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Complementary Aural and Visual English Language Instruction in Taiwanese Higher Education

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COMPLEMENTARY AURAL AND VISUAL ENGLISH LANGUAGE INSTRUCTION IN TAIWANESE HIGHER EDUCATION

DISSERTATION

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by

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Area of Specialization: Teaching English to Speakers of Other Languages

COMPLEMENTARY AURAL AND VISUAL ENGLISH LANGUAGE

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ABSTRACT

The debate regarding the most effective mode of teaching English to speakers of other languages has evolved to include multiple methods which draw upon advances in technology. This study aimed to investigate whether the implementation of complementary aural and visual English language instruction impacted results on the TOEIC test given at a private university in Taiwan. One control group and three experimental groups were created for the study. Each group consisted of two undergraduate English classes with approximately 32 students in each class, for a total of 253 students from 8 Freshman Level 2 English classes who were assigned to four instructional models. Subjects were mainly from Taiwan, although other Asian countries were represented. The control group was taught English using the traditional Communicative Language Teaching (CLT) approach for an entire semester which is the only teaching methodology that the Ministry of Education (MOE) of Taiwan approves for English Language Teaching (ELT) in Taiwan. The three experimental groups were also taught in class for an entire semester using the CLT approach, however in addition they received complementary aural, visual, or TV program interventions respectively. In addition to a demographic survey administered in week one, two TOEIC tests were administered and served as the pre-test and post-test. The data attained for the Listening Comprehension section, the Reading Comprehension section and for the total TOEIC test scores were analyzed using SPSS 22.0 to run both descriptive and inferential statistics. The results of the pre-test showed that students performed differently and the groups were significantly different (F (3, 249) = 7.823, $p < .001$). The researcher controlled for these initial differences in performing the analyses on the post-test. Although not attained on every analysis, results on multiple measures indicated that students who were placed in the TV-CLT instruction group performed significantly higher on listening comprehension and reading comprehension than some of the other groups after one semester of instruction. The results confirm the effects of dual-channel theory on listening and reading comprehension. The researcher recommends further multivariate analyses to control for initial group differences and co-variants.

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謹以此論文獻給我摯愛的父親張萬永先生

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CHAPTER I

The Problem

Background of the Problem

Student quality, in terms of English proficiency, has always been one of the most discussed issues in education at all levels in Taiwan. The call for the reformation of English teaching and learning in higher education has been continuous since the late 1980s (Chou, 2003; Hwang, 2000; Law, 2002; Lin, 1999; Lin, 2001; Lo & Gu, 2008; Wu, 2004; Wu, 2006; Yang, 2001). In response to increasing public demand, the Ministry of Education (MOE) of Taiwan has put forward several important educational reform plans during past decades, aiming to enhance English proficiency for Taiwanese students in order to maintain its national competitiveness in the future (MOE, 2010).

Specifically, it is believed that most students in higher education in Taiwan are unable to conduct basic conversations with foreigners (Chang, 2006; Chen, 2009; Lee, 2014; Tai & Lin, 2011). Also, according to Tai and Lin (2011), Taiwanese students' performance on the Test of English as a Foreign Language (TOEFL) and Test of English for International Communication (TOEIC) tests were unsatisfactory and Taiwanese students performed worse than their major counterparts in Asia.

Accordingly, two major bodies in higher education in Taiwan, academic universities and technological universities, endeavored to enhance English proficiency for their students. On the one hand, to understand students' present English proficiency in order to set up reasonable graduation requirements for them, the top university in Taiwan, Taiwan University, had 3,580 freshmen take the first stage of the higher-intermediate level of the General English Proficiency Tests (GEPT), the reading and listening sections, in 2003. The passing rate for them was 32.4% (Cheung,

2004). Passing the first stage of the GEPT tests is equivalent to scoring 650 points on the TOEIC tests, which is the graduation requirement set by the school. Based on the aforementioned results, Cheung (2004) claims that 30% of Taiwanese high school students' performance in terms of English proficiency underachieved what the MOE of Taiwan expected.

However, in 2009, when the MOE of Taiwan reviewed the future development plans of 35 private academic universities, they found that the passing rate on standardized English tests such as TOEFL, TOEIC, IELTS, and GEPT, was only 0.74% (MOE, 2009). Therefore, the MOE encouraged all schools in higher education to establish exit requirements of English proficiency for their students to graduate in order to advance their international competiveness.

On the other hand, to understand how the other major group of students in higher education, the technological undergraduates, performed on the standardized tests, one island-wide project was proposed. Starting in 2001 and lasting for three consecutive years, the Language Training and Testing Center (LTTC) was assigned by the MOE of Taiwan to conduct elementary level General English Proficiency Tests (GEPT) for undergraduate students in technological institutions of higher education. Based on the results that LTTC (2004) found, 80% of the students in technological colleges and universities in Taiwan do not have a basic level of English proficiency, corresponding to the Common European Framework of Reference of Language: Learning, Teaching, and Assessment (CEFR) A2 level (Council of Europe, 2015).

Furthermore, in accordance with the final report on the 2008 Education Yearly Plan (MOE, 2009), there were about 13,305 out of a total of 55,900 test-takers in universities and colleges who passed the elementary level of English proficiency tests, which was far below the number, 50% of all test-takers, expected in the original 2008

Yearly Plan. Based on one of the suggestions from the nationwide Higher Education Evaluation in 2009, two English language proficiency indicators have been first introduced to assess student learning achievement: one is the development of English exit requirements for undergraduate students to achieve and the other is the percentage of students who attain the threshold levels by passing the above mentioned standardized English proficiency tests (Chang, 2006; Liao, 2004; Taiwan Assessment and Evaluation Association, 2009). The graduation requirement set for Taiwanese undergraduates aims to ensure that their English proficiency level meets the needs of their future careers after graduating from college.

The GEPT test is one of the standardized tests that follows the framework of CEFR (see Table 1-1) and is equated to other international tests such as the International English Language Testing System (IELTS), which is administered by Cambridge ESOL in the United Kingdom; the TOEIC, the TOEIC Bridge, and the TOEFL, which are all administered by ETS in the United States; and many others (MOE, 2008). They are all endorsed by the MOE of Taiwan. Specifically, the GEPT is designed for Taiwanese students to demonstrate their general English proficiency.

Table 1-1

Comparison of Standardized Tests with CEFR Framework

GEPT	TOEIC	CEFR	IELTS	TOEFL
Advanced	880	C1	7.5	110
			7	100
High-intermediate	750	B2	6.5	92
			6	79
Intermediate	550	B1	5.5	Below 79
			5	
Elementary	225	A2	4.5	
			4	

(Council of Europe, 2015)

The Council of Europe (2015) defines the CEFR as follows:

> The Common European Framework provides a common basis for the

> elaboration of language syllabuses, curriculum guidelines, examinations, textbooks, etc. across Europe. It describes in a comprehensive way what language learners have to learn to do in order to use a language for communication and what knowledge and skills they have to develop so as to be able to act effectively. The description also covers the cultural context in which language is set. The Framework also defines levels of proficiency which allow learners' progress to be measured at each stage of learning and on a life-long basis (p.1).

