview records were kept for further content analysis.

3.6 Ethical Issues in Data Collection

Data collection requires researchers to follow the ethical standards and principles, and respect the participants. To avoid ethical problems, all the participants took the questionnaires and tests voluntarily, and data were collected with the permission of the participants; therefore, consent was obtained from the participants. In addition, participants were fully informed of the procedures involved in research and the researcher guaranteed the participants' confidentiality. They were assured that identifying information would not be made available to anyone who was not directly

involved in the present study.

3.7 Data Analysis

The Listening Anxiety Questionnaire and Listening Self-efficacy Questionnaire in the present study consisted of 5-point rating scale questionnaires, ranging from 'never or almost never true of me', valued as 1; 'usually not true of me', valued as 2; 'somewhat true of me', valued as 3; 'usually true of me', valued as 4; to 'always or almost always true of me' valued as 5. Thus, the total score of each questionnaire revealed the respondent's anxiety and self-efficacy level about listening English. The higher the score, the more anxious the respondent felt, and the more self-efficacy the respondent had.

As to the CIA Test and TEM-4 Listening Test, the score of each test also reflected participants' cognitive inhibition ability and listening ability, and the higher the score, the higher the CIA and listening ability of the participants. After all the data were collected, SPSS (Statistical Package for the Social Sciences) 16.0 was utilized to analyze them, and the following calculations were performed. In addition, to enhance the significance of the present study, and to provide more meaningful findings, a correlation model and a causal model were built by employing AMOS version 17.0 software.

3.7.1 Descriptive Statistics and Independent-samples T-test

Descriptive statistics were used to analyze the participants' performance on

the CIA test, and their scores in listening anxiety and self-efficacy. In order to know the students' general tendency in terms of CIA, listening anxiety, and listening self-efficacy, scores such as the total score, mean, and standard deviation of each test and questionnaire were computed. The listening anxiety and self-efficacy degrees were found by calculating the sum of the students' rating scores on the 30 and 25 items respectively.

The Independent-Samples T-test compares means between two groups. In the present study, it was used to test whether the participants' CIA, anxiety, and self-efficacy are significantly different in terms of their gender.

3.7.2 ANOVA and The Post-hoc Scheffé Test

ANOVA (Analysis of Variance) is a method of statistical analysis broadly applicable to a number of research designs, and used to test the significance of differences among the mean of two or more groups of a variable (Nunan, 1992). In the present study, this statistical method was used to test whether the participants' CIA, anxiety, and self-efficacy were significantly different in terms of ethnicity. In addition, it was also used to determine the relationship between the students' overall listening performance and the three independent variables, i.e. students' CIA, listening anxiety, and listening self-efficacy.

An ANOVA provides information on whether or not the three (or more) groups differ, without providing information as to the location or the source of the difference. In this situation, a follow-up post-hoc Scheffé test needs to be performed

to identify which pair of the groups under such a variable contribute to the overall differences. In the present study, it was used to test the significant differences in terms of ethnicity as well as participants' CIA, listening anxiety and self-efficacy.

3.7.3 Pearson Correlation Coefficient

The Pearson correlation coefficient (symbolized by "r") is defined as an estimate of the degree to which two sets of interval scale scores go together, or covary (Brown,1988). It is a measure of the direction and strength of the association between two variables, and the value of "r" might range from "-1" to "+1". In the present study, Pearson's Correlation coefficient (r) was used to test: 1) the interrelationship between the three independent variables: participants' CIA, listening anxiety, and listening self-efficacy; 2) the relationship between the three independent variables and dependent variable: CIA/listening anxiety/listening self-efficacy, and listening performance.

3.7.4 Multiple Regression Analysis

Prediction is another application of correlation, and multiple regression analysis is often used to estimate the performance of one variable from the performance on another. It uses more than one predictor, or independent variable, to examine the effects on a single outcome, or dependent variable. In the present study, multiple regression analysis was used to test whether the participants' listening performance can be predicted by their cognitive inhibition ability, listening anxiety, and self-efficacy.

3.7.5 AMOS Software

AMOS is a statistical software and stands for analysis of a moment structure. It is specifically used for structural equation modeling, path analysis, and confirmatory factor analysis. It is also known as analysis of covariance or causal modeling software. In AMOS, we can draw models graphically using simple drawing tools. AMOS quickly performs the computations for models and displays the results with accuracy. Using AMOS, we can quickly create models to test hypotheses and confirm relationships among observed and latent variables. In the present study, to have deeper understandings of the relationships between variables, a causal model was built by employing the AMOS software, which greatly improved the accuracy of the model.

3.7.6 Content Analysis

All interviews were recorded, and transcribed in Chinese by the researcher. To interpret the interview data, content analysis was conducted by using open coding, axial coding, and selective coding.

Strauss and Corbin (1998) point out that open coding allows a researcher to identify some categories, properties and dimensions. In other words, open coding allows a researcher to create tentative labels for chunks of data, and it involves breaking down, examining, comparing, conceptualizing, and categorizing data. Axial coding puts these data back together in new ways by making connections between categories, and it consists of identifying relationships among the open codes, and

making connections among the codes. Selective coding involves choosing one of the axial codes as the core concept, which creates categories and subcategories and further to generate themes.

To enhance dependability and reach coding agreement, the inter-rater strategy was employed. That is, the researcher randomly selected a transcript and asked a peer to code it using the coding labels identified by the researcher. Then compared the results to see if both coders labeled components of the transcript the same. When disagreement appeared, a negotiation was further conducted till the congruence was reached.

3.8 Reliability and Validity Check

The reliability and Validity of instruments are important for the overall measurement quality when designing a study, which should be taken into consideration. Fraenkel, Wallen and Hyun (2012) indicate that the quality of the instruments used in research is very important, because the conclusions researchers draw are based on the information obtained from these instruments. To ensure the findings are reliable and valid, the following procedures were taken in the present study.

3.8.1 Reliability Check for the Questionnaires

Questionnaires used in the present study were the Listening Anxiety Questionnaire (LAQ), and the Listening Self-efficacy Questionnaire (LSEQ). They

were generated both in English and Chinese. The English version was used for the

purpose of research discussion while the Chinese version was used for the purpose of

data collection.

In the present study, to check the internal consistency of all items of the two

questionnaires, Cronbach's Alpha (α) Coefficient was used by analyzing the data

collected from the pilot study. As analyzed in the pilot study, the values of Cronbach's

Alpha (α) Coefficient were .88 (for LAQ) and .83 (for LSEQ). These figures were all

higher than 0.7, which indicated good reliability according to Devellis (2003). The

results showed that the two questionnaires were acceptable for the main study.

In the main study, as shown in Table 3.3, Cronbach's alphas coefficients (α)

for the two questionnaires, namely Listening Anxiety Questionnaire (LAQ, 30 items)

and Listening Self-efficacy Questionnaire (LSEQ, 25 items), were 0.94 (α = .94) and

0.90 (α = .90) respectively. The two questionnaires were found to be highly reliable

in the main study (Devellis, 2003).

Table 3.3 Reliability for the Two Questionnaires

Questionnaire	N of valid cases	N of items	Cronbach's Alpha
LAQ	272	30 items	.94
LSEQ	272	25 items	.90

3.8.2 Content Validity Check for the Questionnaires

To check whether the questionnaire items could measure what they were

designed for, that is content validity, an Item-Objective Congruence (IOC) approach was used. First, the Chinese version together with the evaluation form was sent to three experts. The evaluation form used a 3-point scale (1= relevant, 0= uncertain, -1= irrelevant). These experts are all full professors and academically qualified.

Second, the questionnaire items were adjusted according to the results of the IOC index and the experts' advice. According to Brown (1996), an acceptable value should be higher or equal to 0.5(≥0.5). The result of all the items in the two questionnaires were 0.80 (See Appendix C), which means all the items in the questionnaires were acceptable for the present study. In addition, the item analysis (IAS) from the IOC revealed that there were 5 items out of 55 items in the two questionnaires that needed revising. The researcher improved and revised these items according to the experts' opinion and suggestions.

Finally, the researcher's supervisor refined the English version of the questionnaire, and the researcher also discussed the translation between English and Chinese with the three experts.

3.8.3 Internal Validity Check for the TEM-4 Listening Test

The internal validity of an instrument plays fundamental role in research design. It is related to the the degree to which the results are attributable to the independent variable and not some other rival explanation. The testing effect may influence the internal validity; "Participants may do better in the test because they remember the answers to some of the questions, or are familiar with the test

questions...." (Phakiti, 2014, p.91). This may mean that their performance in the test performance may not be because of their real proficiency level.

In the present study, to avoid the testing effect and improve the internal validity, at the end of the test, a question was attached to the listening test: "Have you ever listened one or more of the above conversations or passages? If yes, write down the corresponding question number (s) of each conversation and passage you have listened." The question numbers listed by participants were excluded from the statistical analysis.

3.8.4 Validity Check for the CIA Test

To make sure participants' CIA is really revealed and thus improve the validity of the CIA Test, two main measures were taken in the present study: first, the 30 two-character Chinese words used in the present study were chosen carefully. They are all low-frequency words[1] with neutral meanings, that is, they were neither commendatory nor derogatory in meanings. The frequency and neutrality of these words had been judged independently by 3 college teachers Chinese as their mother tongue. It was agreed that all the words were all low-frequent and neutral.

---

[1] Low frequency means the average times each word occurs in every 10,000 words is about 120 times. This frequency is calculated by the *Modern Chinese Frequency Dictionary,* 1986.

Second, these 30 words were randomly divided into two lists, with 15 words in each list. To make sure that words in these two lists were not significantly different in terms of frequency and usage[2], an Independent Sample T-test was performed. As shown in Table 3.4, the usage and frequency of words from list 1 are not significantly different from that of words from list 2 (P=1.00 > .05; P=.68 > .05). The above discussions indicate that words chosen in this test are almost the same in terms of usage, frequency, and meaning, which will not affect the reliability and validity of the list-method test.

Table 3.4 Independent Sample T-test on Usage and Frequency of the Words

	Words	N	Mean	S.D.	Sig. (2-tailed)
Usage	The 1st list	15	10.60	.507	1.00
	The 2nd list	15	10.60	.507	
Frequency	The 1st list	15	.00125	.00008	.68
	The 2nd list	15	.00124	.00009	

3.8.5 Validity Check for the Semi-structured Interview

Cross-check was used to ensure the validity of the semi-structured interview. The interview questions were delivered in Chinese to the three experts who helped check the questionnaires. The experts' suggestions helped each question measure what

---

[2]Usage is a more comprehensive parameter used to measure the whole situations of the word. The mean of usage in the present study is calculated by some formulae from different dimensions obtained from the *Chinese Frequency Dictionary*, 1986.

it was purported to measure. To avoid ambiguity in language and ensure the interviewees could understand, the researcher improved the language based on the experts' suggestions.

The recorded interviews were transcribed by the researcher. If any ambiguity occurred in transcription, the researcher returned to the interviewee, and confirmed with him/her. In the coding process, the inter-rater strategy was employed. In addition, the transcriptions were translated into English for the research use. Therefore, the researcher translated the Chinese versions into English, and the three experts checked the translation to guarantee the validity.

3.9 The Pilot Study

A pilot study is a small scale preliminary study conducted to evaluate the feasibility, time, and cost of a full-scale research project. According to Nunan (1992), the advantages of conducting a pilot study are that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated.

To check the reliability of the LAQ and LSEQ, evaluate the feasibility of the CIA Test, Listening Test and interview questions, and identify the deficiencies in the design of the present study, a pilot study was carried out five weeks before the main study. By using a convenience sampling method, 47 English majors from an

intact class and one English listening teacher participated the pilot study, and they were all outside of but similar to the main study.

The first piloted instruments included the TEM-4 Listening Test, LAQ, and LSEQ. Listening Test was first administrated to the students, and the time was 20 minutes as that allocated in the TEM-4. But some students required a few minutes to check their answers, so the researcher extended 5 minutes for them. After that most students finished the test without any questions. After collecting the paper of Listening Test, LAQ and LSEQ were distributed to students. The researcher explained the purpose and the requirements of the questionnaires. Students were informed that if they had any questions, they could ask. Some students were confused about the degree to each statement provided, so the researcher explained it as:

"Never or almost never true of me"means that the statement is very rarely true of you;"Usually not true of me"means that the statement is true less than half the time;"Somewhat true of me"means the statement is true of you about half the time;"Usually true of me"means the statement is true more than half the time;"Always or almost always true of me"means the statement is true of you almost always.

After the explanations, students were clear about the choices provided, and this explanation was thus added to the questionnaires of the main study. As the researcher observed, the students finished the questionnaires within 20 minutes.

The CIA Test was conducted one week after the questionnaire survey, it was conducted by playing the audio file recorded beforehand. However, because of the unfamiliarity of the test to students, they reported that they couldn't fully understand

teacher's instruction. Therefore, in the main study not only the audio file was played, before the CIA Test, the researcher also carefully repeated the procedures and instructions in Chinese till all the participants understood.

Finally, the semi-structured interview was piloted. No time limit was set and the interview was held when the teacher was convenient. The interview was recorded, and after examining the transcription, some less clear questions were adjusted and revised. The final version of the interview questions for the main study were listed in Appendix E.

3.10 Summary

This chapter describes the research methodology employed in the present study. It firstly presents the research design and characteristics of the participants, and then followed by the conceptual framework and research instruments. After that, the data collection procedures and data analysis methods are discussed. Towards the end of the chapter, validity and reliability check, and pilot study are presented. In the next chapter, the detailed data analyses and research findings will be reported.

CHAPTER 4

DATA ANALYSIS AND RESULTS

This chapter reports the results generated from the quantitative and qualitative data collected from the main study. It answers all research questions identified in Chapter One. This chapter consists of three main sections: the first section illustrates the results of the Listening Comprehension Test. The second section deals with the quantitative data, which involved descriptive statistics, Independent Sample T-Tests, One-Way ANOVA, Pearson's Correlation Coefficient, and Multiple Regression Analysis. The last section deals with the qualitative data generated from the semi-instructed interview.

4.1 Results of the Listening Comprehension Test (LCT)

Table 4.1 presents the overall results of the participants' LCT scores. The participants' minimum and maximum scores were 8 and 27. The mean score was 16.42 (M = 16.42) out of the 30 total score, and the standard deviation was 3.29 (S.D. =3.29). Figure 4.1 illustrates the histogram graph of the participant's performance in the LCT, and it is found that the scores were in a pseudo-normal distribution curve. This means that the majority of the participants scored in the middle of the range for the LCT.

Table 4.1 Descriptive Statistics for Listening Comprehension Test (LCT)

	N	Min.	Max.	Mean	S.D.
LCT Scores	272	8	27	16.42	3.29
Valid N (listwise)	272				
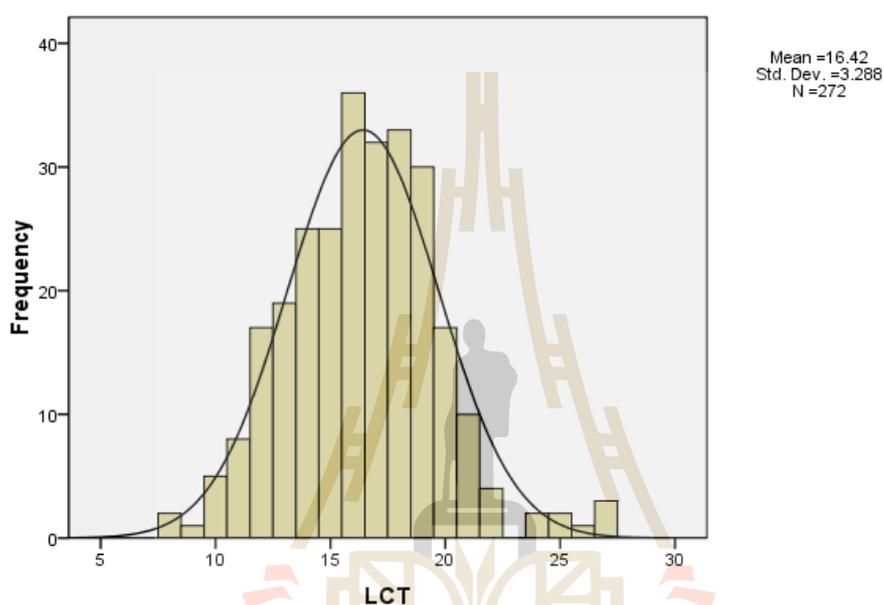
Figure 4.1 Participants' Scores in the Listening Comprehension Test (LCT)

4.2 Results in Relation to Research Question 1

This section is concerned with the findings of the first research question, that is, "What is the overall state of Chinese EFL students' cognitive inhibition ability (CIA), anxiety and self-efficacy? Are there any significant differences in terms of learners' gender and ethnicity? In attempt to answer this question, the results of description of the participants' scores of the CIA Test, LAQ, and LSEQ were reported first. Next, the results of Independent Samples Test for the gender with CIA, anxiety,

and self-efficacy are reported. Finally, the results of One-way ANOVA analyses for the different ethnic groups with CIA, anxiety, and self-efficacy are reported.

4.2.1 Results of Research Question 1: Descriptive Statistics for CIA, Anxiety, and Self-efficacy

In this section, to explore the overall state of Chinese EFL students' cognitive inhibition ability (CIA), anxiety and self-efficacy, the results of descriptive statistics for CIA, anxiety, and self-efficacy were reported.

4.2.1.1 Descriptive Statistics for CIA

To obtain students' CIA level, scores from the to-be-remembered (TBR) and to-be-forgotten (TBF) words were gathered, and the CIA ability was calculated as the arithmetical difference between TBR and TBF, divided by the total number of correctly recalled words. Therefore, the range of CIA value was between 0 and 1.

Table 4.2 Descriptive Statistics for CIA

	N	Min.	Max.	Mean	S.D.	Level
CIA Scores	272	.1	.8	.49	.18	Moderate
Valid N (listwise)	272					

Table 4.2 shows that, the participants' minimum and maximum scores of CIA were .1 and .8. The mean score of the participants' CIA was .49 (M=.49, S.D.= .18) out of the total score of 1. The range of CIA value was between 0 and 1, so the value of .49 was a middle score, which means a moderate CIA level.

4.2.1.2 Descriptive Statistics for Anxiety

The degree of listening anxiety was categorized as "High", "Moderate", and "Low", which was determined by participants' responses to the LAQ. The degree of listening anxiety was indicated on a five-point rating scale, ranging from 'never or almost never true of me', valued as 1; 'usually not true of me', valued as 2; 'somewhat true of me', valued as 3; 'usually true of me', valued as 4; and 'always or almost always true of me' valued as 5. Therefore, the possible average value of degree of listening anxiety could be valued from 1.00 to 5.00. The present study adopted Tasee's (2009) criteria to judge the degree of anxiety.

Table 4.3 shows the descriptive statistics of participants' listening anxiety, and reveals the overall state of students' listening anxiety level. As described in Table 4.3, the overall anxiety level was moderate with the mean scores of 2.81(M=2.81, S.D.=.73). The same anxiety levels were found in all three categories of listening anxiety with the mean scores of 3.02 (M=3.02 for TA), 2.85 (M=2.85 for CA), and 2.80 (M=2.80 for FNE). Among the three categories of listening anxiety, students reported that they experienced test anxiety most (M=3.02), followed by communication apprehension (M=2.85), and last was fear of negative evaluation (M=2.80).

Table 4.3 Descriptive Statistics for Anxiety

Anxiety	N	Min.	Max.	Mean	S.D.	Level	Rank
Test Anxiety	272	1.00	5.00	3.02	.76	Moderate	1
Communication apprehension	272	1.00	4.45	2.85	.76	Moderate	2
Fear of negative evaluation	272	1.20	4.60	2.80	.75	Moderate	3
Overall Anxiety	272	1.20	4.53	2.81	.73	Moderate	

Note. $2.59 \geqq M \geqq 1.00$ was determined as "low" anxiety degree; $3.39 \geqq M \geqq 2.60$ was determined as "moderate" anxiety degree; $5.00 \geqq M \geqq 3.40$ was determined as "high" anxiety degree (Tasee, 2009).

In addition, the item analysis of anxiety was presented in Table 4.4. The descriptive statistics for each statement in the LAQ further illustrated students' anxiety situations. Table 4.4 shows that students' high levels of anxiety appeared in 5 out of 30 items. Students reported that when taking exams, and listening to fast English speech (item 1,2,3), they reported that they felt more anxious (M=3.57, M=3.54, M=3.53 respectively). They also experienced high anxiety when asked to answer questions without preparation (item 4, M=3.51), and facing difficult sentences (item 5, M=3.43).

Table 4.4 Item analysis for Anxiety

Anxiety (statement)	Min.	Max.	Mean	S.D.	Level
1. I feel worried during the listening exams, because I seldom have time to think about the materials I have heard.	1	5	3.57	1.13	High
2. I would be very nervous in the English listening test, if the listening material were spoken only once.	1	5	3.54	1.14	High
3. I always worry I can't completely understand when listening to fast spoken English.	1	5	3.53	1.23	High
4. I get worried when asked to answer questions without prior preparation.	1	5	3.51	1.15	High
5. I feel upset about complex sentence structures in the listening tests.	1	5	3.43	1.14	High

Note. $2.59 \geqq M \geqq 1.00$ was determined as "low" anxiety degree; $3.39 \geqq M \geqq 2.60$ was determined as "moderate" anxiety degree; $5.00 \geqq M \geqq 3.40$ was determined as "high" anxiety degree (Tasee, 2009).

4.2.1.3 Descriptive Statistics for Self-efficacy

With the same structure of the LAQ, each statement of LSEQ was scored from 1 to 5 with "1" indicating the lowest level of self-efficacy, and "5" the highest level of self-efficacy. Accordingly, the self-efficacy level was categorized as "high", "moderate" or "low" by using the same criteria. Table 4.5 presents the descriptive statistics for the participants' scores of the overall and the two categories of listening self-efficacy. The results showed that students on the whole reported having low self-efficacy level with the mean score of 2.48 (M=2.48). In regard to the two categories of self-efficacy, students reported having higher Self-efficacy in Listening Ability (SELA) than Self-efficacy in Listening Behavior (SELB) (SELA=2.57 > SELB=2.46).

Table 4.5 Descriptive Statistics for Self-efficacy

Self-efficacy	N	Min.	Max.	Mean	S.D.	Level	Rank
SELA	272	1.15	4.15	2.57	.64	Low	1
SELB	272	1.00	4.42	2.46	.59	Low	2
Overall Self-efficacy	272	1.09	4.64	2.48	.59	Low	

Note. $2.59 \geqq M \geqq 1.00$ was determined as "low" anxiety degree; $3.39 \geqq M \geqq 2.60$ was determined as "moderate" anxiety degree; $5.00 \geqq M \geqq 3.40$ was determined as "high" anxiety degree (Tasee, 2009).

The item analysis of self-efficacy indicated that all the mean scores of each statement in LSEQ were below 3.40, therefore, students reported that they didn't have high level of self-efficacy in all 25 items.

4.2.2 Results of Research Question 1: Independent Sample T-Tests for Gender Differences in CIA, Anxiety, and Self-efficacy

In this section, the Independent Sample T-Tests was employed to test whether there were any significant gender differences between the participants' scores on the profiles of CIA, anxiety, and self-efficacy.

4.2.2.1 T-Tests for Gender Differences in CIA

As shown in Table 4.6 below, the results from Independent Sample T-Tests showed significant differences between female and male students' levels of CIA ($p<.05$). The mean scores of CIA of male and female students were .43 and .50 respectively. This means that in the overall picture of students' CIA, female students had higher CIA levels than their male counterparts (Female=.50>Male=.43). In

addition, the effect size further reflected the magnitude of the difference. According to

Cohen (1988), an effect size of about 0.25 might be a "small" effect, around 0.5 a

"medium" effect and 0.8 to infinity, a "large" effect. Therefore, Cohen's d with a

value of 0.36 indicated a medium degree.

Table 4.6 T-test for Gender Differences in CIA

	Gender	N	Mean	S.D.	Sig.	Variation	Effect size	
					(2-tailed)	pattern	Cohen's d	Comment
CIA	Male	41	.43	.22	.02	Female>	0.36	Medium
	Female	231	.50	.17		male		

4.2.2.2. T-Tests for Gender Differences in Anxiety

Table 4.7 presents the results of gender differences in listening anxiety.

On the whole, it revealed a significant difference in the scores for males (M=2.52) and

females (M=2.86) on anxiety with a p-value of .01 (p=.01<.05). This indicated that, in

general female students reported experiencing significantly higher levels of listening

anxiety than male students (M=2.86>M=2.52). The effect size further tells the extent

of the difference, or the magnitude of the difference. Cohen'd effect size value (d=.48)

suggested a medium practical significance.

No significant difference was found in Test Anxiety and Communication

Apprehension. In terms of Fear of Negative Evaluation, the p-value of .00 (p=.00<.05)

indicated a significant difference. Scores of male students (M=2.50) and female

students (M=2.85) suggested that female students reported having higher anxious

levels than the male students in Fear of Negative Evaluation (M=2.85>M=2.50). The

Cohen's d of 0.48 indicated a medium degree.

Table 4.7 T-test for Gender Differences in Anxiety

Anxiety	Gender	N	Mean	S.D.	Sig. (2-tailed)	Variation pattern	Effect size Cohen's d	Comment
Overall	Male	41	2.52	.69	.01	Female>	0.48	Medium
Anxiety	Female	231	2.86	.73		male		
TA	Male	41	2.89	.70	N.S.	____	____	____
	Female	231	3.05	.77				
CA	Male	41	2.70	.81	N.S.	____	____	____
	Female	231	2.87	.75				
FNE	Male	41	2.50	.71	.00	Female>	0.48	Medium
	Female	231	2.85	.75		male		

Note. N.S.=Not Significant

4.2.2.3 T-Tests for Gender Differences in Self-efficacy

As shown in Table 4.8, there was significant difference in students'

overall self-efficacy with a p-value of .04 (p=.04<.05). The scores for male students

(M=2.66) and female students (M=2.45) indicated that in general male students

reported having higher levels of self-efficacy than female students (M=2.66>M=2.45).

Cohen's d of 0.36 indicated a medium degree of difference. With regard to the two

categories, Self-efficacy in Listening Ability was found to have gender difference

(p=.05 ≦ .05). Male students reported having higher levels of SELA than female students (M=2.75> M=2.54), and the degree was medium (Cohen's d=0.32). No significant difference was found in the category of SELB.