The MOE of Taiwan requests that all standardized tests follow the format of CEFR in order to overcome the barriers to communication in the workplace, not only in Taiwan, but also around the world. The major reference levels were divided into six categories, A1, A2, B1, B2, C1, and C2, to measure the progress that learners have developed (See Table 1-2).

With the great diversity of standardized English tests, 12 have been endorsed by the MOE of Taiwan for students. These standardized English tests include major ones in Taiwan and internationally, such as the General English Proficiency Test (GEPT), which is administered by the Language Training and Testing Center (LTTC) in Taiwan; the International English Language Testing System (IELTS), which is administered by Cambridge ESOL in the United Kingdom; the Test of English for International Communication (TOEIC), the TOEIC Bridge, and the Test of English as a Foreign Language (TOEFL), which are all administered by ETS in the United States; and many others (MOE, 2008). All of these English standardized tests follow the framework of the Common European Framework of Reference of Language: Learning, Teaching, and Assessment (CEFR). Consequently, all Taiwanese undergraduates are encouraged to take standardized English proficiency tests to see if

they meet their English graduation requirements.

Table 1-2

Common Reference Levels: Global Scale

Proficiency users	C2	Can understand with ease virtually everything heard or read. Can summarize information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of Proficient meaning even in more complex situations.
	C1	Can understand a wide range of demanding, longer texts, and recognize implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organizational patterns, connectors and cohesive devices.
Independent users	B2	Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialization. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.
	B1	Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans
Basic users	A2	Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.
	A1	Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has. Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.

(Council of Europe, 2015)

Statement of problem

The use of the English language as the world's primary language and the sole standard language of international communication has been continuing for decades

(Butler, 2004; Chang, 2008; Crystal, 2007; Graddol, 1997, 2006, 2010; Kachru, 1996;), and Taiwan is no exception (Chang, 2006; Chang, 2008; Honna, 2006; Krashen, 2003; Liao, 2004, 2005). In fact, English has been the only foreign language subject in the compulsory educational system in Taiwan since 1949, when Chiang Kai-shek led his party, Kuomingtang (KMT), left Mainland China to Taiwan. Since then to 1997, English language education started in junior high school, i.e., the seventh grade, and it has been one of the five major subjects on the entrance exams for high schools and universities. The first educational reform movement was launched by citizen groups in 1994, and then the legislation was initiated and implemented in 1997. One of the decisions made by the education reform panel was that all Taiwanese students would begin studying English starting in the fifth grade. In 2005, the latest education reform amendment was implemented, in which all Taiwanese students would begin English language learning beginning in the third grade (MOE, 2010).

Although the Commission of English Curriculum Reform of Grade One to Nine in Taiwan listed Communicative Language Teaching (CLT) as the only teaching approach, in 1997 (MOE, 1998), the classic Grammar-Translation Method (GTM) has long dominated English education at all levels in Taiwan (Chang, 2006). In other words, Taiwan has long been utilizing Chinese as the primary medium to teach English reading and writing, and essentially ignoring English listening and speaking. Listening and speaking skills in English education in Taiwan have never been taught resulting from the long entrenched Taiwanese culture norm in English Language Teaching (ELT) that reading comprehension is the foundation of the other three language skills, listening, speaking, and writing (Chen, 2009; Lee, 2012, 2014, 2015; Li, 2012, 2015). As a result, no official tests of listening and speaking skills are

administered on the entrance exams for high schools and colleges (Chang, 2006) and the curriculum of English language in middle schools led by the entrance exams to high schools mainly focuses on grammatical rules memorization, vocabulary capacity, and reading comprehension.

However, in order to successfully cooperate and compete with other countries in the world, it is important to acknowledge that English is the only language used in this global competitive arena for people to communicate with each other (Chang, 2006). To meet this requirement, the MOE of Taiwan (2002) believed that the only way to accurately assess Taiwanese students' English proficiency is to attain certain threshold levels by passing standardized English proficiency tests. Among all of the English standardized tests authorized by the MOE of Taiwan, the TOEIC tests are used as a standard for establishing workplace English listening skills and reading proficiency for non-native English-speaking people globally (Trew, 2007).

The TOEIC test is recognized by most private enterprises in the world (Trew, 2007) and Taiwan as a means to measure their employees' English proficiency (ETS, 2010). The highest possible score on the TOEIC is 990 points, 495 points each on the listening and reading sections. However, the latest report that compared South Korean, Japanese, and Taiwanese students' English performance, found that Taiwanese university students scored an average of 577 points on the TOEIC in 2008; this is lower than the 621 average scored by their South Korean counterparts, but higher than the 553 average scored by Japanese students (ETS, 2010).

While most universities in Taiwan are currently engaged in enhancing their students' English proficiency, the effects of the renovated instruction that schools have adopted for students have not been systematically studied. Thus, how these new teaching methodologies benefit Taiwanese university students remains unknown. The

current study investigated whether the implementation of complementary aural, visual, and TV-program texts had any significant effect on English standardized test performance for Taiwanese undergraduate students to meet the needs of current social, educational, and economic demands.

Statement of Purpose

The study aimed to investigate whether complementary authentic aural, visual, and TV-program texts had any effect on English standardized test performance for Taiwanese undergraduate students. The mission to enhance Taiwanese undergraduate students' English proficiency was led by the latest national development policy in Taiwan, Challenge 2008: The Six-year National Development Plan (see Table 1-3) (GIO, 2002). Within the plan, 10 major areas were emphasized, and the first project is the cultivation of talent for the e-generation, since manpower is the basis of all development (GIO, 2002).

Table 1-3

Challenge 2008: The Six-year National Development Plan

1	cultivating talent for the "e" generation
2	developing the cultural creativity industry
3	developing an international base for research, development, and innovation
4	increasing value-added production
5	doubling the number of tourists visiting Taiwan
6	developing a digital Taiwan
7	developing Taiwan as an operations headquarters
8	improving the transportation infrastructure
9	conserving water resources and the ecology
10	constructing new hometown communities

Furthermore, the project indicates that, in order to meet the future challenges of globalization and internationalization, the government of Taiwan should first enhance the abilities of its citizens. Concurrently, the government will establish an environment for internationalizing learning for foreigners to study and work in

Taiwan. This project emphasizes the ability to master foreign languages, specifically English. According to the GIO of Taiwan (2000), English is the common language that connects the world; the Taiwanese government should designate English as a quasi-official language by 2008 and actively expand the use of English as a part of daily life (GIO, 2000). As emphasized by the Taiwanese government, the indicator to measure its citizens' English proficiency is the performance on standardized English tests, such as the IELTS, GEPT, TOEFL, and TOEIC. Thus, the current study investigated whether the complementary use of authentic aural, visual, and TV-program texts had any significant effect on English standardized test performance for Taiwanese undergraduate students.

Research Questions and Hypotheses

Inspired by previous studies in listening comprehension instruction and existing gaps in the literature, the overarching question addressed in this study was:

How do aural, visual, and TV-program interventions enhance the English proficiency of Taiwanese undergraduates on a standardized test?

In the traditional English language learning/teaching classrooms in Taiwan, Chinese is utilized as the primary media to teach Taiwanese students English reading and writing skills for decades. Also, the Chinese language is the most familiar and comfortable media for English language learners in Taiwan. The study therefore, used the traditional method along with the auditory, visual, and TV-program exposures to see if they helped Taiwanese students advance their English proficiency.

The study was designed to broaden our understanding of the application of aural, visual, and TV-program learning in a second-language acquisition environment through the framework of complementary exposure to second-language listening and reading comprehension (Chang & Feng, 2012). It examined the ways in which

different types of instruction affected L2 listening and reading comprehension. Accordingly, four groups were included in the research, the CLT group, the aural-CLT group, the video-CLT group, and the TV-CLT group.

The study was guided by the following research questions:

1. Does CLT help EFL students improve their listening comprehension more than auditory-CLT, visual-CLT, and TV-CLT?
2. Does auditory-CLT help EFL students improve their listening comprehension more than visual –CLT, TV-CLT, and CLT?
3. Does visual-CLT help EFL students improve their listening comprehension more than auditory-CLT, TV-CLT, and CLT?
4. Does TV-CLT help EFL students improve their listening comprehension more than auditory-CLT, visual-CLT and CLT?
5. Does CLT help EFL students improve their reading comprehension more than auditory-CLT, visual-CLT, and TV-CLT?
6. Does auditory-CLT help EFL students improve their reading comprehension more than visual –CLT, TV-CLT, and CLT?
7. Does visual-CLT help EFL students improve their reading comprehension more than auditory-CLT, TV-CLT, and CLT?
8. Does TV-CLT help EFL students improve their reading comprehension more than auditory-CLT, visual-CLT and CLT?

Hypotheses

In addressing the above research questions, the author put forth the following null hypotheses:

1. Hypothesis: Students in the CLT group did not improve their listening comprehension more than auditory-CLT, visual-CLT, and TV-CLT.

2. Hypothesis: Students in the auditory-CLT group did not improve their listening comprehension more than visual-CLT, TV-CLT, and CLT groups.
3. Hypothesis: Students in the TV-CLT group did not improve their listening comprehension more than auditory-CLT, visual-CLT, TV-CLT, and CLT groups.
4. Hypothesis: Students in the TV-CLT group did not improve their listening comprehension more than auditory-CLT, visual-CLT and CLT groups.
5. Hypothesis: Students in the CLT group did not improve their reading comprehension more than auditory-CLT, visual-CLT, TV-CLT, and CLT groups.
6. Hypothesis: Students in the auditory-CLT group did not improve their reading comprehension more than visual-CLT, TV-CLT, and CLT groups.
7. Hypothesis: Students in the TV-CLT group did not improve their reading comprehension more than auditory-CLT, visual-CLT, TV-CLT, and CLT groups.
8. Hypothesis: Students in the TV-CLT group did not improve their reading comprehension more than auditory-CLT, visual-CLT and CLT groups.

Theoretical Framework

The theoretical structure for the study followed Flowerdew and Miller's (2005) and Richards' (2005) material design by using authentic visual texts, Long's (1981, 1983, 1985) input and interaction hypothesis, Krashen's comprehension hypothesis (1985), and Waring's extensive listening (2008) theory. Flowerdew and Miller (2005) indicated that authentic visual contexts provide the contextualization of language for non-English-speaking learners to promote their English listening skills. The facets of using authentic visual contexts include several advantages, which are listed as follows: (1) it often promotes the motivation for learners to listen; (2) it involves a rich context for authenticity of language use; (3) it provides the paralinguistic features of spoken language to the learners; and 4) when the language is used in the video, the learners

understand more cultural contexts.

Although authentic visual text viewing is somewhat treated as a receptive activity (Nunan, 2010; Flowerdew & Miller, 2005), it still benefits language learners to enhance their listening skills, especially when authentic visual text viewing is directly related to listening for pleasure, as in watching a movie (Flowerdew & Miller, 2005). Furthermore, Richards (2005) found that domestic broadcasts are authentic auditory and visual contexts designed for English language learning and include the following benefits: (1) up-to-date learning resource with high quality of visuals and sounds; (2) graded language used for different levels of video lessons; (3) videos accompanying written materials for learners to read through; (4) learners are able to be exposed to authentic language; (5) those in the video are usually native speakers, allowing learners to become familiar with the intended accents; and 6) easily accessed medium outside of the classroom. The interventions adopted for the study were authentic auditory and visual texts produced on a BBC website and daily broadcasted TV-program texts with auditory and visual texts produced by the Studio Classroom founded by Dr. Brougham in 1962 in Taiwan. The program has been broadcasting on radio since 1962, and then on TV since 2000. Both radio and video programs are also conveniently accessed via the Internet.

In addition, the study was guided by the input hypothesis proposed by Long (1981, 1983, 1985) and the comprehension hypothesis advocated by Krashen (1981, 1985). Long (1981) first proposed the interactional approach to L2 input and defined the input as “the linguistic forms (morphemes, words, utterances) - the streams of speech in the air - directed at the non-native speaker” (Long, 1983, p. 127). Long’s input hypothesis argues the importance of input comprehension to SLA. Thus, comprehensible input is held to be a necessary, though not sufficient, condition for

SLA (Long, 1983).

The comprehension hypothesis was influenced by Chomsky's (1968, 2006) proposal that language is regarded as an innate faculty; then, Krashen (1978) developed the Monitor Model hypothesis, which compares and contrasts language learning and language acquisition to explain Second Language Acquisition (SLA). Later, it was called the Input Hypothesis (Krashen 1985), and it focuses on the data which feeds acquisition. More recently, the Input Hypothesis was renamed the Comprehension Hypothesis, and it emphasizes that the mental process is responsible for language acquisition. According to Krashen (2004),

> The Comprehension Hypothesis is closely related to other hypotheses. The Comprehension Hypothesis refers to subconscious acquisition, not conscious learning. The result of providing acquirers with comprehensible input is the emergence of grammatical structure in a predictable order. A strong affective filter (e.g., high anxiety) will prevent input from reaching those parts of the brain that promote language acquisition (p.1).

In Krashen's model, the acquisition of second language needs to be achieved through comprehensible inputs. Also, grammatical structure is acquired in a predictable order. For example, the rule of the third person singular appears simple in terms of grammatical structure; however, it is acquired relatively late by learners.