Table 4.8 T-test for Gender Differences in Self-efficacy

Anxiety	Gender	N	Mean	S.D.	Sig. (2-tailed)	Variation pattern	Effect size Cohen's d	Comment
Overall	Male	41	2.66	.59	.04	Male>	0.36	Medium
Self-efficacy	Female	231	2.45	.59		Female		
SELA	Male	41	2.75	.70	.05	Male>	0.32	Medium
	Female	231	2.54	.63		Female		
SELB	Male	41	2.61	.58	N.S.	____	____	____
	Female	231	2.44	.59				

Note. N.S.=Not Significant

4.2.3 Results of Research Question 1: One-Way ANOVA for Ethnic Differences in CIA, Anxiety, and Self-efficacy

In this section, the One-Way ANOVA was employed to test whether there were any significant ethnic differences between the participants' scores on the profiles of CIA, anxiety, and self-efficacy.

4.2.3.1 One-Way ANOVA for Ethnic Differences in CIA

Table 4.9 shows the results of One-Way ANOVA for ethnic differences in CIA. P-value of .00 (p<0.01) suggested that there was significant difference among

Chinese Han, Miao, and Dong. A Post-hoc Scheffé Test was further conducted indicating that Chinese Han (M=0.65) had higher CIA than Miao (M=0.35) with the p-value of .00 (M=0.65>M=0.35), and the degree of difference was medium according to Cohen's d of 0.47. In addition, Chinese Han's CIA was higher than Dong (M=0.65>M=0.41) with the p-value of .00, and the degree of difference was medium based on Cohen's d of 0.38. No significant difference was found between Miao and Dong.

Table 4.9 One-Way ANOVA for Ethnic Differences in CIA

	Ethnicity	N	Mean	S.D.	Sig. (2-tailed)	Variation pattern	Effect size Cohen's d	Comment
CIA	Chinese Han	113	0.65	.64	.00	Han>	0.47	Medium
	Miao	71	0.35	.63		Miao		
	Dong	35	0.41	.62	.00	Han>	0.38	Medium
	Other Minorities	53	0.38	.65		Dong		

4.2.3.2 One-Way ANOVA for Ethnic Differences in Anxiety

Table 4.10 shows that there was significant difference in the overall anxiety (p=.00≦0.01). Miao with the score of 3.02 indicated higher anxiety levels than Han with the score of 2.64 (M=3.02>M=2.64). Cohen's d value of 0.52 suggested a medium level of effect size.

In regard to the three categories of anxiety, significant difference was found in TA and FNE with the p-value of .02 and .00 respectively. Post-hoc Scheffé

Test further suggested that Miao students felt more anxious than the Han students in both TA (M=3.17>M=2.82) and FNE (M=3.01>M=2.63). The Cohen's d in TA was 0.46 and 0.51 in FNE, which revealed a medium degree of difference.

Table 4.10 One-Way ANOVA for Ethnic Differences in Anxiety

Ethnicity	Han		Miao		Dong		Others			Comment		
Anxiety	M.	S.D	M.	S.D	M.	S.D	M.	S.D	Sig.	V.P.	Cohen's d	Degree
Overall	2.64	0.72	3.02	.73	2.87	.78	2.85	.65	.00	Miao>Han	0.52	Medium
TA	2.82	.81	3.17	.71	3.12	.64	3.02	.76	.02	Miao>Han	0.46	Medium
CA	2.70	.80	3.00	.72	2.90	.68	2.93	.76	N.S	____	____	____
FNE	2.63	.73	3.01	.76	2.85	.81	2.83	.66	.00	Miao>Han	0.51	Medium

Note. V.P.= Variation Pattern; N.S.=Not Significant

4.2.3.3 One-Way ANOVA for Ethnic Differences in Self-efficacy

Table 4.11 shows that, on the whole, there was significant difference between minorities in self-efficacy (p=.01≦0.01). The results of Post-hoc Scheffé Test indicated that Chinese Han with the mean score of 2.66 had higher levels of self-efficacy than Miao (M=2.37), and the Cohen's d value of 0.48 suggested a medium degree of difference. The same significant difference could also be found in Han and Dong. Han students' reported having higher levels of self-efficacy than Dong students (M=2.66>M=2.28). The Cohen's d value of 0.70 suggested a medium to high level of difference. No significant difference was found between Miao and Dong.

With regard to the two categories of self-efficacy, significant difference

was found in SELB. Mean score of Han (M=2.63) was significantly higher than that

of Miao (M=2.36) and Dong (M=2.27) with the p-value of .03 and .02 respectively.

The degree of difference is medium for the former (Cohen's d=0.45), and medium to

high for the latter (Cohen's d=0.66). That is, Han students reported having higher

levels of self-efficacy than the Miao and Dong students. No significant difference was

found in SELA.

Table 4.11 One-Way ANOVA for Ethnic Differences in Self-efficacy

Ethnicity	Han		Miao		Dong		Others		Comment			
Self-efficacy	M.	S.D	M.	S.D	M.	S.D	M.	S.D	Sig.	V.P.	Cohen's d	Degree
Overall	2.66	.66	2.37	.55	2.28	.40	2.39	.52	.01	Han>Miao	0.48	**Medium**
										Han>Dong	0.70	**M.T.H**
SELA	2.67	.69	2.43	.65	2.58	.58	2.52	.55	N.S	N.S.	____	____
SELB	2.63	.64	2.36	.55	2.27	.43	2.37	.52	.03	Han>Miao	0.45	**Medium**
									.02	Han>Dong	0.66	**M. T. H.**

Note. V.P.= Variation Pattern; N.S.=Not Significant; M.T. H.=Medium to High

4.3. Results in Relation to Research Question 2

This section reports the findings of the research question two, "What are the

correlations between the students' cognitive inhibition ability (CIA), anxiety, and

self-efficacy?". In attempt to answer this question, Pearson's coefficients were

calculated to determine the relationships between CIA, anxiety, and self-efficacy.

4.3.1 Criterion for Pearson's Correlation Coefficient (r)

Pearson's product-moment correlation coefficient, often denoted by r, is widely used to interpret the direction and strength of the relationship between two or more variables. Pearson's r can vary in magnitude from − 1 to 1, with − 1 indicating a perfect negative linear relation, 1 indicating a perfect positive linear relation, and 0 indicating no linear relation between two variables. Cohen (1988) gives the following guidelines for the social sciences: a correlation of 0.5 is large, 0.3 is medium, and 0.1 is small.

4.3.2 Results of Correlation between CIA and Anxiety

As shown in Table 4.12, there was significant negative relationship between CIA and Anxiety. The results of Pearson's correlation suggested that students' CIA was significantly negative related to CA (r = -.14, p<.05), TA (r = -.20, p<.01), and FNE (r = -.18, p<.01). However, the correlation was low. These mean that an increase in the value of CA, TA, and FNE would be accompanied by simultaneous decrease in the value of CIA.

Table 4.12 Results of Pearson's Correlation between CIA and Anxiety

		CA	TA	FNE
CIA	Pearson Correlation	-.14*	-.20**	-.18**
	Sig. (2-tailed)	.02	.00	.00
N	272	272	272	272

Note. *Correlation is significant at the 0.05 level (2-tailed);

　　　**Correlation is significant at the 0.01 level (2-tailed).

4.3.3 Results of Correlation between CIA and Self-efficacy

As shown in the Table 4.13, there was significantly positive relationship between CIA and Self-efficacy. The results of Pearson's correlation suggested that students' CIA was significantly positive related to SELA (r=0.15, p=.00<.01) and SELB (r=0.17, p=.00<.01). Although the correlation was low, it was significant. These suggested that having higher level of self-efficacy would correspondingly increase students' CIA scores.

Table 4.13 Results of Pearson's Correlation between CIA and Self-efficacy

		SELA	SELB
CIA	Pearson Correlation	.15**	.17**
	Sig. (2-tailed)	.00	.00
N	272	272	272

Note. **Correlation is significant at the 0.01 level (2-tailed).

4.3.4 Results of Correlation between Anxiety and Self-efficacy

Table 4.14 shows the results of Pearson product-moment correlation analyses between the two categories of self-efficacy and the three categories of self-efficacy. From Table 4.14, it can be observed that all the two categories of self-efficacy negatively correlated with three categories of anxiety. Among them, SELA and CA appeared to be the high degree of significant negative correlation (r= -.47, p=.00); with regard to the other correlations, they indicated medium level of significant negative correlations, and the r values were: SELA--TA (r= -.40, p=.00);

SELA--FNE (r= -.39, p=.00); SELB--CA (r= -.38, p=.00); SELB--TA (r= -.30, p=.00);

SELB--FNE (r= -.34, p=.00). These results indicated that participants with less

anxiety would have more self-efficacy, especially, less anxiety in test would lead to

students' higher self-efficacy in ability.

Table 4.14 Results of Pearson's Correlation between Anxiety and Self-efficacy

		CA	TA	FNE
SELA	Pearson Correlation	-.47**	-.40**	-.39**
	Sig. (2-tailed)	.00	.00	.00
SELB	Pearson Correlation	-.38**	-.30**	-.34**
	Sig. (2-tailed)	.00	.00	.00
N	272	272	272	272

Note. **Correlation is significant at the 0.01 level (2-tailed).

4.4 Results in Relation to Research Question 3

This section reports the findings of the research question three, "To what

extent can the students' listening performances be predicted by their levels of

cognitive inhibition ability (CIA), anxiety, and self-efficacy?". In attempt to answer

this question, the Pearson's correlation analyses and the multiple linear regression

analyses with "stepwise" method were performed. Results from the Pearson's

correlation analyses revealed the correlation between the dependent variable

---listening performance and all the independent variables ---CIA, anxiety, and

self-efficacy. Then results from the multiple linear regression analyses determined how well the participants' listening performance could be predicted by the scores achieved from their CIA test, and their reported scores in anxiety and self-efficacy questionnaires.

4.4.1 Criterion for Multiple Regression Correlation Value (R^2)

The multiple linear regression not only reflects the correlation coefficient between variables, denoted by "r", but also measures the extent to which the independent variables involved in the model predict the dependent denoted by "R^2". For multiple regression models, the value of R^2 between 2%--12.99% suggests small effect, values between 13%--25.99% indicate medium effect, and values> 26% suggest large effect (Cohen, 1988).

4.4.2 Results of Correlation between Listening Performance and CIA, Anxiety, and self-efficacy

In this section, a more general relation pattern incorporating all the variables are discussed. The listening comprehension test (LCT) scores served as the dependent variable, while the scores of CIA test, anxiety, and self-efficacy served as the independent variables. The relationship between them was investigated.

Table 4.15 shows the results of Pearson product-moment correlation analyses between the listening performance and CIA, anxiety, and self-efficacy. From Table 4.15, it revealed that students' listening performance was positively related to CIA (r=.709, p<.01), and the correlation degree is large. The positive correlation was

also found between listening performance and self-efficacy (r=.338, p<.01) with medium degree. However, the listening performance had moderately negative relationship with anxiety (r=-.349, p<.01). Among them, CIA held the highest correlation with listening performance (r=.709), anxiety negatively ranked second (r=-.349), and self-efficacy was last (r=.338).

Table 4.15 Results of Pearson's Correlation between Listening Performance and CIA, Anxiety, and Self-efficacy

		CIA	Anxiety	Self-efficacy
Listening	Pearson Correlation	.709**	-.349**	.338**
Comprehension	Sig. (2-tailed)	.00	.00	.00
N	272	272	272	272

Note. **Correlation is significant at the 0.01 level (2-tailed).

4.4.3 Results of Regression for CIA, Anxiety, Self-efficacy and Listening Performance

Although the results of Pearson's correlation demonstrated the correlations between listening performance and CIA, anxiety, and self-efficacy, it is not possible to say whether the three independent variables had any predictive value for listening performance. Therefore, a multiple linear regression analyses with "stepwise" method was conducted.

Table 4.16 shows that the multiple correlation coefficient (r) between the CIA, anxiety, self-efficacy and listening performance was 0.757 (R=.757). The coefficient of determination for the sample was 57.3% (R^2=.573), that is, 57.3% of the

variance in listening performance was accounted for by the variance of CIA, anxiety, and self-efficacy, and the predictive power of the three independent variables was large.

Table 4.16 Results of Model Summary for CIA, Anxiety, and Listening

Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.757[a]	.573	.569	2.160

Note. a. Predictors: (Constant), CIA, anxiety, and self-efficacy

Table 4.17 shows the results of ANOVA for CIA, Anxiety, Self-efficacy and listening performance. The overall model with the three independent variables had successfully explained the variance in listening performance (F=120.063, df=3, p=.00 <.01). As shown in Table 4.18, 57.3% of the variance in listening performance was explained by CIA, Anxiety, and self-efficacy, and this percentage was statistically significant.

Table 4.17 Results of ANOVA for CIA, Anxiety, Self-efficacy and Listening

Performance

ANOVA[b]

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1680.121	3	560.040	120.063	.00[a]
	Residual	1250.099	268	4.665		
	Total	2930.221	271			

Note. a. Predictors: (Constant), CIA, Anxiety, and Self-efficacy;
   b. Dependent Variable: students' listening scores.

As displayed in Table 4.18, all the independent variables are the predictors for listening performance, and no independent variable was excluded. Table 4.18 shows the coefficients of multiple regressions for CIA, Anxiety, self-efficacy and listening performance. CIA (t=15.892, p=.00<.01) and Self-efficacy (t=3.629, p=.00<.01) were found to be positive predictors to the listening performance, whereas, Anxiety (t= -3.921, p=.00<.01) was the negative predictor to the listening performance. The regression equation for predicting the listening performance was as follows:

Predicted Listening Performance = 10.76+ (11.58 ×CIA) - (0.768×Anxiety) +

(0.871×Self-efficacy)

For the above equation, the values of the regression coefficients show that CIA (B =11.583) was the strongest positive contributor to English listening performance, followed by Self-efficacy (B=0.871), and the least contributor was Anxiety (B= -.768). That is, a 1% increase in CIA and in Self-efficacy was associated with 11.583 % and 0.871% increase in listening performance respectively, whereas, a 1% increase in Anxiety was associated with 0.768% decrease in listening score.

Table 4.18 Summary of Coefficients of Linear Regression for CIA, Anxiety,

Self-efficacy and Listening Performance

Coefficients [a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	10.760	1.018		10.574	.00
CIA	11.580	.729	.650	15.892	.00
Anxiety	-.768	.196	-.170	-3.921	.00
Self-efficacy	.871	.240	.158	3.629	.00

Note. a. Dependent Variable: students' listening scores.

From the analyses, it can be concluded that students' listening performance was positively related to CIA and self-efficacy, but negatively related to anxiety. All the three independent variables--- CIA, anxiety, and self-efficacy had the predictive power for listening performance, and 57.3% of the variance in listening performance could be explained by them. Among them, CIA was the strongest positive predictor, followed by the Self-efficacy, and Anxiety was the least predictor.

4.5 Results in Relation to Research Question 4

This section reports the findings of the research question four, "What are the teachers' suggestions for dealing with students' anxiety, self-efficacy, and cultivating students' cognitive inhibition ability (CIA) in their actual listening practices?". The purpose was to elicit more insightful information about students' anxiety, self-efficacy, and inhibitory ability from the perspective of teachers. In order to answer this

question, a semi-structured interview was carried out to all three English listening teachers from the third year. They are all experienced EFL teachers with many years of teaching experience in a university.

The interview data were analyzed qualitatively with "open, axial, and selective coding" techniques. At first, for convenience, the interviewees were encoded by using the acronyms of their "surname + given name" to represent their real full names. The presentation of the findings was organized based on five sub-subsections: teachers' opinions on the listening course; teachers' perceptions of anxiety and self-efficacy; strategies on how to help students focus on the relevant information while listening, and how to improve students' listening abilities. The findings elicited form the interview data are presented as following.

4.5.1 Teachers' Opinions on the Listening Course

The first interview question reflected teachers' opinions on the listening course "Among the subjects you have taught in the past few years, which subject do you think is difficult to teach? Why?". Among the three teachers, two of them mentioned that English listening was one of the most difficult subjects both for teachers and students. For example:

FCH: I think English listening is the most difficult subject, for many Chinese students feel easy to write with English, but hardly can they understand the authentic spoken English. The main reasons might be because of the lack of environment of learning English. Students' English learning focuses on writing on paper, and they can not withdraw useful information when listening to the authentic English materials. In addition, the great differences in pronunciation and thinking

styles between Chinese and English spoken countries are also the barriers of English listening.

The other English teacher agreed by saying that: *"English listening is difficult. Because of the limited teaching time, teachers have to finish the teaching plan in a hurry. Unlike the courses of writing and grammar, with the help of the teacher, students can improve a lot in a short time, the improvement of listening ability is gradually, and students have to practise a lot by themselves" (ZL).*

4.5.2 Teachers' Perceptions of Listening Anxiety

All the interviewees admitted that according to their observations, listening anxiety really existed among students. As LLD put it: *"...the listening anxiety did exist... students felt anxious while listening, and such feelings definitely had negative influence on their listening comprehension, which finally led to the poor performance in learning listening."*

FCH added that: *"...students have the willingness to listen to the authentic materials, but they become anxious when they cannot follow the main idea of the listening materials."*

ZL pointed out that especially for the students with low listening proficiency, they tended to feel more anxious: *" The listening anxiety does exist when the students are doing the listening practices, because they are not strategically trained. Especially for the poor proficiency students, they don't have solid basic knowledge, and thus show more anxieties while listening."*

In terms of the sources of the listening anxiety, the interviewees maintained that when facing tests, the fast spoken English, difficult sentences, too many new words, and failing to comprehend the listening materials, they may feel worried. For example:

"...Because of the one-time characteristic of listening, students worried that they may miss the information especially under a fast spoken situation." (LLD)

"...Students feel anxious when they feel that they are 'lost' in the listening process, and they can not follow the listening materials. Then they are not able to comprehend the listening materials." (FCH)

" ...most students worry about the tests, and they are afraid that they can not finish all the questions in the limited time. Especially, when facing unfamiliar words beyond their knowledge, they feel anxious that they can not understand the listening materials...." (ZL)

To deal with the anxiety in listening, teachers suggested the following strategies: first, the listening materials should be chosen properly; second, before listening, teachers should pay attention to the pre-listening activities; third, teachers should supervise students' in-class and after-class listening activities; finally, teachers' positive feedback was very crucial. Examples were as follows:

"...Teachers should choose the listening materials with proper difficulty level, which suits students' listening ability." (ZL)

"...The warming-up activities are very important, in which teachers should help students overcome the vocabulary barriers, and help them be familiar with the topic through the introduction of the background information..." (FCH)

"Teachers should assign the listening activities both in- and after- class. More important, they need to urge students to practise more." (LLD)

"Teachers should be very careful about their comments on students'

performance. The positive feedback is very important in enhancing students' learning confidence. Over criticisms on students performance will certainly make them feel more anxious..." (LLD)

4.5.3 Teachers' Perceptions of Self-efficacy

Based on the interview guided questions, the interviewees shared their perceptions of self-efficacy. Data from the interviewees reflected that the high self-efficacy students were those who had high learning motivation; had better communicative ability; and higher English proficiency. As ZL put it: *"Generally, the high level of self-efficacy students are those who are interested in learning English. They are good at expressing their own ideas in the class, and can follow teachers' instructions quickly. When listening, they have clear purpose and better comprehension...".*

FCH claimed that *"...confident students dare open their mouth in the class, and do not worry about making mistakes. Even when mistakes occur in communication, they can correct quickly and without influence the communication with others. So these students can use English freely to communicate."*

LLD added that *"Students with high level of self-efficacy are those who have sound basic English knowledge, and higher level of English proficiency. More important, when facing difficulties they are not in panic."*

To improve students' sense of self-efficacy, the interviewees provided the following suggestions: first, teachers should help students equip themselves with solid

basic knowledge of English; second, teachers' encouragement and positive feedback are important, and students should be actively involved into many activities; third, teachers should help students set proper listening goals. Through the accomplishment of each goal, students will become more and more confident. Examples were as follows:

"Basically, to improve students' confidence, they have to master all of what they have learned, and need to have good command of the basics. Only when they have mastered the basics, can they feel hopeful in their learning...". (ZL)

"...The basic knowledge of one subject is the foundation of it. Suppose that if a student could not master even the basics of a subject, how could he claim that he is confident in learning this subject?..." (LLD)

"...students should be encouraged to join to various kinds of activities, and make them believe that their listening ability will be improved one day through the repeated practices..." (LLD)

"... Even though students' performance is not satisfactory, teachers should avoid serious criticisms. Instead, they should encourage students to continue without fearing of the mistakes. With the encouragement of the teacher, students may become more 'brave', and enjoy the sense of achievement of finishing the tasks. Gradually they will become confident in their learning process." (FCH)

"In English listening process, teachers should help students set a goal for himself/herself.... By doing so, no matter he/she is low proficiency or high proficiency student, he/she can enjoy the sense of achievement, and thus will become confident in listening." (FCH)

4.5.4 Strategies to Cultivate Students' CIA

The interview guided question eight ("While performing an English task, how do you help students find answers to the practice questions?") and nine ("What

strategies do you use to train students' ability in excluding the irrelevant information while doing the listening tasks?") elicited the strategies teachers employed to help students in listening, and help students in how to exclude the irrelevant information. The following are the interviewees' strategies:

First, in doing listening exercises, students should make most use of the time to search the useful information and to identify the key words. ZL reminded that *"...students should pay special attention to the verbs, nouns, numbers, and the words occur in the tasks. Because generally, the words or phrases appear in the tasks are important... they are relevant information...".*

FCH added that: *"In doing the listening exercises, I always tell students that they need to make use of every minute to identify the useful information... They need to pay special attention to the key words, and underline them, which are always relevant to finish the listening tasks...".*

Second, training students' ability of taking notes while listening. LLD suggested that *"...while listening to the materials, students can not just listen and keep everything in brain by memory. Instead, they need to learn how to take effective notes while listening... For example, some abbreviations and symbols will help. Students can use the abbreviations and symbols to record the useful information..."* ZL gave the same suggestions: *"...students should have the ability to take notes with the assistance of the short-term memory. ...so teachers should cultivate students' interests of taking notes..."*

Thirdly, to cultivate students' CIA, prediction is an important process in English listening. LLD agreed that *"...they should have a quick look at the listening tasks, and try to predict what the listening topics will be. Then they may narrow the topics, and listen with clear purpose... This ability helps students reduce their memory load in order to catch the useful information while listening."*

ZL also pointed out the importance of predicting content: *"... in general we need to have the ability of predicting. Effective listeners think about what they will hear. Before listening we should know the listening tasks, and try to predict or anticipate content by activating our background knowledge. Make guesses about what you may learn as you listen. Guessing helps your brain focus on the assignment."*

Finally, oral presentation may also help training students' CIA. *"...after listening to a piece of material, students are encouraged to retell it orally. After the training, students' awareness of sensing the relevant information will be enhanced. The more useful information they can repeat, the more capable they become in focusing on the relevant information..." (FCH).*

LLD added the importance of speaking in developing CIA: *"...in the listening class, students should not be isolated, and speaking is important. Students should choose their partner(s), and talk with them about the topic related to the listening materials...which may reflect how much relevant information they obtain from the listening materials..."*

4.5.5 Strategies to Improve Students' Listening Ability

The interview guided question ten elicited the strategies teachers suggested to improve students' listening ability. That is "In your opinion, what is the most

effective way to teach listening?". To improve students' listening ability, all interviewees agreed that students need to practise more, and teachers should provide positive learning environment with low anxiety and high self-efficacy. For example:

"I think the most effective way to improve students' listening ability is repeated practice... Meanwhile, the teacher need to help students build self-confidence... they need to pay attention to students' emotions in listening class. The teacher should help reduce students' anxiety and make them become confident in listening. Especially, to the female students, because they are more sensitive and passive in the listening class..." (ZL)

"...students need to practice a lot, both in the class and after the class... The teacher should not over interfere the students, because too much interference will make students feel anxious. To reduce students' anxiety, the teacher should create a relaxed atmosphere in the listening class..." (FCH)

4.6 Summary

In summary, this chapter reports the findings in the main study. In response to the research purposes and the research questions, data were analyzed from both quantitative and qualitative methods. First, the results obtained from the Listening Comprehension Test are presented. And then the four research questions are answered by using different data analyses methods, including descriptive statistics, Independent Sample T- tests, One-Way ANOVA, Pearson's correlation, Multiple linear regression analysis, and content analysis methods. In the next chapter, all the findings and results will be discussed and explained in detail.

CHAPTER 5

DISCUSSION

This chapter presents discussions based on the main research findings in Chapter four. The discussion includes nine sections: the first section is about the overall profiles for CIA, anxiety, and self-efficacy; the second and third section concern gender and ethnicity differences with regard to CIA, anxiety, and self-efficacy respectively. Section four discusses the relationship between CIA, anxiety, and self-efficacy concerning the second research question (What are the correlations between the students' CIA, anxiety, and self-efficacy?). Section five involves the extent to which listening performance can be predicted by CIA, anxiety, and self-efficacy stemming from the third research question (To what extent can the students' listening performances be predicted by their levels of CIA, anxiety, and self-efficacy?). Section six concerns the qualitative data from the teachers. Section seven and eight propose the correlation model and causal model for CIA, anxiety, self-efficacy, and listening proficiency based on the findings of the present study and related theories. The last section is the summary of this chapter.

5.1 Overall Profiles of CIA, Anxiety and Self-efficacy

The following discussion will focus on the findings based on the first research question, that is, the overall state of English majors' CIA, anxiety, and self-efficacy. Findings emerging from descriptive statistics are discussed as follows.

5.1.1 Overall Profiles of CIA

In the present study, the CIA value of .49 indicated participants' moderate CIA level, i.e., most participants achieved scores in the middle of the range for the CIA test. In the list-method paradigm, the forget instruction typically has a dual effect on memory- it impairs memory for the pre-cue items, and it also enhances memory for the post-cue items. The list method often yields three effects: (a) impaired recall for the first list of items when subjects are instructed to forget the first list; (b) improved recall for the second list of words when subjects are instructed to forget the first list; and (c) superior memory for second-list words compared to first-list words in the forget-instructed group (Anderson, 2005). These effects reflect peoples' CIA, and the dominant theory of explaining the CIA phenomena is the retrieval inhibition hypothesis.