Furthermore, Waring (2008) proposed the concept of Extensive Listening (EL), which was adapted from Extensive Reading (ER), to help language learners build their English proficiency. EL involves listening to large amounts of comprehensible input and aims to improve learners' listening comprehension. Listening comprehension refers to learners listening to a language that they understand. Once learners understand most of the texts that they listen to, they can then build their word

recognition speed and better use grammar rules and more collocations; thus, learners' thinking will be more effective. Moreover, listening inputs which are provided at the correct level, such as the interventions in the proposed research, the affiliated audios and videos of the textbook, the *Network*, and the TV program "*Let's Talk in English*" for intermediate English language learners produced by the Studio Classroom, utilized in the study, helped improve automatic processing of language and enabled learners' working memory to concentrate on comprehending what learners are listening (Waring, 2008).

Significance of the Research

The study contained several relevant features for Teaching English as a Foreign Language (EFL) in Taiwan. To the best of our knowledge, it is the first study that actually explored whether complementary authentic aural, visual, and TV-program texts have any significant effect on English standardized tests, specifically for private undergraduate students who are categorized into one of least effective English language learners by the MOE of Taiwan (MOE, 2008). It was also the first study to focus on Taiwanese university EFL students, with the clear goal of investigating how the complementary emphasis on listening comprehension can benefit these students' English language proficiency, in general. Moreover, since both teachers and learners in Taiwan care about the time and energy that they spend on teaching and learning the English language effectively, the study provided them with certain ways to choose from to successfully meet their English language teaching/learning objectives. Conclusively, the findings of the study have specific implications for undergraduate students at universities, teachers, and universities in the realm of ELT, in particular, and English education in Taiwan, in general.

Definition of Terms

ESL: Someone who learns English in a setting in which the language is necessary for everyday life (for example, an immigrant learning English in the US) or in a country in which English plays an important role in education, business, and government (for example in Singapore, the Philippines, India, and Nigeria) is learning English as a second language (Richards & Schmidt, 2012).

EFL: Someone who learns English in a formal classroom setting, with limited or no opportunities for use outside the classroom, in a country in which English does not play an important role in internal communication (China, Japan, and Korea, for example), is said to be learning English as a foreign language (Richards & Schmidt, 2012).

L1: First language: (generally) a person's mother tongue or the language acquired first. In multilingual communities, however, where a child may gradually shift from the main use of one language to the main use of another (e.g. because of the influence of a school language), first language may refer to the language the child feels most comfortable using. Often this term is used synonymously with native language (Richards & Schmidt, 2012).

L2: Second language: in a broad sense, any language learned after one has learned one's native language. However, when contrasted with foreign language, the term refers more narrowly to a language that plays a major role in a particular country or region, though it may not be the first language of many people who use it. For example, the learning of English by immigrants in the US or the learning of Catalan by speakers of Spanish in Catalonia (an autonomous region of Spain) is cases of second (not foreign) language learning, because those languages are necessary for survival in those societies. English is also a second

language for many people in countries like Nigeria, India, Singapore and the Philippines; because English fulfills many important functions in those countries (including the business of education and government) and learning English is necessary to be successful within that context. Some people in these countries however may acquire English as a first language, if it is the main language used at home (Richards & Schmidt, 2012).

ELT: An abbreviation for English Language Teaching. It is used especially in Britain to refer to the teaching of English as a second language or English as a foreign language. In North American usage this is often referred to as TESOL (Richards & Schmidt, 2012).

SLA: Second language acquisition: The learning and development of a person's language. The learning of a native first language is called first language acquisition, and of a second or foreign language, second language acquisition. Some theorists use "learning" and "acquisition" synonymously. Others maintain a contrast between the two terms, using "learning" to mean a conscious process involving the study of explicit rules of language and monitoring one's performance, as is often typical of classroom learning in a foreign language context, and using "acquisition" to refer to a non-conscious process of rule internalization resulting from exposure to comprehensible input when the learner's attention is on meaning rather than form, as is more common in a second language context. Still others use "acquisition" only with reference to the learning of one's first language (Richards & Schmidt, 2012).

CHAPTER II

Literature Review

Introduction

This section examines the development of listening comprehension and the research on listening comprehension instruction as an essential part of SLA. In an attempt to create a new definition of teaching listening comprehension, particularly for the current study, this section begins by reviewing the English Language Teaching methodologies, then the research on studies of listening comprehension, and finally discusses recent developments in studies of listening comprehension instruction that have taken place over the last three decades, from the 1980s to the most recent empirical research investigating the acquisition of listening comprehension by second language (L2) learners. The topics covered in this section include the emergence of the Communicative Language Teaching (CLT) approach, the role that listening comprehension plays in the fields of ESL/EFL education, comprehension hypothesis, and certain prominent experimental research in the area of teaching listening comprehension. Finally, there is a discussion of the idea of efficiently implementing the teaching of listening into ESL/EFL classrooms advocated by many research studies.

Definitions of SLA

Ellis (2003) indicates that although second language acquisition (SLA) has been regarded as a sub-discipline of applied linguistics, it is still in its infant stage (Ellis, 2003). To gain more of an understanding in this novice science, it is necessary to study how this phenomenon has been viewed. First of all, Krashen (1981) states that:

> Language acquisition is very similar to the process children use in acquiring first language. It requires meaningful interaction in the target language –

> natural communication – in which speakers are concerned not with the form of their utterances but with the messages they are conveying and understanding (p. 1).

Also, Ellis (2003) defines Second Language Acquisition (SLA) as "the way in which people learn a language other than their mother tongue, inside or outside of a classroom, and 'Second Language Acquisition'" as the study of this" (p.3). Gass and Selinker (2008) regard SLA "the process of learning another language after the native language has been learned" (p. 7).

English language teaching methodology. To design and implement a successful English curriculum, it is important to become acquainted with the development of several English language teaching methodologies. These influential methods, in a chronological layout, include the Grammar Translation Method, the Direct Method, the Audiolingual Method, the Silent Way, Suggestopedia, Community Language Learning, Total Physical Response, and Community Language Teaching. In the next section, in order to establish context for the study, the researcher presents a brief review of nine major English language teaching methodologies: the Grammar Translation Method, the Direct Method, the Audio-lingual, the Silent Way, the (De)suggestopedia, the Community Language Learning, the Total Physical Response, Notional-Functional approach, and the Communicative Language Teaching approach.

Grammar translation method. The Grammar Translation Method (GTM) is hardly new. It had been called the Classical Method since it was first used in the teaching of classical Latin and Greek languages (Larsen-Freeman & Anderson, 2011). Additionally, according to Kelly (1969), Grammar Translation was in fact first known as the Prussian Method in the U.S. and dominated for much of the last century (Nunan, 2003). In the early 20th century, according to Larsen-Freeman and Anderson (2011),

the GTM was harnessed for helping students to read and appreciate foreign language literature. It was, therefore, hoped that students would not only become more familiar with the grammar of their native language through the study of the grammar of the target language, but also help them to better speak and write their own native language. Furthermore, it was thought that learning foreign languages would help students acquire some specific mental benefits, such as intellectual growth. In short, although it was recognized that students would probably never use the target language, the mental exercise of learning the target language would benefit students anyway (Larsen-Freeman & Anderson, 2011).