In the early 1980s, the *retrieval inhibition* view emerged. Bjork (1989) proposed that the results of list-method experiments were attributed to inhibition. Under his view, in the list method, the participant is not aware when (or even if) the "Forget" cue will be presented, therefore, there is no motivation to delay rehearsal. Presumably all to-be-forgotten (TBF) items are rehearsed until the mid-list presentation of the "Forget" cue, at which point rehearsal of the TBF items ceases. Thus, TBF items should be rehearsed and encoded to the same extent as to-be-remembered (TBR) items. Upon presentation of the "Forget" cue, the TBF items are inhibited and no longer given attentional resources, then these items

consequently are disadvantaged at recall.

Geiselman and Bagheri (1985) claimed that the list-method effect is likely driven by processes operating at retrieval, because the forget cue is given unexpectedly after an entire list has been encoded, and therefore the pre-cue items must be encoded equally well up to the mid-list forget instruction. Impaired recall of TBF items in the list-method has been explained via retrieval-based mechanisms emphasizing lower accessibility in memory rather than availability in memory. Harnishfeger (1995) stated that retrieval inhibition may account for CIA through an automatic process that suppresses the previous activation of irrelevant mental representations, restricting retrieval from long-term memory.

According to the retrieval inhibition hypothesis, the list method reflects a temporary state of inhibition of TBF items. When subjects are told to forget preceding information and are then presented with new information to learn, a process is started to inhibit the subsequent retrieval of the TBF items. The forget cue invokes an inhibitory process, which at the time of retrieval renders inappropriate memories inaccessible. Because the TBF items are not retrievable, they will not cause interference to the recall of the TBR items. Therefore, by taking the list-method test, the participants could achieve a score that reflected their CIA.

5.1.2 Overall Profiles of Anxiety

Findings in the present study suggested that Chinese English majors' listening anxiety was obvious. Most of them experienced some degree of listening

anxiety. Possible explanations may have to do with the Chines education system. First, the traditional exam-oriented education system still dominates. Although some educational reforms have occurred in the past two decades, and experts have proposed a shift from "examination-oriented education" to "quality education" (Liang, 2005), the exam-oriented education system is still popular because of its long history and government' support. For students, they had to experience different kinds of tests before finally succeeding. This traditional exam-oriented education system might explain why students reported that they felt most anxious in tests.

Second, the "Grammar-translation" teaching method still dominates the Chinese class. This places too much emphasis on students' grammar and translation skills, and ignored students' communicative competence. As a result, students lacked in communication ability, and feared communication. In class, teachers were the only authority, and students felt they had to obey the teacher. Accuracy was the priority in teaching, and students always sought to avoid mistakes while learning. This phenomenon might explain why students felt nervous when communicating and why they feared teachers' criticisms.

Third, the nature of the listening decides that the listening process is an unpredictable process. The listening process is an unplanned process, in which the listener must deal with the audio signals "online", that is, there is often no chance to listen to the information again, especially in the listening test. Often, the listening discourse strikes the second-language (L2) listener as being very fast, although, in

reality, speech rates vary considerably (Richards, 2009). These characteristics of the listening process might also explain why they reported having the most anxiety when listening to fast English speech, answering questions without preparation and facing difficult sentences.

Last but not least, the teachers' perspectives also support that anxiety does exist among Chinese EFL students, especially in the test, and when students are facing fast spoken English and difficult sentences. For example: LLD mentioned: *"...students are anxious when facing fast English speech, and difficult sentences. Because of the one-time characteristic of listening, students worried that they may miss the information especially under a fast spoken situation."* ZL added: *"...most students worry about the tests, and they are afraid that they cannot finish all the questions in the limited time...."*

5.1.3 Overall Profiles of Self-efficacy

In the present study, students showed low self-efficacy level in learning English listening. In order to explore possible reasons for the participants' low listening self-efficacy, the four sources of self-efficacy identified by Bandura (1997) need to be considered in combination with the context of English Listening instruction in China. Self-efficacy beliefs are formed by the collective interpretation of four principal sources: mastery experience; vicarious experience; verbal persuasion; and physiological and affective states (Bandura, 1997).

Among the four main sources of self-efficacy, *mastery experience* is

considered the most powerful source as it provides authentic evidence of one's performance in a given situation. Mastery experiences entail the cumulative history of one's engagement with a particular task, obstacle, or activity. In each successive enactive experience, the organism receives internal and external feedback regarding absolute and relative levels of mastery attainment. Thus, one's experience of a particular task is important. Successful performance may lead to increased efficacy, and repeated failure may lead to decreased efficacy. Therefore, the more success students experienced, the stronger the perceived self-efficacy.

The second source of self-efficacy comes from *vicarious experience*. It is a kind of indirect experience, and it may also influence the development of personal efficacy, particularly, when individuals have limited prior experience on which to base efficacy beliefs (Bandura, 1997). Observing peers perform a task conveys to observers that they too are capable of accomplishing it. People's personal efficacy beliefs are influenced by observing those who have similar attributes to them (similar performance ability, age, gender, etc.). They persuade themselves that if others can do it, they should be able to achieve at least some improvement in performance. Therefore, observers tend to enhance personal efficacy beliefs, if others with the similar attributes succeed.

Verbal persuasion, although recognized to be limited in enhancing efficacy, is effective when the persuader is credible. Positive persuasory feedback enhances self-efficacy. In the case of teaching, for example, teachers' positive feedback to

students' performance is a kind of verbal persuasion, which will be effective in enhancing students' personal efficacy beliefs.

Physiological and affective states is the last element that can affect perceived self-efficacy. Factors like fatigue, aches, mood, anxiety, and stress all have an impact on people's judgments of their personal efficacy. According to Bandura (1997), high emotional arousal can undermine performance and people are more likely to expect success when they are not troubled than when they are tense and emotionally agitated. Hence, during task performance, people's judgment of their personal efficacy is influenced by their emotional state which either contributes to strengthened beliefs of success or to an expectation of failure. The high arousal of negative affective usually debilitates performance, and thus reduce self-efficacy. While positive emotional state will definitely improve people's self-efficacy.

However, in Chinese contexts, students consider listening as the most difficult subject, and it is also the weakest skill they acquired in English learning (Wu and Abidin, 2013). Students learn English just to pass exams and teachers lecture mainly to help students achieve this goal. Students are famous for their high marks in examination, and low competence in listening and speaking. Such phenomenon is popular in China and is called "dumb English" by some Chinese English educators (Fan, 2010). Therefore, it's evident that listening education in Chinese is unsatisfactory. From this aspect, students gain little self-efficacy from the mastery experience. Students' poor performance in listening may also explain why participants

reported they had lower self-efficacy in behavior.

It is well known that the Chinese education system is in favor of denying students. Educators are not willing to praise students when they are doing well, and Chinese educators ignore the needs of individual students, often eliminating individual needs in the name of collectivism. With the restriction of new ideas and too much criticism, verbal persuasion from teachers becomes impossible for Chinese students. Therefore, it is not surprising to see the kids under this condition are not confident.

In addition, as discussed in 5.1.2, listening anxiety exists in Chinese students, especially in tests, where students reported high levels of anxiety. Such high arousal anxiety will definitely have a bad influence on students' self-efficacy. All in all, in the Chinese context, students gain little self-efficacy from the four principal sources, which may explain why participants reported in the present study that they had low levels of self-efficacy.

5.2 Gender Differences in Relation to CIA, Anxiety and Self-efficacy

The following sections will discuss the findings of the gender differences in relation to CIA, anxiety, and self-efficacy. Findings emerged from Independent Samples T-tests are discussed as follows.

5.2.1 Gender Differences in CIA

In the present study, female students had significantly higher CIA levels

than the male students (p<.05). The effect size was a medium degree. These findings are consistent with many studies: through the use of Card Sorting Task (CST) involving sorting cards into categories following an unstated rule which may change during the task, females were found to have an advantage in finishing the inhibitory tasks (Paniak, Miller, Murphy and Patterson, 1996); in Thought Suppression experiments conducted by Wegner and Zanakos (1994), participants were told to not think about specific thoughts, findings indicated female advantage; in the color-word subtask of the Stroop Test, participants have to name the ink color of incongruous color-words (e.g. the word "red" written in blue ink), and gender differences do exist. Females significantly outperformed male participants (Baroun and Alansari, 2006). All these studies identified significant female advantage in cognitive inhibition tasks, and the extent of differences was small to medium.

Female's advantage in CIA may be explained by examining the mechanisms underlying the gender differences in cognitive control. Brain activation can be observed through the use of brain imaging techniques. For instance, Li, Huang, Constable, and Sinha (2006) found that men and women differ in the neural processes underlying cognitive control. Their findings revealed that whereas men and women performed similarly on the stop signal task, men showed greater activation of several brain regions (e.g., bilateral medial frontal cortex and cingulate cortex, globus pallidus, thalamus, and parahippocampal gyrus) during the task, compared to women. In this analysis, men showed greater regional brain activation during inhibitory

successes compared to inhibitory errors. The authors concluded that men needed more "neural resources" to perform inhibition compared to women, suggesting greater impulsivity in men. Huster, Westerhausen, and Herrmann (2011) used fMRI to assess brain activity in men and women while they performed a stop signal task. Although there were no differences in performance, men experienced a greater need for interhemispheric interaction. This might represent a neuroanatomical factor contributing to greater inhibitory difficulty in men compared to women.

In addition to the different mechanisms underlying gender differences in inhibition, female's higher cognitive inhibition ability might be explained by the *evolved inhibition hypothesis* (Trivers,1972). This hypothesis attributes woman's higher inhibition ability to the human evolutionary process. It suggests that during the evolutionary process, it is beneficial for women to have greater inhibitory control ability. Prior studies suggested that ancestral women may have needed greater inhibitory abilities than ancestral men in many contexts (Bjorkland and Kipp, 1996). For example, in most animal species the female pays a higher cost for having offspring, such as pregnancy, and birth. By contrast, the male's investment is smaller. Because of women's greater investment, female is in their advantage to select their partners who appears to have the best genes. In other words, females are selective and choosy when choosing their partners, which would benefit them to inhibit their own behaviors when evaluating males. Similarly, child-care responsibilities mainly fall to women after the infants' birth, which may also require greater behavioral inhibitory

abilities (Bjorkland and Kipp, 1996). For example, mothers have to put the needs of their infants ahead of their own and inhibit their aggressive behaviors toward their infants who disobey or cry continuously. These characteristics of human evolution may explain why females tend to be more inhibitory in their behavior and cognition.

5.2.2 Gender Differences in Anxiety

In the present study, female students reported experiencing significantly higher levels of listening anxiety than male students ($p=.01 \leqq .05$), and the effect size was medium level. Regarding the three categories of listening anxiety, female students reported having higher anxiety levels than male students in FNE ($p=.00 \leqq .05$).

These findings added new evidence to the findings of Golchi (2012), Park and French (2013), and Koul et al.(2009). Golchi (2012), for instance, reported that for Iranian learners, female learners were more anxious than male learners in learning English listening. The research finding was however not congruent with the results of others (Kitano, 2001; Awan, et.al., 2010; Cui, 2011).

The conflicting findings for gender differences in language anxiety could be partially attributed to socio-cultural views on anxiety (Park and French, 2013). In terms of socio-cultural views on anxiety, the results of previous studies were different from each other because the studies were conducted by participants from different socio-cultural contexts. In our study, the female students were more anxious than their male counterparts, especially in Fear of Negative Evaluation (FNE). The explanation

for this might be because the female participants were brought up in China, a conventionally male dominated society, in which females shied away from social interaction. Woman's social identity was hardly accepted, and they were more likely to fear the negative evaluations of others. Other researchers joined this view, contending that it is important to keep socio-cultural differences in mind when considering language anxiety and language teaching (Yan and Horwitz, 2008; Zhang, 2001).

In terms of education, women in ancient times remained at an educational disadvantage in China. They could not make choices on their own in receiving education and finding jobs, and their lives were pre-arranged. They were taught to be perfect housewives dealing with some needlework at home. People in traditional society firmly held the belief that "innocence is virtue for women". Such educational unfairness in Chinese history might also explains why female students feel anxious during learning.

5.2.3 Gender Differences in Self-efficacy

In the current study, male students reported having higher levels of self-efficacy than female students, and the effect size was a medium degree. When doing the listening tasks, the male students tend to trust their abilities to perform better in the listening activities.

These findings were not consistent with Huang's (2013) research, which indicated that females displayed higher language arts self-efficacy than males, while

males exhibited higher mathematics, computer, and social sciences self-efficacy than females. However, Huang (2013) also reminds us that subject differences should be kept in consideration, when considering gender differences in academic self-efficacy. Self-efficacy is context- and task-based, that is, students who feel confident in one subject may not feel confident in another one. Unlike other subjects (such as English reading and writing), English listening, because of its characteristics, is a more challenging and risky subject (Graham, 2006). Compared to female students, males choose to perform more challenging tasks, therefore, when facing the challenging tasks, male students show advantages (De Pater et al.,2009).

A second factor that may be responsible for gender differences in self-efficacy is the tendency of boys and girls to respond to self-report instruments with a different "mindset". Researchers have observed that boys tend to be more "self-congratulatory" in their responses whereas girls tend to be more modest (Pajares, 2002). In other words, boys are more likely to express confidence in skills they may not possess and to express overconfidence in skills they do possess. In contrast, girls are more modest and cautious in expressing their responses to self-efficacy instruments.

In addition, female students' lower self-efficacy may be attributed to their negative physiological and affective states. Based on the discussions in section 5.1.3, *Physiological and affective states* represent one of the sources that can affect one's perceived self-efficacy. Moreover, in the present study, it was revealed that female

students reported being more anxious in learning to listen than the male students, thus it may not be surprising to see that female students also reported lower self-efficacy.

5.3 Ethnicity Differences in Relation to CIA, Anxiety and Self-efficacy

As one of the sub-variables of culture, ethnicity is a variable which is often neglected by many researchers, especially in the field of research on CIA, anxiety, and self-efficacy. In this study, ethnicity is considered, and some interesting and meaningful results occurred. The following sections will discuss these findings.

5.3.1 Ethnicity Differences in CIA

In the present study, Chinese Han students showed higher CIA than Miao and Dong students. The possible reasons might be because of the unbalanced educational resources of Miao and Dong minorities.

People's inhibitory ability develops quickly especially in the early years. Diamond's (2001) study shows that important developments in inhibitory control take place in the first 6 years of life, with marked improvement between 3-6 years. Therefore, it is quite necessary to know more about the early life of the minority students, which may explain the reasons why they show disadvantages in CIA test.

In recent years, despite quick urbanization in China, and the government's great support for the ethnic areas, most minority people still live in undeveloped areas because of historical problems. The minority people receive less advanced education compared with most Han people living in the city. Before the age of 6, minority

children do not receive any systematic education and training. In contrast, Han students living in the city start their education earlier, and some children are trained as soon as they come out from the mother's womb. Meanwhile in the urban areas, abundant education resources are available, Han students may have more opportunities to receive advanced training from many channels like personal tutors, preschool training centers and institutes. In these preschool programs, children's inhibitory control (resisting habits, temptations, or distractions), working memory (mentally holding and using information), and cognitive flexibility (adjusting to change) are well trained (Diamond, Barnett, Thomas and Munro, 2007). Therefore, in the most important ages for developing their inhibitory ability, Han students tend to have more opportunities.

In addition, the disadvantages experienced by ethnic minority students in the early ages may still influence their future study. As Champagne and Curley (2005) suggested, a person's early rearing environments are clearly capable of exerting neurobiological changes that persist into adulthood. One's social experiences early in life play a major role in shaping their brain development and adult behavior. Therefore, Miao and Dong students' disadvantages in early years' training may result in a deficiency in inhibitory mechanisms.

5.3.2 Ethnicity Differences in Anxiety

In this section we review anxiety differences due to ethnicity. We focus only on the Miao group as it was the only group to record significant differences in anxiety

levels when compared to Han and other groups.

Miao students reported having higher anxiety levels than Han students, especially in terms of taking tests and facing criticism by others. Miao students' higher anxiety levels in English listening might be the results of their trait anxiety transfer. Trait anxiety, as an individual's personality, is stable over time and applicable to a wide range of situations (MacIntyre, 1999). It refers to the stable tendency to attend to, experience, and report negative emotions such as fears, worries, and anxiety across many situations. People with high levels of trait anxiety are usually nervous people in many situations. By using a trait-anxiety inventory, Zhi, Yang and Zhou (2003) compared anxiety levels between Miao and Han students. Results indicated that there were significant differences between Miao and Han students in trait anxiety. Miao students reported having higher levels of trait anxiety than Han students. Liu (2007) agreed that there was an obvious difference in the scores of the Miao and Han students concerning their inclinations of anxiety, loneliness, sensitivity, and impulsiveness. Miao students were inclined to be more anxious, lonely, sensitive and impulsive than the Han students. Listening anxiety, as a kind of situation-specific anxiety tends to be influenced by trait anxiety. Miao students' higher listening anxiety levels might be the result of the transfer of their higher trait anxiety levels, and thus made them more anxious than the Han students.

Moreover, to the Miao students, Chinese is their second language, and English is their third. When learning English, it is mandarin Chinese that is used to

teach them, i.e. they use their second language to learn the third language. There appears to be a consensus that minority students are now facing the daunting task of learning L3 (usually English), in addition to the challenge of learning L2 (mandarin Chinese) (Feng, 2012). Therefore, compared with the Han students, Miao students suffer from more difficulties and negative emotion. Especially, when facing tests, and others' comments on their listening performance, they show more anxiety.

In addition, Miao people's unique social and cultural characteristics might also be taken into consideration. It is known that the Guizhou Miao population, accounting for over 25% of the total Miao people in China, tends to inhabit remote mountainous areas far away from the city in tight-knit village networks. In fact, they seldom live in villages consisting of any ethnic group other than their own. Because of these geographical characteristics, Miao people are comparatively isolated, and have fewer contacts with people outside these areas. Miao areas are under development both in economy and education. So when Miao students one day leave their homeland and come to city starting a new life, they will feel uncomfortable and anxious. Chen and Shen (2005) supported these ideas, and they agreed that compared with the Han students, Miao students showed more psychological distress. For example, Miao students felt more anxious about study, showed obvious self-blame tendencies and over-sensitive tendencies.

In conclusion, Miao students' higher trait anxiety levels, the challenges of learning Chinese, as well as the Miao people's unique social and cultural

characteristics may account for the reasons why Miao students reported being more anxious than the Han students.

5.3.3 Ethnicity Differences in Self-efficacy

In the present study, Han students reported having significantly higher levels of self-efficacy than the Miao and Dong students. That is, in learning listening Han students are more confident. Miao and Dong people's lack of confidence may trace back to the minority people's social roles in Chinese history. Under the system of ethnic discrimination and oppression in old China, ethnic minorities suffered a lot of biases in all aspects. Han people were born with priority over the ethnic minorities. For example, many ethnic minorities did not have proper names or names given in the spirit of equality. The names of certain minority-inhabited areas even carried the implications of ethnic discrimination or oppression. Since the founding of the new China, ethnic minorities and ethnic regions have witnessed significant progress, however, certain ethnic regions still face considerable problems, such as poverty, and uneven distribution of educational resources. Equality does not always extend to the workplace or everyday life, and discrimination and racism in China do exist. These prejudices against ethnic minority people may lead to their low self-confidence in social life.

In addition, ethnic minority students show disadvantages in their academic performance, as Guan (1996) observed Miao and Dong students had poorer English performance than Han students, and Han students had more successful experiences

than Miao and Dong students. Thus, based on Bandura's (1997) *mastery experience* theory, Han students' successful performances enhance their mastery experience, and thus lead to increased efficacy.

5.4 Relationships between CIA, Anxiety, and Self-efficacy

This section provides a discussion of the relationships between CIA, anxiety and self-efficacy level. The Pearson product-moment correlation coefficient (r) was computed to assess the degree of correlation between each pairs of variables.

5.4.1 Relationship between CIA and Anxiety

The Pearson correlation analyses revealed that there was a significant negative relationship between CIA and Anxiety. These results mean that the more anxious a student feels in communication, tests, and in others' negative evaluation, the lower is his/ her ability for cognitive inhibition.

These findings are consistent with many studies: in Yang's (2010) study, students' inhibitory ability was measured through the use of the list-method, and the results showed that students' inhibitory ability was negatively related to anxiety. That is, students with low anxiety levels possess a higher ability to inhibit than those with high anxiety levels. Wood, Mathews and Dalgleish (2001) conducted 3 experiments, which aimed to test the hypothesis that highly anxiety-prone individuals may show impairments in their inhibitory processing. Results indicated clear evidence of an impairment of inhibitory processing in the high-trait-anxious participants.

Waldhauser, Johansson, Bäckström and Mecklinger's (2011) study supports the same results. Through the use of think/no-think paradigm and anxiety inventory, fifty participants between the age of 17 and 34 completed their study, the results indicated that highly trait-anxious individuals would be expected to be less efficient and to experience higher problems in suppressing unwanted memories in the think/no-think task. That is, highly anxious people have difficulty in inhibitory ability.

The negative relationship between inhibitory ability and anxiety may be accounted for by Eysenck's (1992) study. In his study, findings suggested that high levels of anxiety and worry take up capacity-limited resources such as working memory, leading to general deficiencies in task performance. On the basis of the assumption that inhibition requires cognitive resources, the apparent deficit in inhibitory processing might therefore be seen as just another example of depleted resources being associated with anxiety. Therefore, the more anxious people use their limited memory space to store irrelevant information, and this finally leads to bad performance in the task of retrieving relevant information. Considering the above discussion, it is obvious that students with anxiety in term of test, communication, and fear of negative evaluation will certainly lead to deficient performance in inhibitory tasks and CIA test.

5.4.2 Relationship between CIA and Self-efficacy

The Pearson correlation analyses revealed that there was a significantly positive relationship between CIA and Self-efficacy. That is, the inhibitory ability

found among subjects with higher levels of self-efficacy was stronger than among subjects with lower levels of self-efficacy.

A similar finding occurred in Yang's (2006) study, in which 124 freshman students were divided into a high self-efficacy group and a low self-efficacy group according to their scores on the listening self-efficacy inventory. The list-method was employed, and the results showed that the subjects with a high sense of self-efficacy possess a more efficient inhibitory mechanism than those with a low sense of self-efficacy. The Pearson correlation analyses revealed that inhibitory ability had a significantly positive connection with EFL listening self-efficacy beliefs (r=.335, p<.01).

Research studies have provided consistent and convincing evidence that academic efficacy is positively related to academic motivation, persistence, memory performance, and academic performance. According to Berry (1999), academic efficacy was positively related to memory performance, and the perceived efficacy contributed to memory performance both directly and by enhancing persistence. Bandura (1994) pointed out that past experiences and current emotional states are influential in forming positive self-efficacy. The capacity for inhibition can play a role in developing self-efficacy beliefs, and one can develop a higher sense of self-efficacy with a higher capacity for inhibition.

All of these consistent results support Bandura's (1977) hypothesis that efficacy beliefs influence level of effort, persistence, and choice of activities. Students

with a high sense of efficacy for accomplishing an educational task will participate more readily, work harder, and persist longer when they encounter difficulties than those who doubt their capabilities (Bandura's, 1977). Students' memory performance and inhibitory ability are accordingly enhanced when facing a task. Therefore, it is reasonable to arrive at the conclusion that students with higher levels of self-efficacy may possess a more efficient inhibitory mechanism.

5.4.3 Relationship between Anxiety and Self-efficacy

The results of Pearson correlation analyses showed that self-efficacy negatively correlated with anxiety. These results indicated that students who perceive a high level of self-efficacy experience lower levels of English listening anxiety.

As Ghonsooly and Elahi (2010) maintain, the results may be interpreted by the fact that high self-efficacious participants feel really confident because of the experiences they have gained in solving problems and the approaches they have developed based on those problem-solving experiences. The results are in agreement with many studies: in Nie, Lau, and Liau's (2011) study, 1978 students from 130 classes in Singapore participated. Students completed an online survey including academic self-efficacy, task importance, and test anxiety questionnaires. The regression results supported the hypothesis that there was a negative relationship between academic self-efficacy and test anxiety. In Anyadubalu's (2010) study, 318 middle school Thai students participated. Instruments included an English Language Classroom Anxiety Scale (ELCAS) and a General Self Efficacy Scale, measuring

levels of anxiety and self-efficacy experienced by students respectively. The findings rejected the null hypothesis that there is no significant relationship between the English language anxiety and self-efficacy in Satri Si Suriyothai middle-school students at 0.05 level. That is, there was a significantly moderate negative relationship between English language anxiety and self-efficacy.

The same results are found in Ghonsooly, and Elahi's (2010) study, in which 150 sophomores majoring in English literature at three universities participated. Instruments were an author-designed scale on EFL learners' self-efficacy in reading comprehension, and a Foreign Language Reading Anxiety Scale (FLRAS). The Pearson formula and an independent T-Test were used to analyze the data. The results indicated that there was a significant negative correlation between the participants' reading self-efficacy and their reading anxiety.

With the purpose of examining the relationships between math anxiety, math attitudes, and self-efficacy, Akin and Kurbanoglu's study (2011) included 372 university students in Turkey. In their study, the Revised Mathematics Anxiety Rating Scale, the Mathematics Attitudes Scale, and the Self-efficacy Scale were used. Using correlation analysis, math anxiety was found negatively related to positive attitudes and self-efficacy.

These results are also congruent with Bandura's (1999) social cognitive theory, which states that "people who have a high sense of coping efficacy lower their stress and anxiety by acting in ways that transform threatening environments into

benign ones. The stronger the sense of coping efficacy the bolder people are in tackling the problems that breed stress and anxiety, and the greater is their success in shaping the environment to their liking" (p.30). In social cognitive theory, self-efficacy plays a central role in the arousal of student anxiety. As a result of a student's weakened sense of efficacy in a particular academic subject, he/she becomes anxious about the corresponding academic demands. A weaker sense of efficacy arouses anxiety as well as decreases achievement (Mills, Pajares, and Herron, 2006). Therefore, it seems plausible to state that students who demonstrate lower levels of self-efficacy tend to have higher levels of listening anxiety than those with relatively high levels of self-efficacy. Moreover, it also holds that students with low levels of self-efficacy are afraid of tests, criticisms, and communication in the class.