The major characteristics of the GTM were as follows (Richards & Rogers, 2001):

1. The goal of foreign language study is to learn a language in order to read its literature or in order to benefit from the mental discipline and intellectual development that result from foreign language study.
2. Reading and writing are the major focus; little or no systematic attention is paid to speaking and listening.
3. Vocabulary selection is based solely on the reading texts used, and words are taught through bilingual words list, dictionary study, and memorization.
4. The sentence is the basic unit of teaching and language practice.
5. Accuracy is emphasized.
6. Grammar is taught deductively – that is, by presentation and study of grammar rules, which are then practiced through translation exercises.
7. The student's native language is the medium of instruction (pp.5-6).

In essence, Stern (1983) states that "the first language is maintained as the reference system in the acquisition of the second language" (p. 455).

The direct method. Resulting from the fact that the Grammar Translation Method was not very effective in preparing students to use the target language to communicate with others, the Direct Method, which is orally-based, became popular (Larsen-Freeman & Anderson, 2011). Richards and Rogers (2001) also indicate that, toward the mid-nineteenth century, several reformers contributed to go against the GTM. Among those, the Frenchman F. Gouin was perhaps the best known of these mid-nineteenth century reformers and had been one of those to build a methodology around observation of child language learning. They believed that a foreign language could be taught without translation or the use of learners' native language if meaning is conveyed directly through demonstration and action. L. Sauveur therefore tried to apply natural principles to language classes in the nineteenth century. He opened a language school in Boston in the late 1860s and his method, "which used intensive oral interaction in the target language and employing questions as a way to present and elicit language" (p.11) soon became referred to as the Natural Method. Cook (2008) refers to the innovative teaching method as follows: "One of the keynotes of the nineteenth-century revolution in teaching was the emphasis on spoken language" (p.4).

Enthusiastic proponents of the Direct Method introduced it in France and Germany and it became widely known as the Berlitz Method in private commercial schools in the United States. The following principles and procedures were in practice and represented what the method stood for:

1. Classroom instruction was conducted exclusively in the target language.
2. Only everyday vocabulary and sentences were taught.
3. Oral communication skills were built up in a carefully graded progression organized around question-and-answer exchanges between teachers and

students in small, intensive classes.

4. Grammar was taught inductively.
5. New teaching points were introduced orally.
6. Concrete vocabulary was taught through demonstration, objects, and pictures; abstract vocabulary was taught by association of ideas.
7. Both speech and listening comprehension were taught.
8. Correct pronunciation and grammar were emphasized (Richards & Rogers, 2001, p.12)

Although the Direct Method was quite successful at the time, it was difficult to implement in public secondary school education (Richards & Rogers, 2001).

The audio-lingual method. Although the Audio-Lingual Method, like the Direct Method, is an orally-based approach, they are very different. The Direct Method emphasizes vocabulary acquisition by exposing students to its use in situations, while the Audio-Lingual Method drills learners in the use of grammatical rule patterns (Larsen-Freeman & Anderson, 2011; Richards & Rogers, 2001). Since the Audio-Lingual Method was established by Fries of the University of Michigan, it has been referred to as the 'Michigan Method.' Later in its development, Larsen-Freeman and Anderson (2011) indicate that the Audio-Lingual Method had been incorporated with the principles of behavior psychology. Therefore, the Audio-Lingual Method, unlike the Direct Method, has a strong theoretical base in linguistics and psychology, structural linguistics and behaviorism (Nunan, 2003).

In terms of the principles of behavioral psychology, Skinner (1957) argued that the way to acquire the sentence patterns of the target language was through conditioning, which helped students to respond to stimuli through shaping and reinforcement, so that the learners could overcome the habits of their native language

and form the new habit as target language speakers. Among these principles, Rivers (1964) summarizes the more central ones:

1. Foreign language learning is basically a process of mechanical habit formation.
2. Language skills are learned more effectively if the items to be learned in the target language are presented in spoken form before they are seen in written form.
3. Analogy provides a better foundation for language learning than analysis.
4. The meanings that the words of a language have for the native speaker can be learned only in a linguistic and cultural context and not in isolation (p.19-22).

Although it was supported by prominent linguists from Michigan, Yale, and Cornell, the Audio-Lingual Method evidenced considerable linguistics analysis, but very little pedagogy (Richards & Rogers, 2001).

The silent way. In the early 1960s, the idea that learning a foreign language meant to form a set of habits was seriously challenged (Larsen-Freeman & Anderson, 2011). Chomsky (1968, 2006) argued that language acquisition could not possibly take place through habit formation since people create and understand utterances they have heard before. Thus, Chomsky proposed that language is not a product of habit formation, but a product of rule formation. Accordingly, the procedure of language acquisition must be that "people use their own thinking process, or cognition, to discover the rules of the language they are acquiring" (Larsen-Freeman & Anderson, 2011, p.51). Therefore, the emphasis on human cognition led to the establishment of the cognition approach. As far as the cognition approach is concerned, learners were supposed to be much more actively responsible for their own learning in order to

discover the rules of the target language (Larsen-Freeman & Anderson, 2011).

According to Richards and Rogers (2001), the Silent Way therefore gave birth to the aforementioned paradigm shift and is devised by Caleb Gattegno. The Silent Way is based on the premise that teachers should be silent as much as possible in the classroom. Instead, the learners should be encouraged to produce as much target language as possible. Major elements used in the Silent Way consist of color-coded pronunciation charts, called Fidel charts, and the colored Cuisenaire rods. These teaching aids were created because of Gattegno's previous experience as an educational designer of reading and mathematics programs. However, the Silent Way still shares a great deal with other language learning theories and educational philosophies. In short, the learning principles underlying Gattegno's hypotheses are as follows:

1. Learning is facilitated if the learner discovers or creates rather than remembers and repeats what is to be learned.
2. Learning is facilitated by accompanying (mediating) physical objects.
3. Learning is facilitated by problem solving involving the material to be learned (Richards & Rogers, 2001, p.81)

The following section explains the aforementioned principles in details. The Silent Way belongs to a tradition proposed by Bruner (1966) who regards learning as a problem-solving, creative, discovering activity, in which the learner is a principal actor rather than a bench-bound listener. There are four benefits derived from "discovering learning" stated by Bruner: "1) the increase in intellectual potency, 2) the shift from extrinsic to intrinsic rewards, 3) the learning of heuristics by discovering, and 4) the aid to conserving memory" (p. 83).

The visual aids used in the method, color-coded Fidel charts and the colored

Cuisenaire rods, not only serve as physical foci for students to learn, but also create memorable images to facilitate how students recall what have they been learning. In psychological terms, these visual devices serve as associate mediators for students to learn and recall (Richards & Rogers, 2001). Also, the Silent Way is related to a set of premises of 'problem-solving approaches to learning.' According to Richards and Rogers (2001), "these premises are succinctly represented in the words of Benjamin Franklin: Tell me and I forget, teach me and I remember, involve me and I learn" (p.82).