5.5 The Extent to Which Listening Performance Can be Predicted by CIA, Anxiety, and Self-efficacy

In this section, to obtain a more general relation pattern, results emerging from Pearson correlation analyses will be first discussed. Then, to examine the predictive power of each independent variable to the dependent variable, findings from the multiple linear regression analyses will be discussed in detail.

5.5.1 Relationship between Listening Performance and CIA, Anxiety, and Self-efficacy

Results from the Pearson correlation analyses showed that students' listening performances were positively related to CIA and self-efficacy, but negatively

related to anxiety. Among them, CIA held the highest correlation with a large degree of connection, followed by anxiety, and self-efficacy was the last. That is, students with higher scores in listening comprehension were more likely to be those with higher inhibitory ability, higher level of self-efficacy, and lower anxiety level.

● **Cognitive inhibition and listening performance**

The results of the present study confirm the findings of Todor (2012), in which both the item-method and list-method were used to test students' cognitive inhibition competence. The results indicated that students with better abilities to intentionally forget the targeted information (irrelevant or unwanted in real-life settings) also had better academic performances. The stronger correlations of the item-by-item directed forgetting effect with the mathematics average grade suggested the critical role that cognitive inhibition played in problem solving, mathematical reasoning and numerical tasks.

Similar results are also found in Song, Bai, and Yun's (2003) study, which supported the findings that the inhibition on the intentional forgetting of the subjects who had good academic performance was significantly higher than that of the pupils with poor academic performance. The findings of the present study also partially support the findings of Borella, and Ribaupierre (2014) that in the text-absent condition comprehension performance was explained by the combined contribution of working memory and inhibition. The findings are, however, not exactly in agreement with those of Yang (2010) who reported that no direct connection was observed

between inhibitory ability and EFL listening comprehension.

Finding that students with low academic performance have difficulty inhibiting task-irrelevant information is consistent with the conclusion of Gernsbacher (1993) who have argued that less-skilled learners possess inefficient suppression mechanisms. According to Hasher and Zacks (1988), a deficiency in the inhibitory system not only allows irrelevant information to enter working memory, but it also allows such information to remain active for longer periods of time. When this occurs, working memory is cluttered with irrelevant information that competes with initial encoding, as well as with the subsequent retrieval, or relevant information (Hasher and Zacks, 1988). Memory performance thus suffers because the presence of irrelevant information in working memory adversely affects the quality of initial encoding activities and leads to greater competition at the time of retrieval. Therefore, students with less cognitive inhibition ability might be expected to exhibit a number of learning and memory difficulties that are the result of the competition of irrelevant and relevant information in working memory.

A general disadvantage in cognitive inhibition would also have a profound influence on listening. As we listen, there are moments during language processing in which portions of a message may evoke memory associations that are unrelated to the listening tasks. However, when operating efficiently, inhibitory processes quickly dampen these irrelevant thoughts that come to mind so that comprehension is not affected. If not, students without high inhibitory ability may encode all the

information equally, and finally lead to poor comprehension of the relevant information. Therefore, the above discussion might explain the positive relationship between CIA and listening performance, and why students with higher CIA have better listening performance.

●**Anxiety and listening performance**

In terms of the relationship between anxiety and listening performance, the findings of the present study were quite consistent with previous studies which showed that students with higher levels of anxiety performed poorly compared to less anxious students (Horwitz, 2001; Cakici, 2016; Awan, et. al, 2010).

A possible explanation for the negative correlation between anxiety and listening achievement might be because of anxiety's bad effect on the listening process. Listening is a process of receiving, attending to, and assigning meaning to aural stimuli, involving information encoding, storage, and retrieval. In educational settings, Tobias (1986) has found that anxiety may impair the ability to take in information, process it, and retrieve it. MacIntyre (1995) also stated that language learning was a cognitive activity that relies on encoding, storage, and retrieval processes, and anxiety can interfere with each of these by creating a divided attention scenario for anxious students.

In addition, students' anxiety might have a negative influence on their emotion and behaviors, and finally lead to bad performance in academic achievement. Na (2007, p.30) joined this view and asserted that "Usually, high anxiety can make

learners get discouraged, lose faith in their abilities, escape from participating in classroom activities, and even give up the effort to learn a language well. Therefore, the learners with high anxiety often get low achievement and low achievement makes them more anxious about learning."

● **Self-efficacy and listening performance**

With regard to self-efficacy, the results of the present study are in line with the reports given by many studies (Mills, Pajares, and Herron 2007; Rahemi, 2007; Rahimi and Abedini, 2009; Li and Wang, 2010; Doordinejad and Afshar, 2014; Shkullaku, 2013), in which they all confirm and refer to the positive relationship between language learner self-efficacy and English achievement. For example, in Shkullaku's (2013) study, 180 students from two Albanian universities participated. The result of the Pearson correlation analysis showed that there was a significant relationship between self-efficacy and academic performance (r = .85, p < .05), that is, there was a strong positive relationship between self-efficacy and academic performance. Similar findings were found in Doordinejad and Afshar's (2014) study, with the r value of .303 (r = .303, p < .01), it is suggested that there was a moderately significant relationship between foreign language learners' self-efficacy and English achievement. Respondents with higher foreign language self-efficacy were likely to have higher English scores.

These findings support Bandura (1986) that self-beliefs affect one's choice of behavior, determine how much effort people will expend on an activity and how

long they will persevere, and also affect an individual's thought patterns and emotional reactions. Because of the great determination and positive emotions, students are more likely to do better when facing a task. All these help explain when facing listening tasks, students with high level of self-efficacy tend to outperform students with low level of self-efficacy.

Finally, the positive relationship between self-efficacy and listening performance is also supported by the interview data from the teachers. One of the interviewees maintained that *"Students with high level of self-efficacy are those who have sound basic English knowledge, and higher level of English proficiency. In the listening process, they can react quickly, and comprehend the listening materials through the use of some effective strategies."*

5.5.2 Listening Performance Predicted by CIA, Anxiety, and Self-efficacy

The large positive contribution of CIA to listening performance may attribute to the characteristics of the listening comprehension process. Listening is now considered as an active skill that involves many processes. First, listening involves real-time processing, and listeners must comprehend the message as it is uttered. Speech takes place in real time in that the text is heard only once and then it is gone. All that remains is a sort of memory. Therefore, in most cases, it is speakers who decide the speed of text process. As McDonough (1995) put it: listening involves "attention to a continuous stream of speech which is not under the timing control of the listener"(p.34).

Second, the process of listening comprehension is complex. From an information-processing point of view, listening comprehension is subject to limitations of human memory capacity. In listening comprehension, human working memory performs two functions: storage of information for later retrieval, and processing (Wu, 1998). Unfortunately, our brain processing space is limited, when the task demands are high, as in a test of listening comprehension, often because of both storage and processing needs, the computation will slow down and some partial results from working memory processing may be forgotten (Just and Carpenter, 1992). Therefore, in a situation like in a test, inhibitory ability seems very important for effective listening.

Third, effective listening comprehension requires higher inhibitory ability. Before we can sort out what is the relevant information of what we have just heard, the speech disappears. What is worse, the speech cannot be repeated. Therefore, listeners must comprehend the text as they listen to it, retain information in memory, integrate it with what follows, and continually adjust their understanding of what they hear in the light of prior knowledge and incoming information (Osada, 2004). To achieve comprehension, listeners need to retrieve useful information and expel the irrelevant information from their limited memory. This processing imposes a heavy cognitive load on listeners. Poor comprehenders show an impaired ability to suppress irrelevant information from working memory, and recall more distracters and irrelevant information, compared to good comprehenders (Borella, Carretti and

Pelegrina, 2010; Pimperton and Nation, 2010).

Finally, the listening process requires high concentration from listeners because of the heavy processing load. Thompson and Rubin (1996) reported that listening materials longer than 2.5 minutes were too long for less efficient listeners so that they couldn't maintain full concentration, and that the optimal length appeared to be in the range of 30 seconds to two minutes. Because of the heavy processing load in comprehending the listening materials, students should be highly attentive to the information, especially to relevant information and delete the irrelevant from their memory.

In short, because of these characteristics of the listening process, listeners' higher abilities on memory, inhibition, and concentration play essential roles in the successful listening performance. This may explain why the cognitive inhibition ability contributes most to the listening performance compared to other affective variables such as anxiety, and self-efficacy.

Meanwhile, the influences of anxiety and self-efficacy on listening performance still exist, which have been studied in many research projects. In Woodrow's (2011) hypothesized model, it indicated that both anxiety and self-efficacy predicted writing performance. Fard's (2013) study investigated the relationship among self-efficacy, self-esteem, test anxiety and EFL learners' final achievement scores. Results of a linear regression analysis indicated that 47% of the variance in the students' final scores was explained by the combination of self-esteem, self-efficacy,

and test anxiety. However, only two variables, i.e. self-efficacy and test anxiety were able to predict the variance in students' scores.

The positive contribution of self-efficacy has been found in Asakereh and Dehghannezhad's (2015) study. One hundred Iranian EFL undergraduate students participated. Through the employment of two questionnaires, results from the multiple regression analyses showed that between the independent variables of the study, speaking self-efficacy beliefs was a significantly stronger predictor of Iranian EFL students' speaking skills achievement.

Akomolafe, Ogunmakin, and Fasooto (2013) support the findings. Three hundred and ninety eight students constituted the study's sample. The results of multiple regression analysis showed that academic self-efficacy, academic motivation and academic self-concept significantly predicted students' academic performance. In terms of the magnitude of contribution, academic self-efficacy made the most significant contribution to academic performance followed by academic self-concept and academic motivation respectively.

All in all, the contributions of CIA, anxiety, and self-efficacy to listening performance are not independent from each other. The individual differences in listening performance are the results of the mutual influences of one's affective factors (like anxiety and self-efficacy) and inhibition mechanism, which is supported by many researchers, such as Eysenck and Calvo (1992) who suggested that high levels of anxiety and worry take up capacity-limited resources such as working

memory, leading to general deficiencies in task performance. The defective inhibition

hypothesis suggests that when two or more processing options are present, high levels

of anxiety are associated with poorer task performance due to an inability to inhibit

operations that are irrelevant to the current task (Fox, 1994). Yang (2006) joined that

differences in self-efficacy beliefs and anxiety, which may lead to different

achievements in EFL listening comprehension, could be attributed to the efficiency of

inhibition mechanism in controlling the memories of negative experience.

Therefore, cognitive inhibition together with the affective factors like

anxiety, and self-efficacy are the strong predictors of listening performance. Among

them, the cognitive inhibition ability is the strongest predictor, followed by the

self-efficacy, and anxiety is the last.

5.6 Teachers' Perceptions of Listening Anxiety and Self-efficacy

The above discussions are concerned with the quantitative results of the

present study. In this section, results obtained from the qualitative data are discussed.

The qualitative data, collected from face-to-face semi-structured interviews, were

analyzed by content analysis. These qualitative data triangulated the data collected

from the student participants. From the perspective of the teacher participants,

insightful information about their opinions of listening anxiety and self-efficacy was

elicited.

Among the three interviewed teachers, two of them mentioned that English

listening was one of the most difficult subjects both for teaching and learning. All the

interviewees admitted that listening anxiety really existed among students, especially

for the students with low listening proficiency. In terms of the sources of the listening

anxiety, the interviewees maintained that students felt nervous in the tests. In addition,

when students were facing fast spoken English, difficult sentences, too many new

words, and failing to comprehend the listening materials, they also felt worried. With

regard to the self-efficacy, teachers agreed that the high self-efficacy students were

those who had high learning motivation; had better communicative ability; and higher

English proficiency.

To deal with listening anxiety and enhance students' self-efficacy, teachers

proposed strategies based on their practical teaching experiences, such as: choosing

proper listening materials, supervising students' in-class and after-class listening

activities, providing positive feedback, setting proper listening goals etc..

Interviewees' perceptions of listening anxiety and self-efficacy could be

explained and supported by Krashen's (1982) Affective Filter Hypothesis. In his

theory, affective factors including motivation, attitude, anxiety, and self-confidence

relate to the second language acquisition process. His main viewpoints are that a

raised affective filter can block input from reaching the language acquisition device; a

lowered affective filter allows the input to "strike deeper" and be acquired; the

affective filter is responsible for individual variation in second language acquisition.

Most of those studied can be placed into one of these three categories (Krashen,1982,

p.31):

> *(1) **Motivation.** Performers with high motivation generally do better in second language acquisition (usually, but not always, "integrative").*
>
> *(2) **Self-confidence.** Performers with self-confidence and a good self-image tend to do better in second language acquisition.*
>
> *(3) **Anxiety.** Low anxiety appears to be conducive to second language acquisition, whether measured as personal or classroom anxiety.*

The Affective Filter hypothesis illustrates the relationship between affective variables and the process of second language acquisition by positing that acquirers vary with respect to the strength or level of their Affective Filters. Those whose emotions are negative will have less input with strong Affective Filter. More important, the input will not reach the part of the brain responsible for the language acquisition device. In contrast, those who with positive emotions will obtain more input and have a lower or weaker filter. Figure 5.1 illustrates the roles of affective filter in language acquisition process (Krashen, 1982, p.32):

Figure 5.1 Operation of the "Affective Filter"

This picture shows affective variables acting to impede or facilitate the delivery of input to the language acquisition device. The input will be reduced by the filter and can not reach to the language acquisition device because of the high

affective filter. Instead, people with low affective filters allow more input into their language acquisition device. Therefore, based on the interviewees' opinions supported by Affective Filter theory, the role of a language teacher should be redefined in a new way. The effective language teacher is someone who not only can provide comprehensible input, but also can create a low anxiety and high self-efficacy situation.

5.7 A Correlation Model for CIA/ Anxiety/ Self-efficacy and Listening Proficiency

Based on the findings of the present study, a model was proposed to account for the interrelationship of cognitive inhibition ability, anxiety and self-efficacy, and for their predictions of listening proficiency, as well as for their differences regarding gender and ethnicity (see Figure 5.2). The main purpose of this model is to help instructors and learners have a good understanding of the role that the cognitive and affective factors play in FL listening, hence to improve learners' FL listening proficiency. The whole model is a combination of four parts which depicts the four aspects as correlations, predictions, gender differences, and ethnicity differences,

Firstly, from the results of the correlation analyses, it is clear to see the relationships between cognitive inhibition ability, anxiety, self-efficacy, and listening proficiency. As seen in Figure 5.2, the double-headed arrows at the top of the model represent the correlations between each two individual factors. PC means there is a positive correlation between them, while NC indicates a negative correlation. This

model suggests that a learner who had higher level of CIA and self-efficacy would have better listening performance. While a learner with higher level of anxiety would have negative influence on his/her listening performance. The double-headed arrows between CIA, anxiety, and self-efficacy also reflects that a learner who had higher level of anxiety would be less confident, and have lower ability to focus on the relevant information while listening.

Secondly, building on the results of the multiple regression analyses, the prediction of listening proficiency by cognitive inhibition ability, anxiety, and self-efficacy can be illustrated by this model. In Figure 5.2, single-headed arrows stand for the three individual factors' prediction of listening proficiency. PP means it is a positive predictor of listening proficiency, while NP means a negative predictor. As the model depicts, a learner's score in the CIA test could positively predict his/her listening proficiency. Furthermore, self-efficacy is a positive predictor of listening proficiency, whereas, anxiety is a negative predictor.

Thirdly, this model shows gender differences in cognitive inhibition ability, anxiety, and self-efficacy. As shown by the solid lines at the bottom of the model, female students achieved significantly higher CIA scores than did male students. That is, female students have higher ability of excluding the irrelevant information while listening than the male counterpart. Meanwhile, female students are more anxious and less confident than the male students in listening.

Fourthly, the ethnicity differences in cognitive inhibition ability, anxiety,

and self-efficacy are illustrated in this model. As displayed by the solid lines between them, Han students show higher CIA level than the Miao and Dong students, that is, the Han students are more skillful in excluding the irrelevant information in listening than the Miao and Dong students. With regard to the anxiety, Miao students show more anxiety than the Han students. In addition, Han students have higher self-efficacy level than the Miao and Dong students.

In sum, this model provides a clear panorama of the relationships between the variables of the present study, i.e., cognitive inhibition ability, anxiety, self-efficacy, and listening proficiency, and also gender and ethnicity differences.
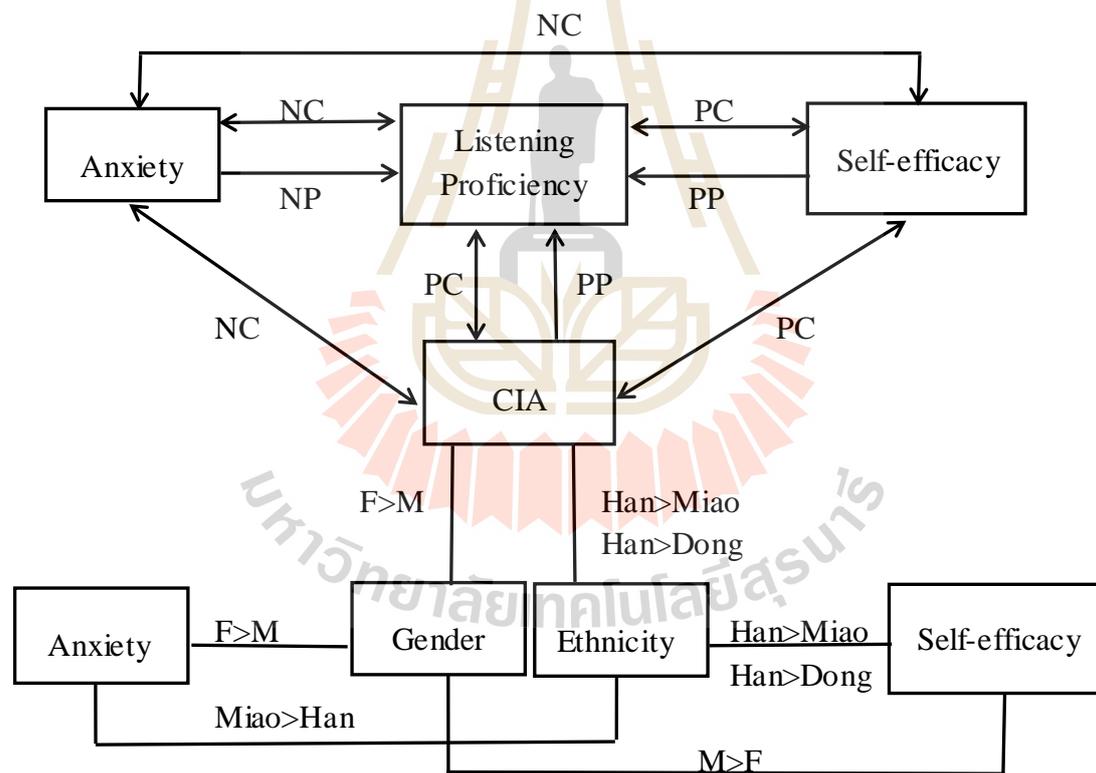
PC = Positive correlation; NC = Negative correlation
PP = Positive predictor; NP= Negative predictor
M=Male; F=Female

Figure 5.2 A Correlation Model for Cognitive Inhibition Ability/ Anxiety/
Self-efficacy and Listening Proficiency

5.8 A Causal Model for CIA/Anxiety/Self-efficacy and Listening Proficiency

The above model accounts for the interrelationship of cognitive inhibition ability, anxiety and self-efficacy, and for their predictions of listening proficiency, as well as for their differences regarding gender and ethnicity. However, in light of the complex links among these variables, it is not clear how these effects were achieved, and the above model doesn't reflect the causal relationship among these variables. Therefore, to interpret the interactive relationships among variables, and reflect the causal relationship among them, a causal model was built based on the findings of the present study and relevant theories. This model should deepen our understanding of inhibition and emotions (including anxiety and self-efficacy) in EFL listening and provide more information than correlation analysis.

To build a causal model, there are many possibilities, i.e. there are more than one hypotheses among variables regarding the cause and effect relationship. Therefore, to test which model is the best, the AMOS software was used to help. Through the use of AMOS software, the pathways between variables and the hypothesized models can be tested, and the statistical results help build a causal model with accuracy. AMOS is a powerful modeling tool, and is specially used for structural equation modeling, path analysis, and confirmatory factor analysis. It is also known as analysis of covariance or causal modeling software. It can help us gain additional insights into causal models and explore the interaction effects and pathways between

variables. More important, AMOS rigorously tests whether the data support hypotheses or not.

In the present study, there are many possibilities of building the cause and effect relationships between CIA, anxiety, self-efficacy and listening performance. Take the relationship between CIA and listening performance as an example, we can say "high CIA causes high listening performance"; we can also say "high listening performance causes high CIA". However, through the use of AMOS, the relationship can be disambiguated as the statistical results show that only one of the two possible cause and effect relationships is true: "high CIA causes high listening performance". Using the same technique, the researcher tested all the possible relationships between CIA, anxiety, self-efficacy, and listening performance. Finally, only one model could be considered as the best causal model between CIA, anxiety, self-efficacy and listening performance (See Figure 5.3).
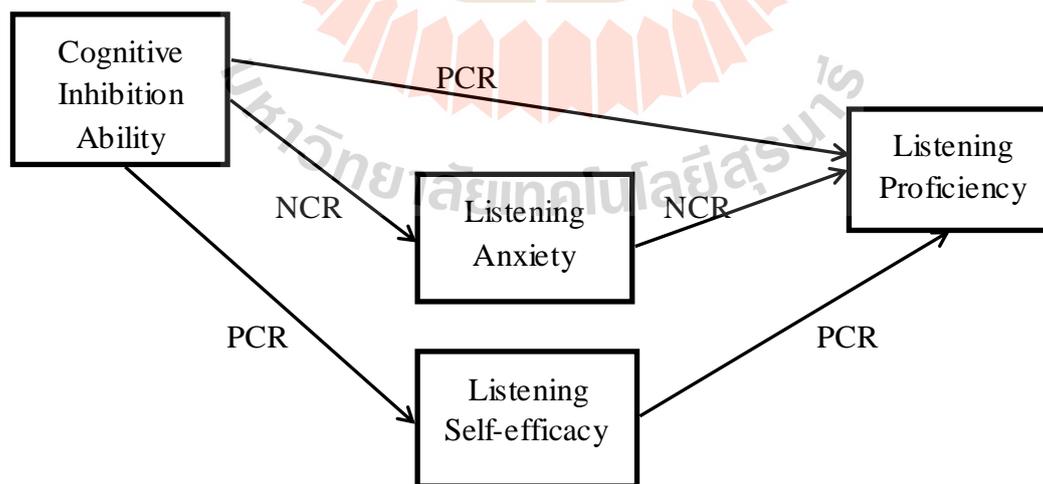
PCR= Positive Causal Relationship
NCR= Negative Causal Relationship

Figure 5.3 A Causal Model for Cognitive Inhibition Ability/Anxiety/Self-efficacy and Listening Proficiency

The causal model appearing in Figure 5.3 is consistent with the findings of the present study. Based on these findings, CIA and listening self-efficacy contribute positively to the listening proficiency, while listening anxiety contributes negatively to the listening proficiency. Therefore, they are connected with single-headed arrows, which indicate that high CIA and self-efficacy cause high listening proficiency, while high anxiety leads to low listening proficiency.

Second, this causal model provides theoretical evidence for the relationship between inhibition and emotion. According to the related theories and studies (Hertel and Gerstle, 2003; Rachman, 1997; Brewin and Beaton, 2002; Friedman and Miyake, 2004; Rassin, 2003), inhibition ability exerts profound effect on emotion, and the role inhibition plays in thought and emotion is positive. Therefore, the single-headed arrows among CIA, anxiety, and self-efficacy were built, which means high CIA causes high self-efficacy, but low anxiety. Table 5.1 displays the results as calculated by AMOS version 17.0 software:

Table 5.1 Goodness of Fit Statistics for the Causal Model

	x^2/df	GFI	AGFI	CFI	TLI	IFI	NFI	RMSEA
Acceptable fit	<3	>.9	>.9	>.9	>.9	>.9	>.9	<.08
Causal model	4.43	.99	.92	.99	.93	.99	.99	.11

As displayed in Table 5.1, the commonly used model fit statistics are given. They include the chi-square/df ratio (x^2/df), the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI), the Tucker-Lewis index (TLI), the incremental fit index (IFI), the normed fit index (NFI),

and the root mean square error of approximation (RMSEA). Among the eight model fit statistics, six were completely acceptable: values of GFI, AGFI, CFI, TLI, IFI, and NFI were all above .9; two of them (values of x^2/df and RMSEA) were a little higher than the acceptable level, but were still very close to it. Therefore, almost all eight indices were close to or above the acceptable threshold level, which verifies that the causal model built in Figure 5.3 is acceptable. Clearly, the results of AMOS test lend support to the causal relationship between CIA, anxiety, self-efficacy, and listening proficiency. That is, high CIA and self-efficacy cause high listening proficiency, while high anxiety causes low listening proficiency. In addition, high CIA causes high self-efficacy and low anxiety (and not the other way around), thus indicating the centrality and importance of CIA development in language learning, a valuable theoretical contribution of the present study to the field of inhibition and emotion studies and, specifically, foreign language education.

5.9 Summary

In summary, this chapter first provides discussions and explanations of the research findings concerning the research questions, and the results are compared with previous studies to see the similarities and differences. Then it proposes the correlation model and causal model based on the findings of the present study and related theories. In the next chapter, conclusions of the findings, implications, limitations, and recommendations for future research will be presented.

CHAPTER 6

CONCLUSION

This chapter summarizes the present study. It is organized into five main sections. The first section summarizes the main findings in relation to the research questions that initiated the study; the second section provides theoretical implications of the study; the third section is concerned with the pedagogical implications; the fourth section discusses about the limitations of the study; and the last section provides recommendations for future research.

6.1 Summary of the Study

This study aimed at exploring the possible relationships between the EFL English majors' cognitive inhibition ability (CIA), anxiety, self-efficacy, and listening performance in the Chinese context. It was conducted to answer the following four research questions:

1) What is the overall state of Chinese EFL students' cognitive inhibition ability (CIA), anxiety and self-efficacy? Are there any significant differences in terms of learners' gender and ethnicity?

2) What are the correlation between the students' cognitive inhibition ability (CIA), anxiety, and self-efficacy?

3) To what extent can the students' listening performances be predicted by their levels of cognitive inhibition ability (CIA), anxiety, and self-efficacy?

4) What are the teachers' suggestions for dealing with students' anxiety, self-efficacy, and cultivating students' cognitive inhibition ability (CIA) in their actual teaching listening practices?

In order to fulfill the research objectives and also seek answers to these questions, a mixed method research design combining quantitative and qualitative methods was employed. Two hundred and seventy-two English majors from the third year participated in the study. The quantitative data were collected through a battery of instruments: a CIA Test using the list-method, a Listening Anxiety Questionnaire (LAQ), a Listening Self-efficacy Questionnaire (LSEQ), and a TEM-4 Listening Test. The qualitative data were collected from semi-structured interviews carried out on three listening teachers of the third year. After the data analysis process, all four questions were answered. What follows is a brief summary of the major findings of the study.

1. The first research question sought to investigate the overall profiles of Chinese EFL English majors' cognitive inhibition ability, anxiety, and self-efficacy, and then to investigate whether there were significant differences depending on gender and ethnicity. Through the use of CIA Test, Listening Anxiety Questionnaire (LAQ), and Listening Self-efficacy Questionnaire (LSEQ), data were collected and analyzed by descriptive statistics, Independent Samples T-test, ANOVA and the Post-hoc Scheffé Test. The main findings were as follows:

With regard to the overall profiles of CIA, anxiety, and self-efficacy, it was

found that: 1). The participants' scores of the CIA Test ranged from 0.1 to 0.8 out of a possible maximum score of 1, with a mean score of 0.49, indicating that most participants achieved scores in the middle of the range for the CIA test. 2). Students' overall anxiety level was moderate, and the same anxiety level was found in all three categories of listening anxiety: Test Anxiety (TA), Communication Apprehension (CA), and Fear of Negative Evaluation (FNE). In addition, students reported high levels of anxiety when taking exams, listening to fast English speech, being asked to answer questions without preparation, and facing difficult sentences. 3). Students on the whole reported having a low of self-efficacy. In regard to the two categories of self-efficacy, students reported having higher self-efficacy in ability than in behavior.

Concerning gender, in the overall picture of students' CIA, female students had a moderately higher CIA level than their male counterparts. Meanwhile, in general female students reported experiencing moderately higher levels of listening anxiety than male students, especially in terms of Fear of Negative Evaluation. However, male students reported having higher levels of self-efficacy than female students to a medium degree, especially in terms of listening ability.

In respect of ethnicity, Chinese Han had significantly higher CIA than Miao and Dong, and the degree of difference was medium. Miao students reported having significantly higher anxiety levels than Han students with medium degree. Among the three categories of anxiety, Miao students also reported feeling more anxious than Han students in Test Anxiety and Fear of Negative Evaluation. In addition, Han

students reported having significantly higher levels of self-efficacy than the Miao and Dong students with a medium degree, the same differences were also found in terms of listening behavior.

2. The second research question sought to explore the relationships between the learners' cognitive inhibition ability, anxiety, and self-efficacy. Correlation analyses were performed to gain insights into the relationships between the three individual variables. Concerning the relationship between CIA and anxiety, results indicated that there was slightly negative relationship between CIA and Anxiety. With regard to the relation between CIA and self-efficacy, a slightly positive relationship was established. As to the relation between anxiety and self-efficacy, it was found that both categories of self-efficacy (SELA and SELB) negatively correlated with three categories of anxiety (TA, CA, and FNE). Among them, SELA and CA appeared to have a high degree of significant negative correlation; with regard to the other correlations, they indicated a medium level of significant negative correlations.

3. The third research question aimed to examine whether developing CIA, improving self-efficacy, and reducing anxiety would improve listening proficiency. This question was answered by regression analyses. Findings revealed that students' listening performance was positively related to CIA and self-efficacy, but negatively related to anxiety. All three independent variables--- CIA, anxiety, and self-efficacy had a large predictive power for listening performance, among them, CIA was the strongest positive predictor, followed by the Self-efficacy, and Anxiety was the least

predictor.

4. The fourth research question was devoted to probing teachers' suggestions on how to deal with students' anxiety, self-efficacy, and help students exclude the irrelevant information in their actual teaching listening practices. The data gathered from semi-structured interviews provided in-depth insights into this question. Among the three interviewees, two of them mentioned that English listening was one of the most difficult subjects both for teachers and students. All the interviewees admitted that according to their observations, listening anxiety really existed among students. They pointed out that especially for the students with low listening proficiency, they tended to feel more anxious.

In terms of the sources of the listening anxiety, the interviewees maintained that students felt nervous in the tests. In addition, when students were facing the fast spoken English, difficult sentences, too many new words, and failing to comprehend the listening materials, they may also feel worried. To deal with the anxiety in listening, teachers should carefully choose the listening materials, pay attention to the pre-listening activities, supervise students' in- and after-class listening activities, and give students positive feedback.

With regard to self-efficacy, the interviewees claimed that the high self-efficacy students were those who had high learning motivation; had better communicative ability; and higher English proficiency. To improve students' sense of self-efficacy, teachers should help students equip themselves with solid basic

knowledge of English; encourage them more and provide positive feedback; make all students be actively involved into activities; and help students set proper listening goals.

To help students focus on the relevant information while listening, the interviewees suggested that the teacher should train students from the following aspects: first, making most use of the time to search the useful information; second, having the ability of taking notes while listening; third, making prediction of the listening materials; finally, cultivating their sense of CIA by doing oral presentation.

On the whole, to improve students' listening ability, the interviewees pointed out the importance of repeated practice. Even to the same listening materials, students need to listen to them repeatedly. Moreover, the interviewees also mentioned that reduce students' listening anxiety and help them build self confidence are also important.

Finally, based on all the findings, a correlation model and a causal model were built to deepen our understanding of inhibition and emotions in EFL listening. The causal model revealed that the role inhibition played in thought and emotion was positive. High CIA caused high self-efficacy, but low anxiety. Meanwhile, high CIA and self-efficacy caused high listening proficiency, while high anxiety led to low listening proficiency.

To conclude, the results of the current study provide some practical evidence to research on language learners' individual differences in L2/FL learning.

Specifically, cognitive and affective factors such as cognitive inhibition, anxiety, and self-efficacy play an important role for learners to promote their listening/language learning proficiency. Therefore, a good knowledge of these areas may provide useful suggestions to researchers and educators.

6.2 Theoretical Implications

Findings of the present study contribute in establishing the theoretical framework of the relationship between inhibition and emotion, which has always been a highly controversial issue. There have been a few studies showing that suppressing unwanted thoughts may cause "rebound" effects of the unwanted thoughts. In other words, people who use thought suppression as a coping strategy should experience the intrusive recurrence of, and a preoccupation with some unwanted thoughts or memories (e.g. Wegner, Schneider, Carter & White, 1987; Muris, Merckelbach & Horselenberg, 1996). Therefore, suppressing unwanted thoughts and memories seem to be a maladaptive strategy. However, some researchers like Hertel and Gerstle (2003) propose that reducing the chance that certain memories will come to mind might be a valuable cognitive skill in depression, especially when the memories are unhappy ones. Depression has been found to be related to weakened control over one's thoughts (Rachman, 1997), and the incidence of unwanted intrusive thoughts or "rebound" effects is in fact linked to the efficiency of inhibition instead of the inhibition per se (e.g. Brewin and Beaton, 2002; Friedman and Miyake, 2004; Rassin,

2003). People who are less successful at suppressing their thoughts may have more rebounds of thoughts intruding into memory because the thoughts were never effectively inhibited or suppressed in the first place. Therefore, what role inhibition plays in thought and emotion control is not completely conclusive, and as Rassin (2003) summarizes, more studies should attend to suppression.

In the present study, cognitive inhibition was found to have negative relationship with anxiety, but positive relationship with self-efficacy, that is, the higher cognitive inhibition ability, the lower the listening anxiety, and the higher self-efficacy level in EFL listening. These findings suggest that the inhibition efficiency played a positive role in controlling emotion, and the efficiency of inhibition mechanism does to a degree affect some learning emotions in a positive direction instead of a negative direction. Based on the findings of the present study, completely attributing suffering from "rebound" effects and constant negative emotions to inhibition seems to be unfair and doubtful. Moreover, these findings also support Rassin's (2003) view that there are individual differences, not only in suppression proneness, but also suppression effectiveness.

In addition, the investigation of the correlation between cognitive inhibition, anxiety, self-efficacy, and listening performance adds evidence to the research of both psychological and EFL fields. The findings that listening performance had positive correlations with cognitive inhibition and self-efficacy, whereas negative correlation with anxiety cast some light on our understanding of individual differences in EFL

learning. According to the results of this study, CIA, anxiety, and self-efficacy are the cognitive and affective factors that play important roles in EFL learning, deserving our attention and calling for further exploration.

6.3 Pedagogical Implications

The present study attempted to explore the relationships between cognitive inhibition ability, anxiety, self-efficacy, and listening performance. Results from this study provide implications for both listening/ language learning and instruction.

1. Developing cognitive inhibition ability. Cognitive inhibition ability as an innate ability differs from person to person. The results of the present study indicate that high CIA leads to high listening proficiency. This provides evidence that learners can promote their listening proficiency by developing their CIA. According to the development characteristics of cognitive inhibition, the training of one's CIA can be divided into two periods: the preschool period and after-school period.

● **Preschool period**

People's inhibitory ability develops quickly especially in the early years. Diamond's (2001) study shows that important developments in inhibitory control take place in the first 6 years of life, with marked improvement between 3-6 years. Therefore, parents should take on the main responsibility for the training of CIA in the preschool period. The mechanism by which we are able to inhibit those automatic actions is regulated by cognitive control, which is a set of processes that allow us to

maintain goal-relevant behavior over the course of a given task. Young children are notorious for being inadequate at stopping their automatic actions during tasks that require inhibition (Munakata, Herd, Chatham, Depue, Banich and Reilly, 2011). They engage cognitive control *reactively*, by responding to stimuli in-the-moment, as they appear in the environment. By contrast, older children typically exhibit a more *proactive* form of cognitive control, in which they anticipate that a prompt will occur, and prepare an appropriate response prior to the prompt. Therefore, training children's inhibition ability requires more skills.

Patterson's (2015) experiment may provide some insights to improve childern's cognitive inhibition ability. In his experiment, 3-4-year-old children participated a go/no-go task, in which participants had to respond when presented with one cue (by opening a box to find stickers) and withhold the tendency to respond when presented with a different cue (leaving the box closed). During this task, children had strong tendency to want to reach automatically to open the boxes to find stickers. No-go trials serve as a measure of inhibitory control because children must maintain task rules to inhibit this prepotent response and stop themselves from reaching when given no-go cues. His experiment was conducted under two conditions, that is, the Reminder condition and No reminder condition. In Reminder conditions, children heard an additional verbal reminder of the instructions and saw the experimenter point to the cue on the box at the beginning of the trial. In No Reminder conditions, children received standard instructions, and did not see the experimenter

point to the cue (see Figure 6.2). The results revealed that "Reminders" improved participants' accuracy on no-go trials, suggesting that task reminders improve children's inhibitory control.
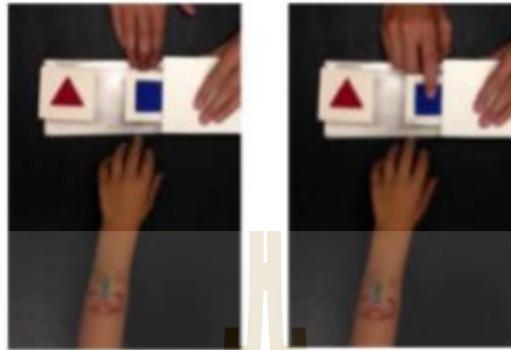
Figure 6.1 Reminder and No Reminder Conditions in Go/No-go Task

*Participant was told to open the box with the blue square to find a sticker, and to leave boxes with the red triangle closed (because they did not contain stickers).

Therefore, to improve children's inhibitory ability, the reactive reminder of the cues is very important. As parents, training children with interesting tasks and games is crucial, especially activities like Go/No-go tasks and Stroop Color-Word tasks are helpful. While doing these tasks, parents should help children train their inhibition mechanism through the use of reactive reminder of the cues. To make the tasks more interesting, the computer may help, thus a computerized and interactive games are strongly recommended.

● **After-school period**

Teachers should be responsible for the CIA training in the after-school period. High cognitive inhibition can be developed through the improvement of working memory and attention. Working memory consists of those mechanisms

dealing with the task-relevant information, and the positive relationship between working memory and inhibitory control has been established by many studies. Individuals who have high working memory capacity are reported to have greater inhibitory control than those with low working memory capacity, as determined through inhibition tasks (Kane and Engle 2003; Chiappe and Chiappe 2007). Long and Prat (2002) also found that individuals with high working memory capacity demonstrated less interference on the Stroop test when the proportion of incongruent trials was relatively high, that is, those with higher working memory scores are better able to inhibit interfering stimuli. All this research justifies that improving one's working memory may lead to the improvement of his/her cognitive inhibition ability.

To achieve the goal of improving one's working memory and CIA, conversational interaction is a good choice, as supported in Gass, Behney and Uzum's (2013) study, in which students were assigned to describe a picture. That is, through the practice of students' information communication ability, their working memory and cognitive inhibition ability were improved. In the process of conversational interaction, students are not only required to have good working memory about the picture description, but they are also required to have the ability to exclude the irrelevant information. Therefore, this study may justify why conversational interaction is important in improving students' cognitive inhibition ability.

In fact, improving students' cognitive inhibition ability through the use of conversational interaction echoes the interviewees' suggestions in the present study.

For example, FCH mentioned the oral practice in training students' CIA: *"In the listening class, after listening to a piece of material, students are encouraged to retell it orally. According to their repetition, teachers then can check whether their retelling covers all the important information or not. If not, they need to practise more. After the training, students' awareness of sensing the relevant information will be enhanced. The more useful information they can repeat, the more capable they become in focusing on the relevant information..."*.

LLD further suggested the conversational interaction in the form of group or pair work: *"...in the listening class, students should not be isolated, and speaking is important. Students should choose their partner(s), and talk with them about the topic related to the listening materials. Especially, after listening to the tape, they need to discuss about it, which may reflect how much relevant information they obtain from the listening materials. If one students forget, the others can help, and through the joint work, the listening class will become interesting also..."*

In addition, to develop students' CIA, some strategies proposed by the interviewees of the present study are also recommended. Such as prediction, taking notes, doing oral practices.

2. Raising awareness of individual differences (IDs). Dörnyei (2006) claims that a great deal of the variation in language learning outcomes is attributable, either directly or indirectly, to various learner characteristics. Findings of the present study support this view. The results of the current study suggest that students' anxiety

had negative relationship with listening performance and contributed negatively to the listening performance, whereas self-efficacy related positively to the listening performance, and made positive contribution to the listening performance. These results provide the evidence that teachers should pay attention to the IDs in listening class, especially the affective differences. More important, alleviating anxiety and enhancing self-efficacy can promote students' listening proficiency.

In the present study, students reported that they felt highly anxious when taking exams, listening to fast English speech, being asked to answer questions without preparation, and facing difficult sentences. Therefore, teachers should first help students cope better in anxiety-provoking situations. Students should be faced with English listening anxiety and foreign learning problems objectively and correctly. Since exams are unavoidable, they need to face them with positive attitudes and proper strategies. According to Ellis (2008), listening comprehension strategies are the particular approaches or techniques that learners use to try to reduce or lower students' listening anxiety and improve their listening comprehension ability. Graham and Macaro (2008) agreed that learners who received listening strategy instruction not only performed significantly better on a listening post-test than whose not receiving instruction, their self-efficacy for listening also improved more. Therefore, when facing the tests, students should be relaxed with positive attitudes. More important, teachers should develop learners' metacognitive awareness of how to use strategies effectively, and thus reduce their test anxiety.

Second, the listening instructors should "create a low-anxiety classroom atmosphere" as Young (1999) says, that is, make the learning situation less stressful. A better choice is to change the traditional teaching model, in which teachers just play a record or cassette, and check the answers with little interactions with students. As an instructor of listening, she/he should provide authentic listening materials to students, and make them get used to the "fast" and authentic pronunciation. Before each listening task, necessary preparation is needed. For example, be familiar with the pronunciation of the new words, predicting the main contents of the listening materials, activating the previous knowledge for inferences etc..

In addition, trying to make the listening class interesting and rewarding is also important. By doing so, a learner does not feel bored or tired with listening. For example, in listening classrooms, music, humorous stories and jokes, interesting narrative stories, deep breathing training can be adopted as supplements to listening textbooks.

Last but not least, positive feedback and continued encouragement may lower the level of the students' anxiety and frustration and enable them to develop self-confidence in learning. Even when mistakes occur, teachers should be tolerant and not over-criticize. Instead, they need to point out the mistakes objectively and help students realize that the same mistakes should be avoided. Especially, in oral practice, Chinese students are characterized by their shyness, and unwilling to open their mouth. At this moment, teachers' encouragements seem essential.

With regard to the self-efficacy, the findings of the present study suggest that enhancing students' self-efficacy level will definitely improve their listening performance. Research suggest that students' self-efficacy might be nurtured through teachers' fostering of the sources of self-efficacy (Pajares and Schunk,2002). Therefore, teachers should first provide opportunity for mastery experiences, which is considered as the most powerful source of self-efficacy. To enhance students' self-efficacy level through the mastery experiences, teachers should make sure that the listening materials and listening tasks employed are appropriate for the students' current levels of listening proficiency. Because tasks difficulties are crucial in affecting the formation of learner's self-efficacy. Bandura (1986) suggested that the amount of effort expended by the learners influences how much their perceived efficacy is derived from performance accomplishments. Successful performance on tasks that are much below the learners' levels of competence does not call for any efficacy reappraisals, and therefore provides little help in increasing the learners' strength of self-efficacy. However, failure in performing learning tasks that are much beyond the learners' current level of competency creates sense of frustration and doubts on one's ability, which in turns undermines the learners' self-efficacy. Thus, teachers should be careful in choosing the listening materials and designing the listening tasks. Improving students' self-efficacy by mastery experiences is recommended, and in this process, students' actual listening proficiency should be taken into consideration while choosing the listening materials and tasks.

Second, from the perspective of students, they need to set proper goals to achieve listening tasks, which is also another way to obtain self-efficacy from mastery experiences. That is, a task can be divided into different goals, after finishing each goal, the task is accomplished too. The accumulated goals then will help learners finish more and more tasks with increasing difficulties. Then the learner may become more and more confident when facing listening tasks. Similarly, the proper goal setting is important, and the goals should be clear, specific, and with proper difficulty level.

In addition, verbal persuasion is considered as another important source of self-efficacy. A positive classroom environment with less student anxiety and teacher criticism has positive influence on both learning and teaching. Teachers should use more praises, pay equally importance to students, and notice students' progress.

Finally, effective use of learning strategies is linked to the development of sense of self-efficacy leading to successful learning. Therefore, learning strategies related to specific tasks should be trained in listening classrooms. These strategies may include cognitive strategies (developing phonological awareness, vocabulary acquisition, and making inferences from texts that comprised of unfamiliar vocabulary); metacognitive strategies (scheduling the most appropriate time of a day/week to work on listening exercises), and social strategies (working on listening tasks with peers who is at a higher level of English listening proficiency). Students may become more confident with some listening skills.

All in all, creating a positive classroom environment, in which students are less anxious and more confident, is consistent with Krashen's (1982) Affective Filter hypothesis. That is, people acquire second languages only if their affective filters (including self-confidence, anxiety etc.) are low enough to allow the input "in". The higher affective filters will block the input. Therefore, the Affective Filter hypothesis implies that teachers' pedagogical goal is not only supplying comprehensible input, but also creating a situation that encourages a low filter.

3. Paying attention to the female students and the ethnic minority students. From the findings of the present study, it is also suggested that instructors pay special attention to female and ethnic minority students in the listening class. The findings reveal that female students and ethnic minority students showed disadvantages in learning listening, and they were more anxious and less confident. Therefore, improving female and minority students' engagement in listening activities is essential. For instance, while engaging in listening activities, teachers should increase opportunities for female and minority students and encourage them to share their views with others based on their comprehension of the listening materials. All this could be done in a friendly, relaxed, helpful and harmonious atmosphere.

For the ethnic minority students, teachers should enhance their sense of the English pronunciation. For the minority students, English for them is the third language, and there are great differences between their mother tongue and English. Under these situations when the L1 and target language are quite different, negative

transfer easily happens to them. Therefore, cultivating their sense of English pronunciation is essential. Instructors can use the authentic listening materials and begin with word pronunciation, then gradually come to sentences and paragraphs. Meanwhile, the minority students can imitate the pronunciation and make themselves feel "familiar" with the sound. Through the practice, the minority students may get used to the English pronunciation and overcome the listening difficulties.

4. Reconsidering the English teaching and learning system in China.
The present study may provide insights for the government departments and policy makers in China. The findings of the current study reveal the importance of individual differences. Students reported that they felt top anxiety in taking exams, less confident in English class, and the ethnic minority students showed disadvantages in English learning. All these findings remind that the policy makers and the departments concerned should take some actions.

It is well known that Chinese kids lack confidence, because the education system is in favor of denying students. Educators are not willing to praise students when they are doing well, and Chinese educators ignore the needs of individual students, often eliminating individual needs in the name of collectivism. With restriction of new ideas and too much criticism, it is not surprising to see that students under these conditions are not confident. Even if some teachers realize these educational defects, they can do little to change this when facing the whole educational environment. Therefore, in curriculum reform, the policy-makers and

curriculum planners should have clear ideas on how to integrate curricula with individual learner differences. They should concentrate more on individual differences and students' needs.

With regard to the Chinese education system, it is a state-controlled system of public education designed by China's Ministry of Education. It emphasizes a nine-year compulsory system (6 years in primary school, and the next 3 years in junior middle school). After another 3 years in the senior middle school, the National College Entrance Examination is held to pick the top-performing students to the universities. Examination is everywhere and it plays a vital role in one's success. As Wong (2009) put it: It's possible that no other country has as many exams as China. From school admissions and job recruitment to promotion in the civil service, exams are an indispensable part of Chinese life. Studies suggest there are currently existing 200 government-organized nationwide examinations and nearly 40 million people appear for them each year, perhaps more, if local-level tests are included in the list. However, the most disadvantage of the exam-oriented evaluation system is the destruction of students' critical thinking and diversities. The purpose of study is searching for the so called correct answers, and any differences from the standard answers are considered as wrong. Therefore, to have a better educational environment, the test-oriented evaluation system should be replaced by a more flexible and individualized one.

In regard to the ethnic minority education, Chinese government should take

more effective measures. There are officially recognized 56 "nationalities" (ethnic groups) in China, including the Han majority and 55 minority groups. Education for ethnic minorities has been high on China's education policy agenda, however, because of the historical reasons, education in ethnic minority areas lags far behind that of most other regions in China in almost every major aspect of educational development. Therefore, the assistance of the ethnic minority areas should be enhanced. Institutionally, a comprehensive educational system from kindergarten, primary and secondary to vocational and higher education should be well established in the ethnic minority regions. More important, the high qualified instructors should be encouraged to work there.

In addition, the other dilemma of ethnic minority education is language. Therefore, Chinese government should think about developing a bilingual system of education for the minority students. That is, in this bilingual education system, the minority languages are the medium of instruction, and teachers are good at both minority languages and English. Besides, the minority language textbooks and teaching materials are available. The curricula for the ethnic minority areas should be different. In short, education in the ethnic minority area should be concerned.

6.4 Limitations of the Study

Although this study yielded some valuable insights into EFL language learners' individual differences, it does not go without some limitations.

Firstly, among the various measures of cognitive inhibition ability, anxiety, and self-efficacy, the present study only selected a single instrument for each variable. Therefore, inevitably, the results generated form these instruments may not always be identical to those elicited from other instruments. In particular, the present study employed the list-method to determine participants' cognitive inhibition ability. However, because of participants' unfamiliarity of the test, their real CIA is hardly likely to be reflected in a single test.

Secondly, the sample was confined to third-year English majors in a Chinese university due to convenience sampling, excluding learners at other levels from other universities which could provide valuable information. Besides, the sample size was not large enough to reflect the nature of the entire population of Chinese undergraduate EFL students. Thus, generalization of the results to all Chinese EFL learners should be treated with caution.

Thirdly, the qualitative data were elicited from the teachers' perspective only, thus students' point of views on cognitive inhibition, anxiety, and self-efficacy were ignored.

Finally, in response to the research questions, the investigation was conducted at a certain point in time as the study was synchronic by nature. However, learners' listening proficiency and cognitive inhibition ability may change with time, and their anxiety and self-efficacy level may vary accordingly. Therefore, the data obtained from the same participants in this instance might show a difference from

those collected at another time.

6.5 Recommendations for Future Research

The aforementioned limitations lead to the need to conduct further research. Based on the information from the study, the researcher offers some recommendations for further research.

Firstly, future studies may consider using multiple instruments with high validity and reliability to create more opportunities of cross-checking the results. Moreover, it is suggested that the list-method be combined with other methods to test participants' CIA. To make the test more interesting and simple, instruments such as Go/No-go task and Color-word Stroop test are good choices.

Secondly, although the results of the present study were effective on the basis of its sample pool, a larger sample size representing diverse populations is recommended for further research. In addition, not only gender and ethnicity, but also other variables like participants' language-learning experience, fields of study, motivation are factors worth investigating.

Thirdly, besides the semi-structured interview from teachers, other qualitative data collecting instruments such as journals from students' perspective can be included in the instrument package to provide more insights into the issue explored.

Finally, future studies might as well consider carrying out a longitudinal

design to allow tracing the same learners at different periods. Learners' changes in cognitive inhibition ability, anxiety, and self-efficacy during this time may provide valuable evidence for further research. In addition, an experimental design concerning about improving students' CIA is also recommended for future research.