The de/suggestopedia. Suggestopedia is a language teaching/learning method developed by the Bulgarian psychiatrist and educator, Georgi Lozanov in 1978. The method is also known as Desuggestopedia (Richards & Rogers, 2001). According to Stevick (1976), Suggestopedia is a specific set of learning recommendations which are derived from Suggestology, "a science … concerned with the systematic study of the nonrational and/or nonconscious influences" (p. 42) that human beings are constantly responding to. These negative influences, as Lozanov asserts, is that we set up psychological barriers to learning such as the fear that they will be unable to perform, that they will be limited in their ability to learn, and they will fail (Larsen-Freeman & Anderson, 2011).

Lozanov (1978) further claims that these negative feelings lead learners do not use the full mental capacity they have; they use only five to ten percent of their reserve mental powers. Hence, the aforementioned limitations need to be 'desuggested' and Desuggestopedia has been developed to help students eliminate the psychological barriers and overcome the feelings to learning. One of the strategies to stimulate the students' mental reserve powers is to integrate the fine arts into language teaching and learning classrooms and which made of the most conspicuous

characteristic of the Suggestopedia (Richards & Rogers, 2001). These features of Suggestopedia, according to Larsen-Freeman and Anderson (2011), include decorations, furniture, and arrangement of classroom, the use of music, and the authoritative behavior of the teacher. As far as the effectiveness is concerned, Lozanov (1978) claims that the suggestopedic learning are dramatic such as "There is no sector of public life where suggestology would not be useful" (p.2) and "Memorization in learning by the suggestopedic method seems to be accelerated 25 times over that in learning by conventional methods" (p. 27).

The community language learning. The rationale of the Community Language Learning (CLL) method was originated from a more general psychological counseling concept, Rogerian counseling (Rogers, 1951). Based on the experience as a specialist in counseling and a professor of psychology, the CLL was developed by Curran and his associates. The application of psychological counseling techniques to second language learning is known as Counseling-Learning. The CLL redefines the roles of the counselor and the clients into the teacher and learners in the language classroom (Richards & Rogers, 2001). In practice, Curran studied adult learning for years and found that adults often feel threatened by a new learning situation. Thus, Curran concluded that a useful way to deal with these fears of students is for teachers to become language counselors instead of language authorities (Larsen-Freeman & Anderson, 2011).

Also, Moskowitz (1978) categorizes the CLL into a larger set of foreign language teaching practices described as 'humanistic techniques'. Humanistic techniques consider learners as a 'whole person'. The engagement of the whole person includes the emotions and feelings, the affective realm, linguistic knowledge, and behavioral skills (Richards & Rogers, 2001). In sum, in whole-person learning

environments, teachers consider not only their students' intellect, but also "the relationship among students' feelings, physical reactions, instinctive protective reactions, and desire to learn" (Larsen-Freeman & Anderson, 2011, p. 85). Another language teaching tradition that the CLL is in relationship with is a set of practices used in bilingual education programs called 'language alternation.' In language alternation, a message or lesson or class is presented first in the native language and then again in the target language. For example, first, a learner presents a message in L1 to the knower, and then the message is translated into L2 by the knower. Secondly, the learner repeats the message in L2 and addresses it to another learner he or she wishes to communicate with (Richards & Rogers, 2001). Also, La Forge (1983) encourages CLL learners to attend to the "overhears" (p.45) activities. In this activity, the language learners experience between other learners and their knowers to understand what any given learner is trying to communicate.

The total physical response. Total Physical Response (TPR) refers to a language teaching method first developed by James Asher (1969, 2009), a psychology professor. TPR coordinates speech and action to teach second language (Larsen-Freeman & Anderson, 2011). According to Asher (1969, 2009), TPR draws on several traditions, including developmental psychology, learning theory, humanistic pedagogy, and a language teaching procedure proposed by Harold and Dorothy Palmer.

Asher (1969, 2009) sees the process of successful adult second language learning parallel to child first language acquisition. He also claims that before children begin to produce verbal responses, they respond with physical activities. Asher (1969, 2009) therefore concludes that adults should recapitulate the processes by which children acquire their first language in comprehensible contexts. To reduce learner stress,

Asher (1969, 2009) involves game-like movements to encourage learners, resulting in linguistic production. He believes that to create a positive mood in the learner facilitates second language learning.

Richards and Rogers (2001) indicate that Asher draws on three influential second language learning hypotheses in his second language learning theory as follows:

1. There exists a specific innate bio-program for language learning which defines an optimal path for first and second language development.
2. Brain lateralization defines different learning functions in the left-and-right-brain hemispheres.
3. Stress (an affective filter) intervenes between the act of learning and what is to be learned; the lower the stress, the greater the learning (p.74).

Richards and Rogers (2001) further explain the aforementioned hypotheses in the following details. In terms of the bio-program, Asher regards first and second language learning as parallel process and sees three processes as central:

1. Children develop listening competence before they develop the ability to speak. At the early stage of first language acquisition, they can understand complex utterances that they cannot spontaneously produce or imitate.
2. Children's ability in listening comprehension is acquired because children are required to respond physically to spoken language in the form of parental commands.
3. Once a foundation in listening comprehension has been established, speech evolves naturally and effortlessly out of it (p.74).

Parallel to the process of first language acquisition, the second language learners should first internalize a 'cognitive map' of the target language through listening exercises and these exercises should be accompanied by physical activity.

Accordingly, speech and other productive skills should come later (Richards and Rogers, 2001).

Also, Asher (1969, 2009) regards TPR as directed to right-brain learning, which draws on the work of Piaget, whereas most second language learning methods are directed to left-brain learning. According to Richards and Rogers (2001), Piaget argues that the child language learner acquires language through motor movement, which is categorized into right-brain learning. Right-hemisphere activities occur before the left hemisphere can process language for production. Similarly, adult second language learners should proceed to second language mastery through right-hemisphere motor activities while the left hemisphere watches and learns (Richards and Rogers, 2001).

Another important condition for successful language learning is the absence of stress. While first language acquisition takes place in a natural stress-free environment, according to Asher (1969, 2009), the adult language learning environment often consists of considerable stress and anxiety. Thus, the key to stress-free second language learning is to establish a connection with the natural bio-program for language development and to recapture the relaxed and pleasurable experiences that accompany first language acquisition (Richards and Rogers, 2001).

The notional functional approach. The Notional Functional approach is also known as Halliday approach. Halliday (1973) explores the functions of language and believes that language should deal with meaning, a system that allows English language learners to perform tasks. However, Halliday's idea of language is opposite from Chomsky's theory that regarded language as pure form. Instead, Halliday considers language as natural. Also, Chomsky emphasized competence of ELLs and Halliday stresses performance. To Halliday, language is a tool to transmit cultures and

interact with societies for ELLs. In his work, children develop their second language proficiency by meanings first then meanings become words, words become expressions, and finally grammars evolve organically. When children's needs become more complex, their means to express them evolve as well. Halliday's method emphasizes that language is notational and functional. His work forms the basis for the Communicative Language Teaching (CLT) and the development of notational/functional syllabus in 1970s (Wilkins, 1976).