In summary, this study has shed new light on the area of individual differences in L2/FL learning, and provided evidence for the relationship between inhibition, emotion and learning. It should be acknowledged that the study is a preliminary attempt on cognitive inhibition ability, anxiety, self-efficacy, and listening performance, the relationships between them could not be exhausted in a single study due to their complexity. Therefore, further research related to this field may yield more effective and valuable findings so as to improve learners' L2/FL learning.
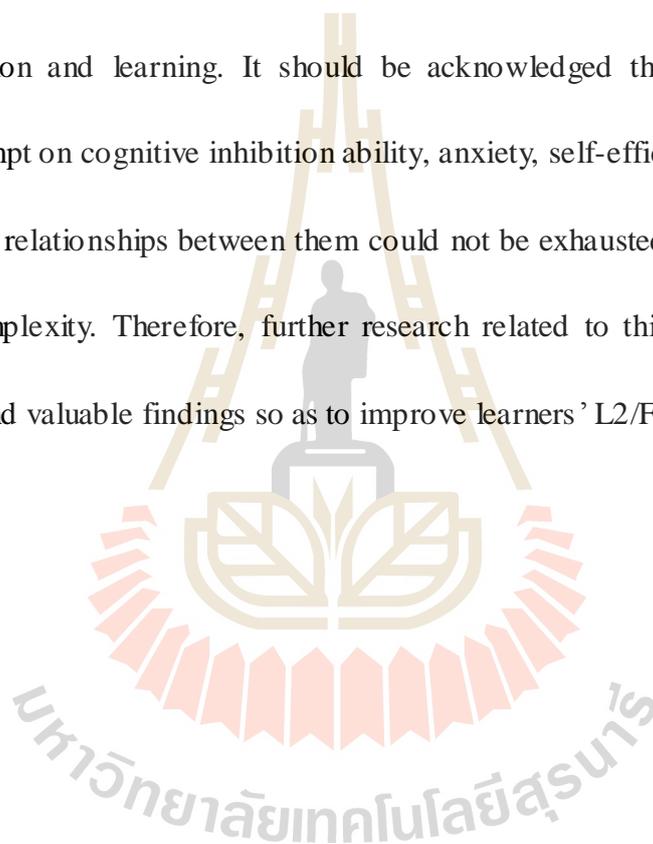
REFERENCES

Ai, X. R. (2015). *Teaching of lexical chunks in English listening class for college students.* Paper presented at the International Conference on Education, Management, Commerce and Society (EMCS), China. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1015.3281&rep=rep1&type=pdf

Akin, A., & Kurbanoglu, I. N. (2011). The relationships between math anxiety, math attitudes, and self-efficacy: A structural equation model. *Studia Psychologica, 53*(3), 263-273.

Akomolafe, M. J., Ogunmakin, A. O., & Fasooto, G. M. (2013). The role of academic self-efficacy, academic motivation and academic self-concept in predicting secondary school students' academic performance. *Journal of Educational and Social Research, 3*(2), 335-342.

Anderson, M. C. (2005). The role of inhibitory control in forgetting unwanted memories: A consideration of three methods. In N. Ohta, C. M. MacLeod & B. Uttl (Eds.), *Dynamic cognitive processes* (pp.159-189). Tokyo: Springer-Verlag.

Anderson, M. C. & Green, C. (2001). Suppressing unwanted memories by executive control. *Nature, 410*, 366-369.

Anderson, M.C., Ochsner, K. N., Kuhl, B., Cooper, J., Robertson, E., Gabrieli, S.W., Glover, G. H., & Gabrieli, J. D. E. (2004). Neural systems underlying the suppression of unwanted memories. *Science, 303*(1), 232-235.

Anderson, M. C., Reinholz, J., Kuhl, B. A., & Mayr, U. (2011). Intentional suppression of unwanted memories grows more difficult as we age. *Psychology and Aging, 26*(2), 397.

Andrés, P., Van der Linden, M., & Parmentier, F. (2004). Directed forgetting in working memory: Age-related differences. *Memory, 12*(2), 248-256.

Anyadubalu, C. C. (2010). Self-efficacy, anxiety, and performance in the English language among middle-school students in English language program in Satri Si Suriyothai School, Bangkok. *International Journal of Human and Social Sciences*, *5*(3), 193-198.

Aron, A. R., Fletcher, P. C., Bullmore, E. T., Sahakian, B. J., & Robbins, T. W. (2003). Stop-signal inhibition disrupted by damage to right inferior frontal gyrus in humans. *Nature Neuroscience, 6*(2), 115-116.

Aron, A. R., Robbins, T. W., & Poldrack, R. A. (2004). Inhibition and the right inferior frontal cortex. *Trends in Cognitive Sciences, 8*(4), 170-177.

Asakereh, A., & Dehghannezhad, M. (2015). Student satisfaction with EFL speaking classes: Relating speaking self-efficacy and skills achievement. *Issues in Educational Research, 25*(4), 345-363.

Atasheneh, N., & Izadi, A. (2012). The role of teachers in reducing/increasing listening comprehension test anxiety: A case of Iranian EFL learners. *English Language Teaching, 5*(3), 178-187.

Atef-Vahid, S., & Kashani, A. F. (2011). The effect of English learning anxiety on Iranian high-school students' English language achievement. *BRAIN: Broad Research in Artificial Intelligence and Neuroscience, 2*(3), 29-44.

Awan, R. U. N., Azher, M., Anwar, M. N., & Naz, A. (2010). An investigation of foreign language classroom anxiety and its relationship with students' achievement. *Journal of College Teaching & Learning*, *7*(11), 33-40.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191.

Bandura, A. (1986). *Social Foundations of Thought and Action*: *A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1994). Self-efficacy. In V.S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (pp.71-81). New York: Academic Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: Freeman.

Bandura, A. (1999). Social cognitive theory: An agentic perspective. *Asian Journal of Social Psychology, 2*(1), 21-41.

Banich, M. T., & Depue, B. E. (2015). Recent advances in understanding neural systems that support inhibitory control. *Current Opinion in Behavioral Sciences*, *1*, 17-22.

Baroun, K., & Alansari, B. (2006). Gender differences in performance on the Stroop test. *Social Behavior and Personality, 34*(3), 309-318.

Basden, B. H., Basden, D. R, & Gargano, G. J. (1993). Directed forgetting in implicit and explicit memory tests: A comparison of methods. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *19*(3), 603-616.

Berry, J. M. (1999). Memory self-Efficacy in its social cognitive context. In Thomas M. H. & Fredda. B.(Ed.), *Social Cognition and Aging* (pp.69-96). San Diego: Academic Press.

Bjork, R. A. (1989). Retrieval inhibition as an adaptive mechanism in human memory. In H. L. Roediger & F. I. M. Craik (Eds.), *Varieties of memory and consciousness: Essays in honour of Endel Tulving* (pp.309-330). Hillsdale, NJ: Erlbaum.

Bjork, R. A., LaBerge, D., & Legrand, R. (1968). The modification of short-term memory through instructions to forget. *Psychonomic Science, 10*(2), 55-56.

Bjorklund, D. F., & Kipp, K. (1996). Parental investment theory and gender differences in the evolution of inhibition mechanisms. *Psychological Bulletin,120*(2), 163-188.

Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really?. *Educational Psychology Review, 15*(1), 1-40.

Booth, J. R., Burman, D. D., Meyer, J. R., Lei, Z., Trommer, B. L., Davenport, N. D., Li, W., Parrish, T.B., Gitelman, D. R., & Mesulam, M. M. (2003). Neural development of selective attention and response inhibition. *Neuroimage, 20*(2), 737-751.

Borella, E., Carretti, B., & Pelegrina, S. (2010). The specific role of inhibition in reading comprehension in good and poor comprehenders. *Journal of Learning Disabilities, 43*(6), 541-552.

Borella, E., & Ribaupierre, A. (2014). The role of working memory, inhibition, and processing speed in text comprehension in children. *Learning and Individual Differences*, *34*, 86-92.

Boyle, J. P. (1984). Factors affecting listening comprehension. *ELT Journal, 38*(1), 34-38.

Brewin, C. R., & Beaton, A. (2002). Thought suppression, intelligence, and working memory capacity. *Behavior Research and Therapy, 40*(8), 923-930.

Britner, S. L., & Pajares, F. (2001). Self-efficacy beliefs, motivation, race, and gender in middle school science. *Journal of women and Minorities in Science and Engineering, 7*(4), 271–285.

Brooks, A. W. (2014). Get excited: Reappraising pre-performance anxiety as excitement. *Journal of Experimental Psychology: General, 143*(3), 1144-1158.

Brown, J. D. (1988). *Understanding Research in Second Language Learning.* Cambridge: Cambridge University Press.

Brown, J. D. (1996). *Testing in Language Programs.* NJ: Prentice Hall Regents.

Brown, S. (2006). *Teaching Listening.* New York: Cambridge University Press.

Cakici, D. (2016). The correlation among EFL learners' test anxiety, foreign language anxiety and language achievement. *English Language Teaching, 9*(8), 190-203.

Carretti, B., Borella, E., Cornoldi, C., & De Beni, R. (2009). Role of working memory in explaining the performance of individuals with specific reading comprehension difficulties: A meta-analysis. *Learning and Individual Differences, 19 (2)*, 246 – 251.

Champagne, F. A., & Curley, J. P. (2005). How social experiences influence the brain. *Current Opinion in Neurobiology, 15*(6), 704-709.

Chan, D. Y. C., & Wu, G. C. (2004). A study of foreign language anxiety of EFL elementary school students in Taipei County. *Journal of National Taipei Teachers College, 17*(2), 287-320.

Chavez, J. F. A., Beltran, F. M., Guerrero, A. C., Enriquez, M. C. Z., & Reyes, J. J. (2014). A gender study on college students' academic self-efficacy. *Science Journal of Education, 2*(6), 180-184.

Chemers, M. M., Hu, L. T., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology, 93*(1), 55-64.

Chen, H.Y., & Shen, Y. Q. (2005). A comparative study on mental health of secondary school students and parental rearing patterns between Miao and Han nationalities. *Chinese School Health Journal, 26*(4), 277-278.

Chen, X. (2015). A tentative study of vocabulary learning anxiety in college English learning in China. *International Journal of English Linguistics, 5*(1), 104-112.

Chiappe, D. L., & Chiappe, P. (2007). The role of working memory in metaphor production and comprehension. *Journal of Memory and Language,56*(2), 172-188.

Clark, J. M. (1996). Contributions of inhibitory mechanisms to unified theory in neuroscience and psychology. *Brain and Cognition, 30(1),* 127-152.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences (2nd ed.).* Hillsdale, NJ: Lawrence Erlbaum Associates.

Consedine, N. S., Magai, C., & Bonanno, G. A. (2002). Moderators of the emotion inhibition-health relationship: *A review and research agenda. Review of General Psychology, 6*(2), 204-228.

Consedine, N. S., Magai, C., Cohen, C. I., & Gillespie, M. (2002). Ethnic variation in the impact of negative affect and emotion inhibition on the health of older adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 57*(5), 396-408.

Cosgrove, K. P., Mazure, C. M., & Staley, J. K. (2007). Evolving knowledge of sex differences in brain structure, function, and chemistry. *Biological psychiatry, 62*(8), 847-855.

Creswell, J.W. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. London: Sage Publications.

Creswell, J. W. (2012). *Educational Research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson Education.

Cui, J. (2011). Research on high school students' English learning anxiety. *Journal of Language Teaching and Research, 2*(4), 875-880.

De Pater, I. E., Van Vianen, A. E., Fischer, A. H., & Van Ginkel, W. P. (2009). Challenging experiences: gender differences in task choice. *Journal of Managerial Psychology, 24*(1), 4-28.

De Vellis, R. R. (2003). *Scale development: Theory and applications* (2nd Ed.). Thousand Oaks: Sage Publications.

Devine, A., Fawcett, K., Szűcs, D., & Dowker, A. (2012). Gender differences in mathematics anxiety and the relation to mathematics performance while controlling for test anxiety. *Behavioral and Brain Functions, 8*(1), 1-9.

Diamond, A. (2001). A model system for studying the role of dopamine in the prefrontal cortex during early development in humans: Early and continuously treated phenylketonuria. In C. Nelson & M. Luciana (Eds.), *Handbook of developmental cognitive neuroscience* (pp. 433–472). Cambridge, MA: MIT Press.

Diamond, A., Barnett, W. S., Thomas, J., & Munro, S. (2007). Preschool program improves cognitive control. *Science, 318*(5855), 1387-1388.

Doordinejad, F. G., & Afshar, H. (2014). On the relationship between self-efficacy and English achievement among Iranian third grade high school students. *International Journal of Language Learning and Applied Linguistics World, 6*(4), 461-470.

Dörnyei, Z. (2003). *Questionnaires in second language research: Construction, administration, and processing.* Mahwah New Jersey: Lawrence Erlbaum Associates Inc.

Dörnyei, Z. (2005). *The Psychology of the Language Learner: Individual Differences in Second Language Acquisition.* Mahwah, N.J.: Lawrence Erlbaum.

Dörnyei, Z. (2006). Individual differences in second language acquisition. *Journal of International Association of Applied linguistics 19*(1), 42-68.

Dörnyei, Z. (2009). *The psychology of second language acquisition.* Oxford: Oxford University Press.

Dowsett, G. (1986). Interaction in the Semi-structured Interview. In M. Emery (ed.), *Qualitative Research*. Canberra: Australian Association of Adult Education.

Ehrman, M. E., Leaver, B. L., & Oxford, R. L. (2003). A brief overview of individual differences in second language learning. *System, 31*(3), 313-330.

Elkhafaifi, H. (2005). Listening comprehension and anxiety in the Arabic language classroom. *The Modern Language Journal, 89*(2), 206-220.

Ellis, R. (2008). *The study of second language acquisition (second edition).* Oxford: Oxford University Press.

Ellis, R. (2012). *Language teaching research and pedagogy.* West Sussex: Wiley Blackwell.

Eysenck, M.W. (1992). *Anxiety: The cognitive perspective.* Hove, England: Erlbaum.

Eysenck, M.W., & Calvo, M.G. (1992). Anxiety and performance: The processing efficiency theory. *Cognition and Emotion, 6*(6), 409-434.

Fan, F. (2010). A discussion on developing students' communicative competence in college English teaching in China. *Journal of Language Teaching and Research, 1*(2), 111-116.

Fard, M.B.(2013). An Investigation into the relationship among self-efficacy, self-esteem, test anxiety and final achievement of English literature students. *Journal of Studies in Learning and Teaching English, 3*(1), 121-138.

Feng, A. (2012). English teaching and learning in ethnic minority regions in China: Challenges and opportunities. In J.N. Ruan & C. B. Leung (Eds.), *Perspectives on Teaching and Learning English Literacy in China* (pp.129-143). Springer Netherlands.

Fox, E. (1994). Attentional bias in anxiety: A defective inhibition hypothesis. *Cognition and Emotion, 8*(2), 165-195.

Fraenkel, J. R., & Wallen, N. E. (2007). *How to Design and Evaluate Research in Education (sixth edition)*. New York: McGraw-Hill.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education (8th ed.)*. New York: McGraw-Hill.

Friedman, N. P., & Miyake, A. (2004). The relations among inhibition and interference control functions: a latent-variable analysis. *Journal of Experimental Psychology: General, 133*(1), 101-135.

Ganschow, L., Sparks, R. L., Anderson, R., Javorshy, J., Skinner, S., & Patton, J. (1994). Differences in language performance among high-, average-, and low-anxious college foreign language learners. *The Modern Language Journal*, *78*(1), 41-55.

Garavan, H., Ross, T. J., & Stein, E. A. (1999). Right hemispheric dominance of inhibitory control: an event-related functional MRI study. *Proceedings of the National Academy of Sciences, 96*(14), 8301-8306.

Gass, S. M., Behney, J. N., & Uzum, B. (2013). Inhibitory control, working memory and L2 interaction. In M. Pawlak (ed.), *Psycholinguistic and sociolinguistic perspectives on second language learning and teaching* (pp. 91-114). Springer Berlin Heidelberg.

Geiselman, E. R., & Bagheri, B. (1985). Repetition effects in directed forgetting: Evidence for retrieval inhibition. *Memory & Cognition, 13*(1), 57-62.

Gernsbacher, M. A. (1993). Less skilled readers have less efficient suppression mechanisms. *Psychological Science, 4*(5), 294-298.

Ghonsooly, B., & Elahi, M. (2010). Learners' self-efficacy in reading and its relation to foreign language reading anxiety and reading achievement. *Journal of English Language Teaching and Learning, 2*(217), 45-68.

Gilakjani, A. P., & Ahmadi, M. R. (2011). A study of factors affecting EFL learners' English listening comprehension and the strategies for improvement. *Journal of Language Teaching and Research, 2*(5), 977-988.

Golchi, M. M. (2012). Listening anxiety and its relationship with listening strategy use and listening comprehension among Iranian IELTS learners. *International Journal of English Linguistics, 2*(4), 115-128.

Graham, S. (2006). Listening comprehension: The learners' perspective. *System, 34*(2), 165-182.

Graham, S., & Macaro, E. (2008). Strategy instruction in listening for low-intermediate learners of French. *Language Learning, 58*(4), 747-783.

Guan, L. (1996). Education of Standard Chinese on the Preschool Minority Students. *Journal of Guizhou Educational Institute, 5*(1), 43-45.

Hackett, G., & Betz, N. E. (1989). An exploration of the mathematics self-efficacy/mathematics performance correspondence. *Journal for Research in Mathematics Education*, *20*(3), 261-273.

Hannum, E. C., & Wang, M. (2010). *Ethnicity, socioeconomic status, and social welfare in China*. Paper presented at the World Bank Report. Washington: World Bank. Retrieved from http://works.bepress.com/emily_hannum/25/

Harnishfeger, K. K. (1995). The development of cognitive inhibition: Theories, definitions, and research evidence. In F. N. Dempster & C. J. Brainerd (Eds.), *New perspectives on interference and inhibition in cognition* (pp. 175–294). New York: Academic Press.

Harnishfeger, K. K., & Pope, R. S. (1996). Intending to forget: the development of cognitive inhibition in directed forgetting. *Journal of Experimental Child Psychology*, *62*(2), 292-315.

Hasher, L., & Zacks, R. T. (1988). Working memory, comprehension, and aging: A review and a new view. In G. H. Bower (Ed.), *The psychology of learning and motivation* (pp. 193-225). New York: Academic Press.

Hertel, P. T., & Gerstle, M. (2003). Depressive deficits in forgetting. *Psychological Science, 14*(6), 573-578.

Hong-Nam, K., & Leavell, A. G. (2006). Language learning strategy use of ESL students in an intensive English learning context. *System, 34(3),* 399-415.

Horwitz, E. K. (2001). Language anxiety and achievement. *Annual Review of Applied Linguistics, 21*, 112– 126.

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern language journal*, *70*(2), 125-132.

Horwitz, E. K., & Young, D. (1991). *Language anxiety: From theory and research to classroom implications.* Englewood Cliffs: Prentice Hall.

House, J. (2003). English as a lingua franca: A threat to multilingualism?. *Journal of Sociolinguistics, 7*(4), 556-578.

Huang, C. (2013). Gender differences in academic self-efficacy: A meta-analysis. *European Journal of Psychology of Education, 28*(1), 1-35.

Huster, R. J., Westerhausen, R., & Herrmann, C. S. (2011). Sex differences in cognitive control are associated with midcingulate and callosal morphology. *Brain Structure and Function, 215*(3), 225-235.

Johnson, B., & Christensen, L. (2012). *Educational Research: Quantitative, Qualitative, and Mixed Approaches (Fourth edition).* London: Sage.

Jones, L. C., & Plass, J. L. (2002). Supporting listening comprehension and vocabulary acquisition in French with multimedia annotations. *The Modern Language Journal, 86*(4), 546-561.

Just, M. A., & Carpenter, P. A. (1992). A capacity theory of comprehension: individual differences in working memory. *Psychological Review, 99*(1), 122-149.

Kane, M. J., & Engle, R. W. (2003). Working-memory capacity and the control of attention: the contributions of goal neglect, response competition, and task set to Stroop interference. *Journal of Experimental Psychology: General, 132*(1), 47-70.

Kinzie, M. B., & Delcourt, M. A. (1991). *Computer technologies in teacher education: The measurement of attitudes and self-efficacy.* Paper presented at the annual meeting of the American Educational Research Association (AERA), Chicago. Retrieved from https://eric.ed.gov/?id=ED331891

Kitano, K. (2001). Anxiety in the college Japanese language classroom. *The Modern Language Journal, 85*(4), 549-566.

Klassen, R. (2004). A cross-cultural investigation of the efficacy beliefs of South Asian immigrant and Anglo non-immigrant early adolescents. *Journal of Educational Psychology, 96*(4), 731–742.

Koul, R., Roy, L., Kaewkuekool, S., & Ploisawaschai, S. (2009). Multiple goal orientations and foreign language anxiety. *System, 37*(4), 676-688.

Kramer, A. F., Humphrey, D. G., Larish, J. F., & Logan, G. D. (1994). Aging and inhibition: Beyond a unitary view of inhibitory processing in attention. *Psychology and Aging, 9*(4), 491-512.

Krashen, S. D. (1981). *Second language acquisition and second language learning.*

Oxford: Pergamon Press.

Krashen, S. D. (1982). *Principles and Practice in Second Language Acquisition.*

Oxford: Pergamon Press.

Leaver, B. L., Ehrman, M., & Shekhtman, B. (2005). *Achieving success in second*

language acquisition. Cambridge: Cambridge University Press.

Lee, M. R., Okazaki, S., & Yoo, H. C. (2006). Frequency and intensity of social

anxiety in Asian Americans and European Americans. *Cultural Diversity and*

Ethnic Minority Psychology, 12(2), 291-305.

Lent, R. W., Brown, S. D., & Larkin, K. C. (1984). Relation of self-efficacy

expectations to academic achievement and persistence. *Journal of Counseling*

Psychology, 31(3), 356.

Li, C. R., Huang, C., Constable, R. T., & Sinha, R. (2006). Gender differences in the

neural correlates of response inhibition during a stop signal

task. *Neuroimage, 32*(4), 1918-1929.

Li, Y., & Wang, C. (2010). An empirical study of reading self-efficacy and the use of

reading strategies in the Chinese EFL context. *Asian EFL Journal, 12*(2),

144-162.

Lian, A. P. (2000). From first principles: Constructing language learning and teaching

environments. Paper presented at the 9th International Symposium and Bookfair,

English Teachers' Association of the Republic of China, Taipei.

Lian, A. P. (2004). Technology-enhanced language-learning environments: A rhizomatic approach. *Computer-assisted language learning: Concepts, contexts and practices*, 1-20.

Lian, A. P. (2011). Reflections on language-learning in the 21st century: The rhizome at work. *Rangsit Journal of Arts and Sciences*, *1*(1), 5-17.

Liang, D. (2005). The reasons of hard to carry out the quality-oriented education: an explanation based on the game theory. *Journal of Jiangsu Institute of Education, 69*(4), 512-517.

Liang, Y. S. (2000). *Study on Achievement Goals, Attribution Styles and Academic Self-efficacy of College Students*. (Master's thesis, Central China Normal University, China). Retrieved from: http://www.docin.com/p-511653091.html

Littlewood, W. (2000). *Communicative Language Teaching*. Beijing: Foreign Language Teaching and Research Press.

Liu, H. (2007). A comparative study of psychological health of junior middle school students of the Miao and the Han Origins. *Journal of Guizhou Education Institute (Social Science), 23*(5), 1-4.

Liu, H. J. (2012). Understanding EFL undergraduate anxiety in relation to motivation, autonomy, and language proficiency. *Electronic Journal of Foreign Language Teaching, 9*(1), 123-139.

Liubinienė, V. (2009). Developing listening skills in content and language integrated learning (CLIL). *Studies about Languages, 15*, 89-93.

Long, D. L., & Prat, C. S. (2002). Working memory and Stroop interference: An individual differences investigation. *Memory and Cognition, 30*(2), 294-301.

Lorsbach, T. C., & Reimer, J. F. (1997). Developmental changes in the inhibition of previously relevant information. *Journal of Experimental Child Psychology, 64*(3), 317-342.

MacIntyre, P. D. (1995). How does anxiety affect second language learning? A reply to Sparks and Ganschow. *The Modern Language Journal, 79*(1), 90-99.

MacIntyre, P. D. (1999). Language anxiety: A review of the research for language teachers. In D. J. Young (ed.), *Affect in Foreign Language and Second Language Learning* (pp. 24-41). New York: McGraw-Hill.

MacIntyre, P. D., & Gardner, R. C. (1994). The subtle effects of language anxiety on cognitive processing in the second language. *Language learning, 44*(2), 283-305.

MacLeod, C. M. (2007). The concept of inhibition in cognition. In D. S. Gorfein & C. M. MacLeod (Eds.), *Inhibition in Cognition* (pp.3–23). Washington: American Psychological Association.

MacLeod, C. M., Dodd, M. D., Sheard, E. D., Wilson, D. E., & Bibi, U. (2003). In opposition to inhibition. In B. H. Ross (Ed.), *The psychology of learning and motivation: Advances in research and theory* (pp. 163-214). San Diego: Academic Press.

Matsumoto, D. (1993). Ethnic differences in affect intensity, emotion judgments, display rule attitudes, and self-reported emotional expression in an American sample. *Motivation and Emotion, 17*(2), 107–123.

McCall, R. B., & Carriger, M. S. (1993). A meta-analysis of infant habituation and recognition memory performance as predictors of later IQ. *Child Development, 64*(1), 57-79.

McConatha, J. T., Lightner, E., & Deaner, S. L. (1994). Culture, age, and gender as variables in the expression of emotions. *Journal of Social Behavior and Personality, 9* (3), 481–488.

McDonough, S. H. (1995). *Strategy and skill in learning a foreign language.* London: Edward Arnold.

Melka, S. E., Lancaster, S. L., Adams, L. J., Howarth, E. A., & Rodriguez, B. F. (2010). Social anxiety across ethnicity: A confirmatory factor analysis of the FNE and SAD. *Journal of Anxiety Disorders, 24*(7), 680-685.

Mills, N., Pajares, F., & Herron, C. (2006). A re-evaluation of the role of anxiety: Self-efficacy, anxiety, and their relation to reading and listening proficiency. *Foreign Language Annals, 39*(2), 276-295.

Mills, N., Pajares, F., & Herron, C. (2007). Self-efficacy of college intermediate French students: Relation to achievement and motivation. *Language Learning, 57*(3), 417-442.

MOE. (2000). *English Syllabus Design for English Majors.* Beijing: Foreign Language Teaching and Research Press & Shanghai: Shanghai Foreign Language Education Press.

MOE. (2007). *College English Curriculum Requirements.* Beijing: Foreign Language Teaching and Research Press & Shanghai: Shanghai Foreign Language Education Press.

Mun, Y. Y., & Hwang, Y. (2003). Predicting the Use of Web-based Information Systems: Self-efficacy, Enjoyment, Learning Goal Orientation, and the Technology Acceptance Model. *International Journal of Human-computer Studies, 59*(4), 431-449.

Munakata, Y., Herd, S. A., Chatham, C. H., Depue, B. E., Banich, M. T., & Reilly, R. C. (2011). A unified framework for inhibitory control. *Trends in Cognitive Sciences, 15*(10), 453-459.

Muris, P., Merckelbach, H., & Horselenberg, R. (1996). Individual differences in thought suppression. The White Bear Suppression Inventory: Factor structure, reliability, validity and correlates. *Behavior Research and Therapy,34*(5), 501-513.

Na, Z. (2007). A study of high school students' English learning anxiety. *The Asian EFL Journal, 9*(3), 22-34.

Naseri, M., & Zaferanieh, E. (2012). The relationship between reading self-efficacy beliefs, reading strategy use and reading comprehension level of Iranian EFL learners. *World Journal of Education, 2*(2), 64-75.

Nie, Y., Lau, S., & Liau, A. K. (2011). Role of academic self-efficacy in moderating the relation between task importance and test anxiety. *Learning and Individual Differences, 21(6),* 736-741.

Nunan, D. (1992). *Research Methods in Language Learning.* Cambridge: Cambridge University Press.

Okazaki, S. (1997). Sources of ethnic differences between Asian American and white American college students on measures of depression and social anxiety. *Journal of Abnormal Psychology, 106*(1), 52-60.

Osada, N. (2004). Listening comprehension research: A brief review of the past thirty years. *Dialogue, 3*(1), 53-66.

Oxford, R. L. (1999). Anxiety and the language learner: New insights. In J. Arnold (ed.), *Affect in language learning* (pp. 58-67). Cambridge: Cambridge University Press.

Pajares, F. (2002). Gender and perceived self-efficacy in self-regulated learning. *Theory into Practice, 41*(2), 116-125.

Pajares, F., & Graham, L. (1999). Self-efficacy, motivation constructs, and mathematics performance of entering middle school students. *Contemporary Educational Psychology, 24* (2), 124-139.

Pajares, F., & Schunk, D. H. (2002). Self and self-belief in psychology and education: A historical perspective. In J. Aronson (Ed.), *Improving Academic Achievement: Impact of psychological factors on education* (pp. 3-21). San Diego, CA: Academic Press.

Paniak, C., Miller, H.B., Murphy, D., & Patterson, L. (1996). Canadian development norms for 9 to 14 year-olds on the Wisconsin Card Sorting Test. *Canadian Journal of Rehabilitation, 9* (4), 233-237.

Park, G. P., & French, B. F. (2013). Gender differences in the foreign language classroom anxiety scale. *System, 2*(41), 462-471.

Park, H., & Lee, A. R. (2005). *L2 learners' anxiety, self-confidence and oral performance*. Paper presented at the 10th Conference of Pan-Pacific Association of Applied Linguistics, Edinburgh University, England. Retrieved from http://paaljapan.org/resources/proceedings/PAAL10/pdfs/hyesook.pdf

Patterson, E. N. (2015). Improving children's inhibitory control: Effects of prior task instructions versus in-the-moment reminders (Undergraduate honors thesis, University of Colorado, U.S.A). Retrieved from http://scholar.colorado.edu/cgi /viewcontent.cgi?article=2090&context=honr_theses

Pauls, F., Petermann, F., & Lepach, A. C. (2013). Gender differences in episodic memory and visual working memory including the effects of age. *Memory, 21*(7), 857-874.

Paz-Alonso, P. M., Ghetti, S., Matlen, B. J., Anderson, M. C., & Bunge, S. A. (2009). Memory suppression is an active process that improves over childhood. *Frontiers in Human Neuroscience, 3*(24)*,* 1-6.

Peterson, P. W. (2001). Skills and strategies for proficient listening. In M. Celce-Murcia (Ed.), *Teaching English as a Second or Foreign Language* (3rd ed.). Boston: Heinle & Heinle Publishers.

Phakiti, A. (2014). *Experimental Research Methods in Language Learning*. London: Bloomsbury.

Pimperton, H. & Nation, K. (2010). Suppressing irrelevant information from working memory: Evidence for domain-specific deficits in poor comprehenders. *Journal of Memory and Language, 62*(4), 380-391.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*(1), 33.

Piran, N. A. (2014). The relationship between self-concept, self-efficacy, self-esteem and reading comprehension achievement: Evidence from Iranian EFL learners. *International Journal of Social Sciences & Education*, *5*(1), 58-66.

Prince, P. (2014). Listening comprehension: Processing demands and assessment issues. In P. Leclercq, A. Edmonds & H. Hilton (eds.), *Measuring L2 Proficiency: Perspectives from SLA,* (pp.93–108). Toronto: Multilingual Matters.

Rachman, S. (1997). A cognitive theory of obsessions. *Behavior Research and Therapy, 35*(9), 793-802.

Rahemi, J. (2007). Self-efficacy in English and Iranian senior high school students majoring in humanities. *Novitas-Royal, 1*(2), 98-111.

Rahimi, A., & Abedini, A. (2009). The interface between EFL learners' self-efficacy concerning listening comprehension and listening proficiency. *Novitas-Royal (Research on Youth and Language), 3*(1), 14-28.

Rasor, L. T., & Rasor, R. A. (1998). *Test anxiety and study behavior of community college students in relation to ethnicity, gender, and age.* Retrieved from http://files.eric.ed.gov/fulltext/ED415942.pdf

Rassin, E. (2003). The White Bear Suppression Inventory (WBSI) focuses on failing suppression attempts. *European Journal of Personality, 17*(4), 285-298.

Reddington, L. A., Peverly, S. T., & Block, C. J. (2015). An examination of some of the cognitive and motivation variables related to gender differences in lecture note-taking. *Reading and Writing, 28*(8), 1155-1185.

Richards, J. C. (2009). *Teaching listening and speaking: From theory to practice.* New York: Cambridge University Press.

Rizio, A. A., & Dennis, N. A. (2014). The cognitive control of memory: Age differences in the neural correlates of successful remembering and intentional forgetting. *Plos One*, *9*(1), 1-12.

Robinson, P. (2002). Learning conditions, aptitude complexes and SLA: A framework for research and pedagogy. In P. Robinson (Ed.), *Individual Differences and Instructed Language Learning*. Amsterdam: John Benjamins.

Rost, M. (1993). *Listening in Language Learning*. New York: Longman.

Rost, M. (2002). *Teaching and Researching Listening*. London: Pearson Education.

Rost, M. (2013). *Teaching and Researching: Listening*. New York: Routledge.

Rubin, J. (1994). A review of second language listening comprehension research. *The Modern Language Journal, 78*(2), 199-221.

Sadeghi, K., & Khonbi, Z. A. (2015). Language learning aptitude (LLA) and language learning strategy (LLS) use among Iranian university EFL students: Patterns and relationships. *Eurasian Journal of Applied Linguistics*, *1*(1), 77-96.

Šafranj, J. (2013). Strategies of learning English as a foreign language at faculty of technical sciences. *Procedia-Social and Behavioral Sciences*, *93*(21), 775-782.

Sahakyan, L., & Foster, N. L. (2009). Intentional forgetting of actions: Comparison of list-method and item-method directed forgetting. *Journal of Memory and Language, 61*(1), 134-152.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*(3), 207-231.

Schunk, D. H., & Hanson, A. R. (1985). Peer models: Influence on children's self-efficacy and achievement. *Journal of Educational Psychology, 77*(3), 313-322.

Schunk, D. H., Hanson, A. R., & Cox, P. D. (1987). Peer-model attributes and children's achievement behaviors. *Journal of Educational Psychology, 79*(1), 54-61.

Scovel, T. (1978). The effect of affect on foreign language learning: A review of the anxiety research. *Language Learning, 28*(1), 129-142.

Sdorow, L. M. (1998). *Psychology*. Boston, Massachusetts: McGraw-Hill.

Sego, S. A., Golding, J. M., & Gottlob, L. R. (2006). Directed forgetting in older adults using the item and list methods. *Aging, Neuropsychology, and Cognition, 13*(1), 95-114.

Shell, D. F., Murphy, C. C., & Bruning, R. H. (1989). Self-efficacy and outcome expectancy mechanisms in reading and writing achievement. *Journal of Educational Psychology, 81*(1), 91-100.

Shi, C. J. (2008). The relationship between self-efficacy and achievement motivation of graduate students. *Journal of Jing Gang Shan Medical College. 15*(2), 74-76.

Shkullaku, R. (2013). The relationship between self-efficacy and academic performance in the context of gender among Albanian students. *European Academic Research, 1*(4), 467-478.

Skehan, P. (1989). *Individual Differences in Second-language Learning*. London: Edward Arnold.

Song, Y. W., & Bai X. J. (2003). The development of the cognitive inhibitory mechanism of directed forgetting. *Psychological Science, 26*(4), 727-728.

Song, Y. W., Bai, X.J., & Yun, T. (2003). Intentional forgetting for pupils with different academic achievement. *Studies of Psychology and Behavior, 2*, 11-23.

Stevens, T., Olivarez, A., Lan, W. Y., & Tallent-Runnels, M. K. (2004). Role of mathematics self-efficacy and motivation in mathematics performance across ethnicity. *The Journal of Educational Research, 97*(4), 208-222.

Strau, A., Wöstmann, M., & Obleser, J. (2014). Cortical alpha oscillations as a tool for auditory selective inhibition. *Frontiers in Human Neuroscience, 5*(8), 14-20.

Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research Techniques and Procedures for Developing Grounded Theory (2nd ed.).* London: Sage Publications.

Sunderland, J. (2000). Issues of language and gender in second and foreign language education. *Language teaching, 33*(4), 203-223.

Takeno, J., & Takatsuka, S. (2007). Factors affecting listening comprehension ability of Japanese learners of English. *Annual Review of English Language Education in Japan*, *18*, 1-10.

Tasee, P. (2009). *Factors affecting English major students' anxiety about speaking English.* (Ph.D. Thesis, Suranaree University of Technology, Thailand).

Thompson, I., & Rubin, J. (1996). Can strategy instruction improve listening comprehension?. *Foreign Language Annals, 29*(3), 331-342.

Tobias, S. (1986). Anxiety and cognitive processing of instruction. In R. Schwarzer (ed.), *Self-related cognition in anxiety and motivation* (pp. 35-54). Hillsdale, NJ: Erlbaum.

Todor, I. (2012). Directed forgetting and academic performance in secondary school students. *Procedia-Social and Behavioral Sciences, 69*(24), 1395-1401.

Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campell (Ed.), *Sexual selection and the descent of man* (pp.136-179). Chicago: Aldine.

Uhrig, K. (2015). Learning styles and strategies for language use in the context of academic reading tasks. *System, 50*, 21-31.

Usher, E. L., & Pajares, F. (2006). Sources of academic and self-regulatory efficacy beliefs of entering middle school students. *Contemporary Educational Psychology, 31*(2), 125-141.

Vandergrift, L. (1999). Facilitating second language listening comprehension: Acquiring successful strategies. *English Language Teaching Journal*, *53*(3), 168-176.

Vandergrift, L. (2002). *Listening: theory and practice in modern foreign language competence.* Retrieved from https://www.llas.ac.uk/resources/gpg/67

Vandergrift, L. (2007). Recent developments in second and foreign language listening comprehension research. *Language Teaching, 40*(3), 191-210.

Waldhauser, G. T., Johansson, M., Bäckström, M., & Mecklinger, A. (2011). Trait anxiety, working memory capacity, and the effectiveness of memory suppression. *Scandinavian Journal of Psychology, 52*(1), 21-27.

Wang, H. (1986). *Chinese Frequency Dictionary*. Beijing: Beijing Language and Culture University Press.

Wang, Q. (2007). The national curriculum changes and their effects on English language teaching in the People's Republic of China. In J. Cummins & C. Davison (Eds.), *International handbook of English language teaching* (pp. 87-105). New York: Springer.

Wang, S. (2010). An experimental study of Chinese English major students' listening anxiety of classroom learning activity at the university level. *Journal of Language Teaching and Research, 1*(5), 562-568.

Wegner, D. M., Schneider, D. J., Carter, S. R., & White, T. L. (1987). Paradoxical effects of thought suppression. *Journal of Personality and Social Psychology, 53*(1), 5-13.

Wegner, D. M., & Zanakos, S. (1994). Chronic thought suppression. *Journal of Personality, 62* (4), 615-640.

Wei, R., & Su, J. (2012). The statistics of English in China. *English Today*, *28*(3), 10-14.

White, H. A. (2007). Inhibitory control of proactive interference in adults with ADHD. *Journal of Attention Disorders, 11*(2), 141-149.

Wong, S. (2009). In China, an easy route to academic glory, *Asia Times, 25*(11), 1-12.

Wood, J., Mathews, A., & Dalgleish, T. (2001). Anxiety and cognitive inhibition. *Emotion, 1*(2), 166-181.

Woodrow, L. (2006). Anxiety and speaking English as a second language. *RELC Journal, 37*(3), 308-328.

Woodrow, L. (2011). College English writing affect: Self-efficacy and anxiety. *System, 39*(4), 510-522.

Wu, X.J., & Abidin, M. J. Z. (2013). English listening comprehension problems of students from China learning English in Malaysia. *Language in India, 13*(4), 14009-14022.

Wu, Y. A. (1998). What do tests of listening comprehension test?-A retrospection study of EFL test-takers performing a multiple-choice task. *Language Testing, 15(1)*, 21-44.

Wu, Y. A. (2001). English language teaching in China: Trends and challenges. *TESOL Quarterly, 35*(1), 191-194.

Wylie, G. R., Foxe, J. J., & Taylor, T. L. (2008). Forgetting as an active process: An fMRI investigation of item-method–directed forgetting. *Cerebral Cortex, 18*(3), 670-682.

Xu, X. (2013). Empirical Study on the English Listening Learning Anxiety. *Theory and Practice in Language Studies, 3*(8), 1375-1380.

Yan, J. X., & Horwitz, E. K. (2008). Learners' perceptions of how anxiety interacts with personal and instructional factors to influence their achievement in English: A qualitative analysis of EFL learners in China. *Language Learning, 58*(1), 151-183.

Yang, W., Liu, P., Cui, Q., Wei, D., Li, W., Qiu, J., & Zhang, Q. (2013). Directed forgetting of negative self-referential information is difficult: An fMRI study. *Plos One, 8*(10), 1-7.

Yang, W., Yang, J., Xiao, X., Zhang, Q. (2012). Directed forgetting of negative memories and its mechanisms. *Journal of Psychological Science, 35*(1), 50-55.

Yang, X.H. (2006). *Relationships among retrieval inhibition, anxiety, and self-efficacy in EFL listening comprehension* (Doctor's thesis, University of Shanghai Jiao Tong University, Shanghai, China).

Yang, X. H. (2010). Intentional Forgetting, Anxiety, and EFL listening comprehension among Chinese college students. *Learning and Individual Differences*, *20*(3), 177-187.

Young, D. (1999). *Affect in foreign language and second language learning: A practical guide to creating a low-anxiety classroom atmosphere*. Boston: McGraw-Hill.

Zacks, R. T., Radvansky, G., & Hasher, L. (1996). Studies of directed forgetting in older adults. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 22*(1), 143-156.

Zhang, L. J. (2001). Exploring variability in language anxiety: Two groups of PRC students learning ESL in Singapore. *RELC Journal, 32*(1), 73-91.

Zhi, F. Y., Yang, W. X., & Zhou, Y. L. (2003). A research on comparing anxiety of secondary school students between the Miao and the Han in Guizhou province. *Journal of Guizhou Normal University, 21*(4), 13-16.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25*(1), 82-91.

Zimmerman, B. J., & Cleary, T. J. (2006). Adolescents' development of personal agency: The role of self-efficacy beliefs and self-regulatory skill. In F. Pajares & T. Urdan (Eds.), *Self-efficacy Beliefs of Adolescents* (pp. 45-69). Greenwich, CT: Information Age.
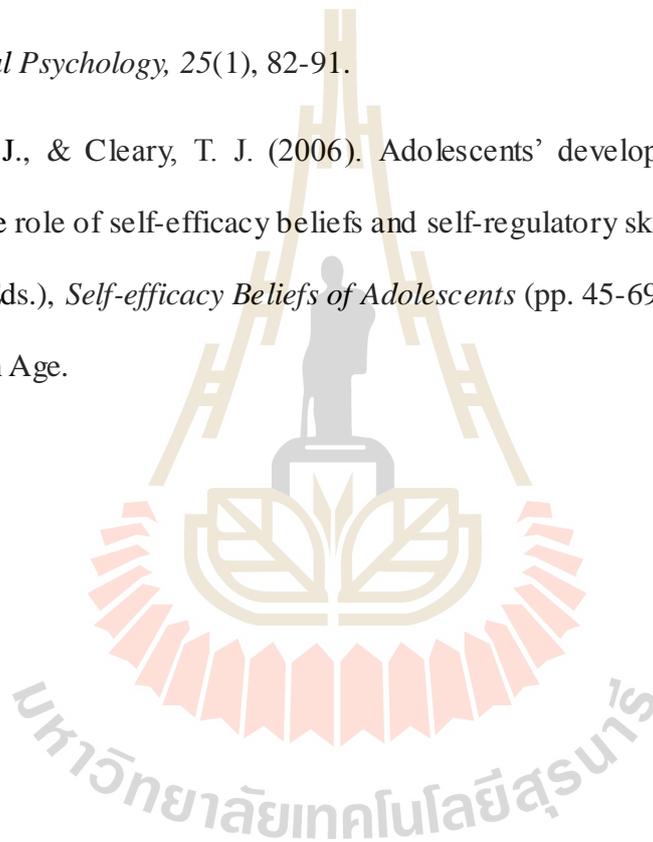
APPENDICES
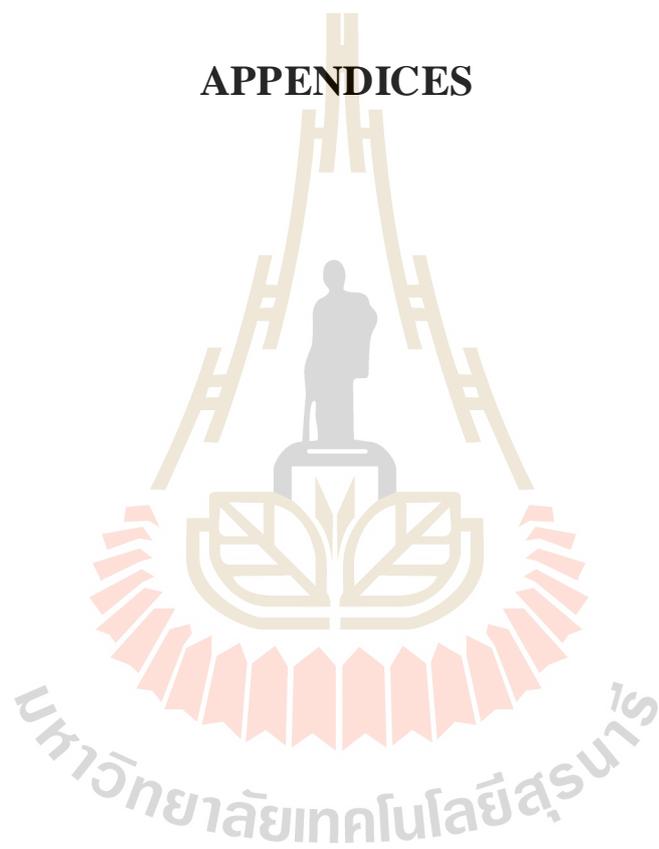
APPENDIX A

The Cognitive Inhibition Ability Test (CIAT)：

Word List Used in the Directed Forgetting

(认知抑制能力测试:有意遗忘中的词表任务材料)

Word list-1 (词表-1)						
No. (序号)	Word (词语)	Mean of Usage (使用度)	Mean of Frequency (频率)	No. (序号)	Word (词语)	Mean of Usage (使用度)	Mean of Frequency (频率)
1	用品 Appliance	11	0.0013	9	关节 Arthrosis	10	0.0011
2	学徒 apprentice	11	0.0013	10	火炉 Stove	10	0.0013
3	三角 Triangle	11	0.0013	11	外衣 Outerwear	11	0.0013
4	技能 Skill	11	0.0013	12	决策 Decision-making	11	0.0013
5	花费 Expenditure	11	0.0013	13	产业 Industry	10	0.0011
6	哈欠 Yawn	11	0.0012	14	知觉 Consciousness	11	0.0013
7	夜空 Night sky	10	0.0013	15	书房 Study	10	0.0013
8	名称 Designation	10	0.0011				

Word list-2 (词表-2)							
No. (序号)	Word (词语)	Mean of Usage (使用度)	Mean of Frequency (频率)	No. (序号)	Word (词语)	Mean of Usage (使用度)	Mean of Frequency (频率)
1	眼力 Eyesight	11	0.0013	9	文献 Literature	10	0.0013
2	心灵 Soul	11	0.0013	10	法官 Judge	10	0.0012
3	通知 Notice	11	0.0013	11	娱乐 Entertainment	10	0.0011
4	路程 Journey	11	0.0013	12	湿度 Humidity	10	0.0011
5	家长 Parents	11	0.0013	13	东西 Stuff	10	0.0011
6	大厦 Mansion	11	0.0013	14	情节 Plot	11	0.0011
7	游戏 Game	11	0.0013	15	白发 White hair	10	0.0013
8	山腰 Hillside	11	0.0013				

APPENDIX B

College Students Listening Anxiety Questionnaire (LAQ),

and Listening Self-efficacy Questionnaire (LSQ)

Directions: The following questionnaire is about listening anxiety, and listening self-efficacy. It consists of two parts, the first part is about your personal information on ID, gender, ethnicity, age, etc..The second part is about the questionnaires on listening anxiety and listening self-efficacy. Please read each item carefully, and answer the questions by filling in the blanks or click "√" in the proper space that best indicates the degree to which each statement applies to you by marking whether you think it is (1) never or almost never true of me, (2) usually not true of me, (3) somewhat true of me (4) usually true of me or (5) always or almost always true of me. There are no right or wrong answers. Your information is only used in this research and will be kept confidential.

Please indicate the degree you respond to the statement provided:

"**Never or almost never true of me**" means that the statement is very rarely true of you.

"**Usually not true of me**" means that the statement is true less than half the time.

"**Somewhat true of me**" means the statement is true of you about half the time.

"**Usually true of me**" means the statement is true more than half the time.

"**Always or almost always true of me**" means the statement is true of you almost always.

Part I: Personal Information

1. Your ID: _____

2. Your gender: ☐Male ☐Female

3. Your age: _____

4. Your ethnicity:_____

5. Please indicate the level of your English listening ability: ☐poor☐fair☐good

Part II: Questionnaire on Listening Anxiety and Listening Self-efficacy

B-1 Listening Anxiety Questionnaire

Statement	Opinion				
	Never or almost never true of me（完全不符合我）	Usually not true of me（不怎么符合我）	Some-what true of me（有点符合我）	Usually true of me（比较符合我）	Always or almost always true of me（完全符合我）
Communication Apprehension:					
1. I tremble when I know that I'm going to be called on in English listening class.（英语听力课上被点名会让我感到不安。）					
2. It frightens me when I don't understand what the teacher is saying in the English listening class.（英语听力课上，当听不懂老师讲的内容时，会让我感到很害怕。）					
3. I would be nervous in communicating with native speakers of English.（和说英语母语的人交流我会很紧张。）					
4. Even if I'm well prepared for the listening class, I feel anxious about it.（即使我已经准备得很好了，但上听					

力课我任然会感到担心。）					
5. I don't like studying English listening course. （我不喜欢上英语听力课。）					
6. I feel more tense and nervous in my English listening class than in my other classes. （英语听力课比其它课程都让我感到紧张和不安。）					
7. I get nervous when I don't understand every word the teacher says. （听不懂老师讲的每句话时，我会担心。）					
8. I would probably feel uncomfortable around native speakers of English. （和说英语母语的人在一起让我感到不安。）					
9. I feel nervous to listen to English no matter how difficult or easy a listening task is. （不管听力任务简单还是难，我听的时候都会很紧张。）					
10. I'm tense and nervous using English in group discussions. （小组讨论时使用英语会让我感到紧张和不安。）					
11. I always worry I can't completely understand when listening to the fast speaking English. （当听快速的英语时，我常常担心不能完全听懂。）					
Test Anxiety:					
12. I feel nervous during listening tests. （听力考试时我很紧张。）					
13. The more I study for a listening test, the more confused I get. （听力考试复习得越多，我越感到困惑。）					

14. I'm worried about making mistakes when doing a listening test. （听力考试时，我很担心会犯错误。）					
15. I'm afraid that my English teacher will correct every mistake I make in my listening test. （我害怕老师会纠正我在听力考试中犯下的所有错误。）					
16. I feel worried in preparing the English listening tests. (复习英语听力考试让我感到很担忧。)					
17. I feel more anxious about the English listening test than with other course tests. （比起其它课程的测试，英语听力测试更让我感到紧张。）					
18. I would be very nervous in the English listening test, if the listening material was spoken only once. （英语听力测试时如果听力材料只读一遍，我会很紧张。）					
19. I feel upset about the complex sentence structure in the listening tests. （英语听力测试时，复杂的句子结构让我感到沮丧。）					
20. I feel worried during the listening exams, because I seldom have time to think about the materials I have heard. （听力考试时因为我几乎没有时间思考我所听到的内容，所以很担心。）					
Fear of Negative Evaluation:					
21. I worry about making mistakes in English listening class. （我担心自己在英语听力课上犯错误。）					
22. It embarrasses me to volunteer answers in my English listening class.					