The communicative language teaching (CLT) approach. Richards and Rogers (2001) date the origins of Communicative Language Teaching (CLT) from the late 1960s, marked by changes in the British language teaching tradition. Until then, the Oral Approach, or Situational Language Teaching, dominated the field of language teaching from the 1930s to 1960s. The term Oral Approach, or Situational Language Teaching, refers to an approach to language teaching developed by British applied linguists during that time. In 1971, a group of ELT experts in Britain began to develop a unit-credit system, a system in which learning tasks are broken down into units, each of which correspond to a component of a learner's needs and relate to all of the other units systematically (Richards & Rogers, 2001; Van Ek & Alexander, 1980).

Richards and Rogers (2001) further indicated that the document developed by Wilkins was revised and expanded into a significant book, entitled *National Syllabus* in 1976. Later, the British Council incorporated Wilkins' semantic/communicative analysis into a set of specifications for a CLT syllabus. Since then, these threshold-level specifications have had a strong influence on the design of CLT programs and textbooks in Europe and internationally, including contemporary Taiwan. However, most English language teaching methods aim for students to learn to communicate in the target language in the classroom, not outside of the classroom,

since some ELT practitioners observed that students could not use the target language appropriately when communicating outside of the classroom. For example, Halliday (1973) notes that being able to communicate required more than mastering linguistic structure because language is fundamentally social. Within a social context, language users need to perform several functions, such as promising and invitations (Wilkins, 1976).

In addition, Widdowson (1978) finds that language learners may know the rules of linguistic usage, but they are nevertheless unable to use the language. Thus, Hymes (1971) argues that being able to communicate necessitates more than linguistic competence; it requires communicative competence, as well. Consequently, since the late 1970s and early 1980s, a paradigm shift in ELT has been observed from a linguistic structure-centered approach to the Communicative Approach (Larsen-Freeman & Anderson, 2011; Savignon, 1997; Widdowson, 2003), or simply Communicative Language Teaching (Richards & Rogers, 2001).

Applying the theoretical perspective of the Communicative Approach, or Communicative Language Teaching (CLT) aims to make communicative competence the goal of language teaching. Nunan (1988) points out that CLT has been shifting the trend of ELT from teacher-centered education to a learner-centered one. Under CLT, language lessons are based on learning experiences that have nonlinguistic outcomes, and there is a connection between what language learners study in class and the functions that they will likely perform outside of the classroom (Nunan, 2003). Accordingly, Richards and Rogers (2001) list some of the characteristics of this communicative view of language as follows:

1. Language is a system for the expression of meaning.
2. The primary function of language is to allow interaction and

communication.

3. The structure of language reflects its functional and communicative uses.
4. The primary units of language are not merely its grammatical and structural features, but categories of functional and communicative meaning, as exemplified in discourse (p. 161).

Although CLT has been widely-embraced in the field of ELT in ESL/EFL societies, such as Taiwan, some prominent researchers in ELT, such as Klapper (2003), suspect that CLT lacks the closely-prescribed techniques of the preceding methods, i.e., CLT makes teachers' understanding "fuzzy." Meanwhile, with the recognition of the role of pragmatic competence in communication ability, Taguchi (2007) revealed that many L2 researchers have analyzed learners' pragmatic performance in communicative contexts. In the existing literature, pragmatic competence has mainly focused on productive skills, rather than receptive ones, specifically the production of speech, which is what Taiwan is currently doing in ELT for elementary school students.

The MOE of Taiwan, which designs and supervises ELT practice for elementary school students, enlists concrete objectives that Taiwanese students should acquire after receiving instruction at specific academic levels. However, in communicative functions, it does list what skills Taiwanese middle-school graduates should obtain, such as asking about abilities, asking about ownership, asking about transportation, and talking about past, present, and future events. It is important to note that all of the skills are in the area of speaking competence; none address listening comprehension. The approximate dates and a summary of each of the language teaching methodologies discussed in this session were shown in the Table 2-1.

Table 2-1

The summary of language teaching method/approach

Method/approach	Dates	Language learning	Language teaching
Grammar Translation	1500s	Exercise mental muscles	Have students translate from target language text to native language
Direct Method	1910a	Associate meaning with the target language directly	Use spoken language in situations with no native language translation
Audio-lingual Method	1945	Overcome native language habits forming new target language ones	Conduct oral/aural drills and pattern practice
Silent Way	1960s	Develop inner criteria for correctness of the target language	Remain silent in order to subordinate teaching to learning
Desuggestopedia	1970s	Overcome psychological barriers to learning	Desuggest limitations by teaching through music and the arts
Community Language Learning	1950	Learn as whole person, following developmental stages	Include security, attention, aggression, reflection, est.
Total Physical Response	1960s	Listen and associate meaning with Target language directly	Delay speaking until students are ready; make meaning clear
Notional Function Method	1970s	Learn the function of meaning; use target language to perform tasks	develop students' proficiency by meaning, words, expressions, est.
Communicative Language Teaching	1970s	Interact with others in the target language; negotiate meaning	Use information gaps, role plays, interactive games, est.

The emergence of listening comprehension instruction. More and more teachers and scholars are seeking to understand the unique characteristics of listening comprehension skills and the significant role that they play in L2 learning and communication; they, therefore, recognize the importance of teaching listening comprehension in L2 classrooms (Anderson & Lynch, 1988; Cook, 2008; Nunan, 2010; Ur 1996; Richards & Rogers, 2001; Rost, 2002, 2007; Vandergrift, Goh, Mareschal, & Tafaghodatari, 2006). Furthermore, some research studies revealed that the development of L2 listening skills assists the development of other skills, such as

speaking skills (Trew, 2007), and speaking and writing skills (Chen, 2004; Krashen, 2002). Clearly, it is important to develop L2 listening competence, and it is extremely essential in ELT in Taiwan (Chang & Feng, 2012). However, although it is recognized that listening comprehension is essential for L2 learning, L2 learners are rarely taught how to listen effectively (Mendelsohn, 2001, 2006; Vandergrift, 2007a) and Taiwan is no exception (Chang & Feng, 2012).

In addition, there is little direct research on English as a Second Language (ESL) (Richards & Schmidt, 1983; Rubin, 1994; Vandergrift, 2007b), let alone on English as a Foreign Language (EFL). In addition, others found that very little L2 research has explored the comprehension of pragmatic functions (Kasper & Rose, 2002; Taguchi, 2007), such as listening comprehension. Taiwan is no exception, since teaching listening comprehension is still in its infancy and transition in Taiwan (Chang & Feng, 2012). Most research has mainly focused on investigating the strategies used by higher-proficiency Taiwanese listeners (Chen, 2008; Chen, Lee, & Lin, 2010; Chien & Wei, 1998; Shang, 2008; Teng, 2008; 2009), barriers that Taiwanese learners encountered during a training program (Chen, 2005), and Taiwanese learners' perceptions about receiving listening comprehension strategy instruction (Teng, 2011, 2012). Researchers hardly ever discover relatively basic and pragmatic strategies to enhance lower-proficiency language learners' overall ability, since they believe that the strategies identified as effective for higher-proficiency listeners can be taught directly to lower-proficiency learners (Renandya & Farrell, 2010).