（英语听力课上如果我自愿回答问题，我会感到尴尬。）				
23. I get upset when I don't understand what the teacher is correcting. （当我不明白老师纠正的错误时，我会很沮丧。）				
24. I'm afraid that my listening teacher is ready to correct every mistakes I make. （我很担心老师会逐一纠正我犯的所有错误。）				
25. I get worried when asked to answer the questions without prior preparation. （如果没有事先准备，当被问到问题时，我会很担心。）				
26. I'm afraid that the other students will laugh at me when I use English in a group discussion. （在小组讨论中用英语进行讨论，我担心其他同学会笑话我。）				
27. I'm afraid that the teacher will criticize me in performing the listening tasks. （我很担心在我做听力任务时，老师会批评我。）				
28. I always worry about the consequences of failing my listening class. （我总是担心我听力课程会过不了。）				
29. I feel that my listening class moves so quickly that I'm afraid of getting left behind. （我感觉听力课上得很快，我担心自己跟不上。）				
30. I always pay great attention to teachers' comments on my listening performance. (我很重视老师对我听力表现上的评价。)				

B-2 Listening Self-efficacy Questionnaire

Statement	Opinion				
	Never or almost never true of me（完全不符合我）	Usually not true of me（不怎么符合我）	Some-what true of me（有点符合我）	Usually true of me（比较符合我）	Always or almost always true of me（完全符合我）
Self-efficacy in Listening Ability (SELA):					
1. I think I will receive a good grade in the listening course.（我相信自己有能力在听力学习上取得好成绩。）					
2. I believe I have the ability to solve the problems in the study of listening.（我相信自己有能力解决听力学习中遇到的问题。）					
3. Compared with other students in this class, I have a stronger ability for learning listening.（和班上其他同学相比，我的听力学习能力比较强。）					
4. In the listening class, I'm certain that I can understand the ideas taught in this course.（听力课上，我确信能掌握老师所讲授的内容。）					
5. Compared with other students in this class, I think I know a great deal about listening course.（和班上其他同学相比，我对听力课程的了解更广泛。）					
6. I prefer to choose challenging listening tasks.（我喜欢选择富有挑战性的听力学习任务。）					
7. I believe that my listening proficiency will improve very					

soon. （我认为自己的听力水平将很快得到提高。）					
8. Even though I need to make greater efforts, I'm still willing to choose difficult but beneficial listening tasks. （我经常选择那些虽然难却能够从中获益的听力学习任务，哪怕需要付出更多的努力。）					
9. I can understand the tape in listening classes better than other students. （在听力课上，我比其他同学能听懂更多的内容。）					
10. I've never doubted my listening ability regardless of my good or bad scores in the listening course. （不管我的听力成绩好坏，我都从不怀疑自己的听力学习能力。）					
11. I enjoy meeting tourists because I can understand them well. （我喜欢和一些旅游者打交道，因为我能很好地理解他们所说的内容。）					
12. I believe I can understand the listening textbook well. （我相信自己能够很好地理解听力课本上的知识。）					
13. Even I don't get a good grade in a listening test, I can still analyze the mistakes made in the test with calm. （即使我在某次听力考试中的成绩很不理想，我也能平静地分析自己在考试中所犯的错误。）					
Self-efficacy in Listening Behavior (SELB):					
14. I ask myself questions to make sure I know the material I have been listening to.					

（我用自问自答的方式来检验自己是否理解所听的内容。）					
15. When answering listening questions, I use what I have learnt to solve problems. （当回答听力问题时，我能够将所学知识联系起来解决问题。）					
16. I can often properly summarize the main ideas of the listening materials. （我常常能准确地归纳出所听到内容的主要意思。）					
17. I can concentrate on the content to which I'm listening. （对于所听的内容，我能够集中注意力。）					
18. I can always take notes while listening, so that I can understand better. （我总能够边听边记笔记，以帮助更好理解。）					
19. When I'm practicing my listening, no matter how difficult it is, I will listen repeatedly until I finally understand it. （做听力练习时，不管多难我都会反复听，直到最后听懂为止。）					
20. When listening I can connect the things I'm listening to with what I already know. （听的时候我能够把听的内容和所学的知识联系起来思考。）					
21. I work on practice exercises and answer end of chapter questions even when I don't have to. （即使老师没有要求，我也会自觉地做书本上每一章后面的习题来检查自己对知识的掌握情况。）					
22. I can outline the key parts					

in my listening book to help me study. （我能划出听力课本上的重点部分以帮助学习。）					
23. In the listening class, I can always try to understand everything what the teacher is saying even if it doesn't seem to make sense. （听力课上，我总能试图记下老师所讲的所有内容，而不管它是否有意义。）					
24. Even if the listening practice in the class is difficult and I cannot understand it completely, I can find a strategy to answer most of the related questions. （即使听力课上的练习很难，我不能完全理解，我也能找出策略来回答大多数的问题。）					
25. In the listening class, when the teacher asks a question I raise my hand to answer it even if I am not sure about it. （听力课上，当老师提问时我都会举手回答，即使我对答案不太有把握。）					

APPENDIX C

Item Analysis (IAS) and Item-Objective Congruence

Index (IOC) Check of the Questionnaires

Listening Anxiety Questionnaire				
Items	Expert No. 1	Expert No. 2	Expert No. 3	Result
1……..	0	1	1	√
2……..	0	1	1	√
3……..	1	1	1	√
4……..	0	1	1	√
5……..	0	1	1	√
6……..	1	1	1	√
7……..	0	1	1	√
8……..	1	0	0	X
9……..	1	1	1	√
10……..	1	1	1	√
11……..	1	1	1	√
12……..	1	0	1	√
13……..	1	1	1	√
14……..	0	-1	0	X
15……..	1	1	1	√
16……..	1	1	1	√
17……..	1	1	1	√
18……..	1	1	0	√
19……..	1	1	1	√
20……..	1	1	1	√
21……..	1	1	1	√
22……..	1	1	1	√
23……..	1	1	1	√
24……..	1	1	1	√
25……..	0	1	1	√
26……..	1	1	1	√
27……..	1	0	1	√
28……..	1	1	1	√
29……..	1	1	1	√
30……..	0	1	1	√

Listening Self-efficacy Questionnaire				
Items	**Expert No. 1**	**Expert No. 2**	**Expert No. 3**	**Result**
1……..	0	1	1	√
2…….	0	1	1	√
3……..	1	1	1	√
4……...	0	1	1	√
5……..	1	1	1	√
6……..	1	1	1	√
7……..	1	1	1	√
8……...	1	0	0	X
9……..	1	1	1	√
10……..	1	1	1	√
11……..	0	1	1	√
12……..	1	1	1	√
13……..	1	1	1	√
14……..	1	1	1	√
15……..	1	0	1	√
16……..	1	1	1	√
17……..	1	1	1	√
18……..	1	1	0	√
19……..	1	0	0	X
20……..	1	0	1	√
21……..	-1	0	0	X
22……..	1	1	1	√
23……..	1	1	1	√
24……..	0	1	1	√
25……..	1	1	1	√
Total	**40**	**45**	**48**	**50**

- Notes: 1. *"1" for the item is congruence with objective*; 2. *"-1" for the item is not congruence with objective*; 3. *"0" for the expert not sure*

- ***Result of IOC:***

(IOC $= \sum R/ N$)

Item number: 55

R=40+45+48=133 (Scores from experts)

N=3 (Numbers of expert) IOC=133/3=44

Percentage: 44/55 x100%=80.00%

APPENDIX D

Listening Comprehension Test

LITENING COMPREHENSION (20 MIN)

SECTION A: CONVERSATIONS

In this section, you will hear several conversations. Listen to the conversations carefully and then answer the questions that follow.

Questions 1 to 3 are based on the following conversation. At the end of the conversation you will be given 15 seconds to answer the questions.

1. According to the conversation, an example of "Christmas trimmings" could be_____.

    A. presents   B. fruits   C. sauce   D. meat

2. A Christmas lunch would include all the following EXCEPT _____.

    A. roast turkey   B. sweet potatoes   C. meat   D. carrots

3. Why did Helen come to Rob's house?

    A. She wanted to talk to Bob.   B. She had come to help Bob.

    C. She had been invited to lunch.   D. She was interested in cooking.

Questions 4 to 7 are based on the following conversation. At the end of the conversation you will be given 20 seconds to answer the questions.

4. Why did the woman phone the club?

    A. She wanted to know more about it.   B. She was a new comer and felt lonely.

    C. She wanted to learn a new language.   D. She was interested in social activities.

5. We learn from the conversation that the club _____.

    A. mainly organizes language activities.   B. accepts members from local students.

    C. has been set up for a long time.   D. is increasing its membership.

6. According to the conversation, the woman might come to practice German on_____.

    A. Wednesday   B. Tuesday   C. Monday   D. Friday

7. What is the man going to do after the conversation?

    A. Call up the woman for her address.   B. Wait for the woman to call him again.

    C. Mail the woman some information.   D. Wait for the woman to pick up a form.

Questions 8 to 10 are based on the following conversation. At the end of the conversation you will be given 15 seconds to answer the questions.

8. According to the woman, what actually makes her job difficult?

    A. Difficult questions from interviewees.

    B. Embarrassing requests from interviewees.

    C. Lack of professional background.

    D. Lack of interviewing skills.

9. The woman uses all the following adjectives when talking about attending job fairs EXCEPT_____.

    A. prospective   B. useful   C. important   D. tiring

10. We learn from the conversation that the woman_____

    A. works better at job fairs.   B. prefers honest people.

    C. often works on her own.   D. is experienced in her work.

SECTION B: PASSAGES

In this section, you will hear several passages. Listen to the passages carefully and then answer the questions that follow.

Questions 11 to 13 are based on the following passage. At the end of the passage you will be given 15 seconds to answer the questions.

11. According to today's weather forecast, which part of Europe has dry weather?

    A. Scandinavian mountain.   B. Northwestern Europe.

    C. Northern Europe.   D. Southern Europe.

12. In which part of Europe does the weather stay both fine and cool?

    A. Southern Europe.   B. Northern Europe.

    C. Eastern Europe.   D. Northwestern Europe.

13. In which region will the weather change tomorrow?

   A. Northern parts of the Mediterranean.   B. Eastern parts of the Mediterranean.

   C. Central parts of the Mediterranean.   D. Southern parts of the Mediterranean.

Questions 14 to 17 are based on the following passage. At the end of the passage you will be given 20 seconds to answer the questions.

14. According to the passage, what benefit can technology bring to people?

   A. Closer contact with modern devices.   B. Greater changes in social organization.

   C. Better understanding of mass media.   D. More useful information to better their life.

15. The speaker questions about everybody's access to technological advances. The main

   reason is _____.

   A. illiteracy   B. poverty   C. food shortage   D. ignorance

16. According to the UN plan, all the following will be achieved within ten years EXCEPT

   A. giving everyone a radio or TV.   B. starting to carry out the scheme in ten years.

   C. offering internet service to more people.   D. providing more job opportunities.

17. What could be topic of the passage?

   A. Growth in telecommunications.   B. Technology and the developing world.

   C. Education and medical care.   D. Building an information society.

Questions 18 to 20 are based on the following passage. At the end of the passage you will be given 15 seconds to answer the questions.

18. People in Latin America wear something _____ to express their hopes for wealth in the

   New Year.

   A. new   B. red   C. white   D. yellow

19. Which of the following New Year's traditions signals friendship?

   A. Throwing old dishes.   B. Wearing something red.

   C. Wearing something white.   D. Eating round fruits.

20. Which of the following is NOT mentioned as one's own New Year's tradition?

   A. Watching TV at home.   B. Going to bed early.

   C. Visiting friends.   D. Running and shouting outside.

SECTION C: NEWS BROADCAST

In this section, you will hear several news items. Listen to the passages carefully and then answer the questions that follow.

Questions 21 to 22 are based on the following news. At the end of each news item, you will be given 10 seconds to answer the questions.

21. What is happening to the schools in Fairfax County this school year?

A. 15 schools have started social studies.

B. 15 schools have used digital textbooks.

C. Students are ready to use electronic resources.

D. Digital textbooks are used for social studies.

22. With digital textbooks, schools have saved about _____ million dollars.

A. 1   B. 2   C. 3   D. 4

Questions 23 to 24 are based on the following news. At the end of each news item, you will be given 10 seconds to answer the questions.

23. Who found the suspicious item at the airport?

A. TSA agents.   B. FBI agents.   C. The police.   D. Passengers.

24. Which of the following statement is INCORRECT?

A. The terminal was closed temporarily afterwards.

B. There was a thorough search inside the airport.

C. Passengers at the airport were safe and sound.

D. The security authorities identified the explosives.

Questions 25 to 26 are based on the following news. At the end of each news item, you will be given 10 seconds to answer the questions.

25. According to the news item, doctors use art therapy to treat the following problems EXCEPT_____.

A. alcohol abuse   B. smoking   C. depression   D. schizophrenia

26. Why did doctors introduce art therapy in the first place?

A. To prevent patients from smoking.   B. To better understand patients.

C. To get patients occupied.   D. To teach patients some skills.

Questions 27 to 28 are based on the following news. At the end of each news item, you will be given 10 seconds to answer the questions.

27. What is the main purpose of the new rules?

   A. To reduce the number of pilots on duty.

   B. To prevent pilots from working overtime.

   C. To ensure an adequate amount of sleep.

   D. To fix the amount of work for each pilot.

28. The Independent Pilots Association was unhappy about the new rules because they

   A. had only covered cargo plane pilots.

   B. had failed to cover all the pilots.

   C. would be put into effect in two years.

   D. would be too costly if implemented.

Questions 29 to 30 are based on the following news. At the end of each news item, you will be given 10 seconds to answer the questions.

29. Why is increase in livestock production necessary?

   A. Because livestock production is highly efficient.

   B. Because more people will become wealthier.

   C. Because it may help double food production.

   D. Because it has fewer ecological risks.

30. What does the word "challenge" mean in the news item?

   A. Balance between human survival and ecology.

   B. Conflict between less land and more production.

   C. Difference between present and future needs.

   D. Calls by environmental critics to consume less meat.

Have you ever listened one or more of the above conversations or passages? If yes, write down the corresponding question number (s) of each conversation and passage you have listened.

APPENDIX E

Guided Questions for the Semi-structured Interview

1. Could you introduce yourself? 能做个自我介绍吗？

2. Among the subjects you have taught in the past few years, which subject do you think is difficult to teach? Why? 在过去几年里你所讲授的课程中，你认为哪门课最难上？为什么？

3. Have you found students with listening anxiety? If yes, what's your view on students' anxiety in English listening? 你发现学生存在听力焦虑问题吗？如果存在，你对学生的听力焦虑有什么样的观点？

4. What kind of measures or techniques do you use to reduce students' anxiety in the listening class? 在听力课上，你会采取什么样的方法来降低学生的焦虑感？

5. What do you think are the main sources of students' anxiety in the listening class? 你认为学生的听力焦虑主要来源于哪里？

6. Have you found any students confident in English listening class? Why do they have such a feeling? 在英语听力课上你发现过一些对听力学习有自信的学生吗？ 他们为什么会存在这种自信感呢？

7. What, do you think, are the effective methods to improve students' self-confidence in learning English listening? 你认为提高学生听力学习自信心的有效方法有哪些？

8. While performing an English listening task, how do you help students find answers to the practice questions? 在做听力练习的时候，你是如何帮助学生来回答听力问题的？

9. What strategies do you use to train students' ability in excluding the irrelevant information while doing the listening tasks?你会使用哪些策略来帮助学生在做听力练习时排除无关信息的干扰？

10. In your opinion, what is the most effective way to teach listening? 在你看来，教学生听力的最有效方法是什么？

APPENDIX F

A Sample of Interview Script
(The translated version)

Interviewer: Shasha Bao (SSB)

Interviewee: FCH

Date: June 8, 2016 (Wednesday)

Time: 14:00 p.m.

Place: Teachers' office, College of Foreign Language, Guizhou University

…………………………………………………………………………………………….

SSB : Good afternoon.

FCH : Good afternoon.

SSB : **(Q1) Could you introduce yourself, please?**

FCH : My name is Fan Cuihua. I have been working in Guizhou University (En...) for 13 years now. In fact, after I got my Bachelor's degree from the Southwest Normal University, I worked for a foreign company for several years. En...then I decided to continue my study, and spent another 3 years to earn my Master's degree from the College of Foreign Languages, Guizhou University. After graduation I began my teaching in a senior high school until the year of 2003. Next, I was transferred to Guizhou University till now. I don't think I will change my job now, and I decide to work here until I retire.

SSB: Ok. Thank you! **(Q2) Among the subjects you have taught in the past few years, which subject do you think is difficult to teach? Why?**

FCH: In the past few years, I taught many courses, er... I can say I taught most of them. Especially in the early years of my teaching in Guizhou University. Because of the shortage of teachers, we are required to teach many subjects in a semester. (Er...) such as comprehensive English, reading, listening, speaking, grammar, and literature etc.. Among them, I think (Er...) English listening is the

most difficult subject, for many Chinese students feel easy to write with English, but hardly can they understand the authentic spoken English. The main reasons might be because of the lack of environment of learning English. Students' English learning focuses on writing on paper, and they can not withdraw useful information when listening to the authentic English materials. In addition, the great differences in pronunciation and thinking styles between Chinese and English spoken countries are also the barriers of English listening. Besides listening, I think is comprehensive English, because you know, this subject requires students' integrated skill development in an all round way. (En...) So it is also a challenge for both teachers and students in this course.

SSB: O.k! Just now you mentioned the listening subject, so in your listening class, **(Q3) have you found students with listening anxiety? If yes, what's your view on students' anxiety in English listening?**

FCH: Yes. I think so. There are anxious students in my listening class, en..., when they feel worried, they become uncooperative in the class. When the questions are proposed from the teacher, and students respond with silence. (Laugh...) Then the teacher feel embarrassed and may answer these questions by himself/ herself. So in the listening class, a relaxed environment is important. However, to some students, at the beginning, they have the willingness to listen to, especially to the authentic materials, but they gradually become anxious when they realize that they cannot follow the main idea of the listening materials. The problem is they cannot persist in doing so, and easily loose interests when facing difficulties.

SSB: Yes. **(Q5) What do you think are the main sources of students' anxiety in the listening class?**

FCH: It depends... Er... you know different students have different situations. They come from different areas with different English proficiency. En...to me, I think students feel anxious when they feel that they are "lost" in the listening process,

and they can not follow the listening materials. You may also have the same experience to see that, for some students, at the beginning of listening, they are attentive, and concentrated on the listening materials, even though they are not quite understand. But gradually, the more they cannot understand, the more anxious they become. Finally, they may completely give up by guessing the answers or even give up. You know, this is because they are not able to comprehend the listening materials, and they loose interests.

SSB: Yes, I think I observed same similar phenomena in my listening class. Some students just sit there and without actually listening to.

FCH: Yes, yes... I even met students taking listening examination by memorizing correct answers (Laugh...).

SSB: At this moment, **(Q4) what kind of measures or techniques do you use to reduce students' anxiety in the listening class?**

FCH: We first need to know why students feel so, and then can help them. The main reason is because they loose interests in listening, so generally, I pay much attention to the warm-up activities before listening. Er, I mean the warming-up activities are very important, in which teachers should help students overcome the vocabulary barriers, and help them be familiar with the topic through the introduction of the background information, and through the discussion of the topic. You see, students should be involved before listening. After joining the warm-up exercises, in the following listening, they are unlikely to loose interests, even though they cannot quite understand, they may focus on it.

SSB: Good, but if the warm-up activities don't work, what will you do then? I mean if students were not cooperative in these activities, what would you do?

FCH: Yes. This situation happens from time to time. You need to figure out why they are not cooperative, based on my observation, their unwillingness is mainly because that they are shy. In fact, to some students, they prepare everything in their heart, but the problem is they are unwilling to share with you because of

their shyness. I think this is also the popular problem among Chinese students. You know that our traditional culture tells us to do so, and we'd better do not over express ourselves.

SSB: Yes. Meanwhile, **(Q6) have you found any students confident in English listening class? Why do they have such a feeling?**

FCH: Er... yes, of course. There are still some confident students in the class. These students are more active, extroverted, and talktive. These students feel that they know everything, and dare open their mouth in the class. Yes, er...

SSB: Are these students so excellent that they don't make mistakes...(interrupted)

FCH: Of course, no. In fact they also mistakes, the only difference is that, the confident students don't worry about making mistakes. Even when mistakes occur in communication, they can correct quickly and without influence the communication with others. So these students can use English freely to communicate. However, such students exist but not many.

SSB: Are you happy to see their mistakes? (Laugh)

FCH: To me, it's o.k. You see, everyone will make mistakes. To the students, it's quite normal to make mistakes. But I will tell them and point the mistakes out, and remind them do not make the same mistakes next time. But we need to be very careful about the method of doing so. I mean...we need to protect students' self-esteem while pointing out their mistakes.

SSB: Yes. It's really important to protect students' self-esteem. Besides, students' self-esteem, **(Q7) what, do you think, are the effective methods to improve students' self-confidence in learning English listening?**

FCH: Er...Generally, in the listening course, students are not active enough because of the lack of confidence. Therefore, teachers should design interesting activities and encourage them to join in. Even though students' performance is not satisfactory, teachers should avoid serious criticisms. As I said just now, teachers should be careful about their method. En....teachers should encourage

students to continue without fearing of the mistakes. With the encouragement of the teacher, students may become more "brave", and enjoy the sense of achievement of finishing the tasks. Gradually they will become confident in their learning process.

SSB: Yes, it is true. Besides these methods, what else do you often use to make students become confident?

FCH: En...it is found that most students don't have clear listening purpose for themselves, so I suggest in English listening process, students should know how to set a goal for themselves. For example, when facing the same listening material, different students should listen to it with different goals because of the individual differences. For those low proficiency students, their goal is to understand the main idea, and for those high proficiency students, their purpose is not only catch the main idea, but also go to the details. To achieve these goals, the activities are various, group discussion, role-play, story-retelling etc.. are good choices. By doing so, no matter he is low proficiency or high proficiency student, he can enjoy the sense of achievement, and thus will become confident in listening.

SSB: **(Q8) While performing an English listening task, how do you help students find answers to the practice questions?**

FCH: (Laugh...) To tell you the truth, I don't care the so called standard answers. What I care is whether my students really understand it or not. Yeah, I also understand that they will face the tests, and they need to finish the questions correctly. So I train them from time to time for the sake of tests. In doing the listening exercises, I always tell students that they need to make use of every minute, for example, when the listening directions are read, students can ignore the directions and just quickly go through the listening tasks. They need to pay special attention to the key words, and underline them. By doing so, while listening to the materials, students can attach importance to these key words,

which are always relevant to finish the listening tasks. Yeah, I agree that mastering some strategies is necessary for students.

SSB: Since you agree that some listening strategy is good for students, **(Q9) What strategies do you use to train students' ability in excluding the irrelevant information while doing the listening tasks?** I mean, you see, not all information is helpful for comprehension of the listening materials, so what strategies do you use to help students identify the useful information, which will improve their listening comprehension?

FCH: O.K. I get it. To me, in the listening class, after listening to a piece of material, students are encouraged to retell it orally. According to their repetition, teachers then can check whether their retelling covers all the important information or not. If not, they need to practise more. After the training, students' awareness of sensing the relevant information will be enhanced. The more useful information they can repeat, the more capable they become in focusing on the relevant information. The key is teachers should help students realize that why some important information is ignored by them. Make sure that next time, they can do better.

SSB: Yes. **(Q10) In your opinion, what is the most effective way to teach listening?**

FCH: I still believe that, there is no shortcut in language learning. Even though some strategies may help us, but that can not solve every problems in our learning. (En...) How to say, I still think practice is important. There is a saying that "practice makes perfect", so students need to practice a lot, both in the class and after the class. The teacher's job is just to assign the tasks and check them. Besides, the teacher should not over interfere the students, because too much interference will make students feel anxious....Er...To reduce students' anxiety, the teacher should create a relaxed atmosphere in the listening class, for example, the teacher should not evaluate students only through the test; students

are encouraged to open their mouth in discussion; the teacher should be tolerable to students' mistakes. In all, nowadays, teachers are required to be versatile and fully consider about students' needs.

SSB: Anything else?

FCH: No. That's all. I hope I can help you.

SSB: Thank you very much for your co-operation and experiences.

FCH: No problem if I can help you. Anytime, don't hesitate to call me.

SSB: Thank you very much.
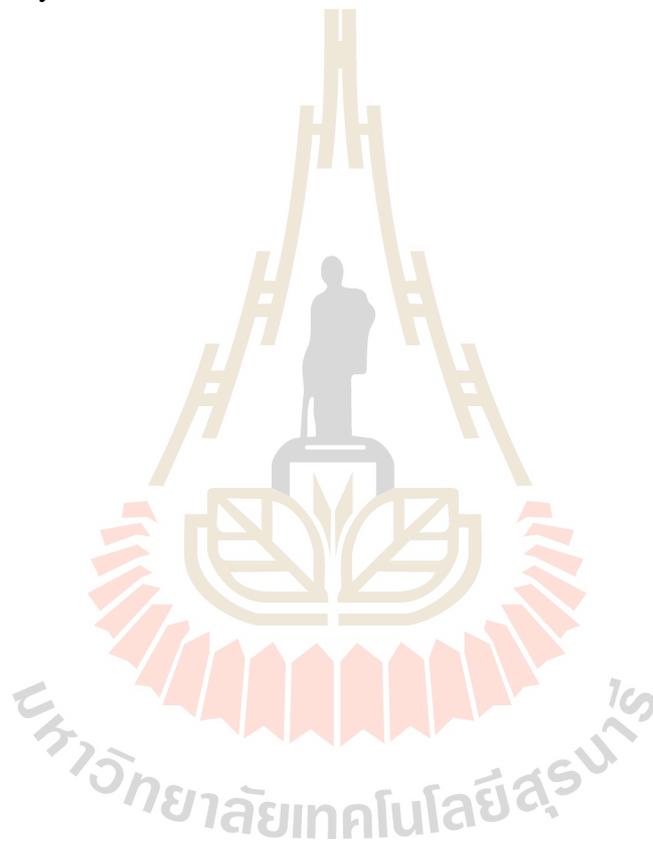
CURRICULUM VITAE

Shasha Bao, was born on July 8, 1981 in Guizhou Province, China. She received her Bachelor of Arts degree in English from (former) Guizhou University of Technology in 2003. She earned a Master of Arts degree in English Language and Literature from China University of Petroleum (Beijing) in 2006.

Since 2013, she has been enrolled in the Ph.D. program of English Language Studies at the School of Foreign Languages, Institute of Social Technology, Suranaree University of Technology, Thailand. From then on, she had been studying there until she earned her Ph.D. degree in English Language Studies in the year of 2017 from Suranaree University of Technology, Thailand.

She is currently a lecturer at College of Foreign Languages, Guizhou University, China. Her research interests include foreign language learners' individual differences and foreign language teaching.