For cultivating pragmatic competence, Feyten, Johnston, and Markel (1992) argued that, among the most innovative language instruction methods of the last decades, are Asher's Total Physical Response (TPR), Gattegno's Silent Way, Curran's Community Language Learning, Lozanov's Suggestopaedia, and Terrell's Natural

Approach; all of these methods share one common goal: communicative competence. In addition, among them, the priority of listening over speaking is the common denominator. Additionally, Dunkel (1986) revealed that, "this goal [developing communicative competence and oral fluency] is achieved by putting the horse (listening comprehension) before the cart (oral production). In other words, the key to achieving proficiency in speaking is developing proficiency in listening comprehension" (p. 100). Feyten et al. (1992) further interpreted Dunkel's assertion by suggesting that one needs only to look at the nearest infant to see the intuitive wisdom of this position, since infants listen to the language around them for a long period of time before they begin to produce language themselves.

Investigating Listening

Investigating the product of listening. For years, research has focused on the product of listening, rather than the process. For instance, Vandergrift (2007b) found that many researchers use listening comprehension test scores to determine the success of an experiment of two groups of English language learners. In the current research design, both experimental and control groups were administered a demographic survey and then a pre-test first. Then, the experimental groups experienced their assigned intervention, and the groups were then administered the post-test to determine if there were any significant differences between/among the experimental groups and the control group.

Vandergrift (2007b) further indicated that to measure variables that were hypothesized to influence L2 listening success, listening test scores can also be correlated with the scores of other instruments, such as a questionnaire on a variable of anxiety about listening, the use of listening strategies, and their prior knowledge of the topic of oral text to which they are going to listen. Although there might be an

interesting relationship between a specific variable and listening success, causality is not proven.

Among others, listening comprehension test scores may be used to assign a level of listening comprehension proficiency to subjects in studies in which listening proficiency is a variable under investigation. However, these tests may be assessing only particular aspects of listening ability (Buck, 1991). Berne (2004) noted that to generalize the results of listening comprehension tests, a more broadly-based standardized, objective measure is preferred. The disadvantage of such tests is that they are labor-intensive and cannot be easily administered to large groups.

In addition, in order to investigate the success of listening comprehension, Leeser (2004) constituted more labor-intensive and product-oriented means, i.e., free recall protocols. Leeser inserted a pause that has been manipulated for the experimental group when both experimental and control groups listen to the same text. By using free recall protocols, differences in comprehension can be assessed by having students write down everything that they recall from the text. Then, these recall protocols are analyzed for the number of correct idea units to determine the level of listening success. One advantage was found in this research design, in that without any question prompts, these recall protocols assess the listeners' retentive capacity.

Notwithstanding that listening test scores and recall protocols provide an objective measurement for determining listening comprehension success for research purposes, the reliability of these results is limited by the reliability of the instruments, or in the case of recall protocols, inter-rater reliability. Another limitation is the fact that the instrument of listening comprehension is confounded by other skills, such as reading the test questions and writing the answers. Similarly, in the case of aural

prompt tests, memory constitutes a confounding variable. Most importantly, although listening test results inform researchers about the product, they do not inform them about the process.

Investigating the process of listening. To acquire useful insights into the cognitive processes from the listeners, process-oriented approaches are useful (Vandergrift, 2007a). These strategies include retrospection and introspection techniques. Retrospection techniques, such as questionnaires, stimulated recall, and interviews provide opportunities for listeners to recall the listening experience at a later moment in time. After a listening activity, questionnaires can provide insights into learner awareness of the process of listening. Vandergrift (2007b) further indicates that greater insights into changes in awareness of the process of listening can be acquired using the same questionnaire by utilizing a simulated recall in which the listeners are asked to reflect on the changes in response patterns over time. Interviews and listening diaries constitute other retrospection strategies. Other researchers find that either interviews or listening diaries provide insights into the ways in which listeners deal with strategy training (Chen, 2005), or perceptions of usefulness of a new experience, such as a new advance organizer, a new strategy, or a new listening approach (Goh & Taib, 2006).

On the other hand, introspection techniques provide insights into the thought processes of listeners when they are listening. This research method requires listeners to "think aloud" during pauses in the recorded oral text when they are listening to it. While information is still available to the listener in short-term memory, this is the closest that researchers can come to elucidating thought processes. Advantages are found by using "think-aloud" data, such as how listeners achieve at different interpretations of listening texts, are useful (Goh, 2000), how listeners orchestrate

cognitive and meta-cognitive strategies to construct meaning and how they use auditory and visual information to understand visual texts (Vandergrift, 2003b).

In addition, Farrell and Mallard (2006) find that since listening comprehension is an implicit process, investigating listening processes through observation of one-way listening is of limited value. Therefore, they argue that bi-directional listening and observation of videotaped interviews can provide some insights into interactions between speakers and listeners. Not only the video recording can be reviewed by researchers as evidence of a variable under investigation, such as number and type of strategies, but also using stimulated recall immediately after the interview with participants provides an opportunity to discuss with them how they either clarified meaning or help the interlocutors advance the conversation.

Although all of the aforementioned research designs can provide greater insights into the process of listening comprehension, validity and reliability are often called into question. In order to overcome this limitation, Cutrone (2005) and Vandergrift (2007b) propose a multi-method research design that combines multi-research instruments to collect convergent data. These methods include complementing videotaped data with a stimulated recall on the video recording and a questionnaire, or test scores with questionnaire data and interviews.

Cognitive Dimensions of Listening

Listening processes. Rost (2002) states that comprehending spoken language is an inferential process. Hulstijn (2003) also indicates that when listeners create a mental representation of what they have heard, linguistic knowledge and world knowledge interact in a parallel fashion. Two strategies are used by listeners when they apply these knowledge sources, i.e., the top-down and bottom-up processes (Lynch & Mendelsohn, 2002; Rost 2002; Flowerdew & Miller, 2005). On the one

hand, when language learners use context and prior knowledge, such as topic, genre, culture and other schema knowledge stored in long-term memory to build a conceptual framework for comprehension, they favor top-down processes. These processes are developed via practice in the use of compensatory strategies (Oxford, 2003; Vandergrift, 2004), or "communication strategies" by Cohen and Macaro (2007), such as "guessing from context of listening" (Oxford, 2003, p.13). On the other hand, when language learners construct meaning by accretion, combining larger units of meaning from the phoneme-level to discourse-level, they favor bottom-up processes. These processes are developed via practice in word segmentation skills (Vandergrift, 2007a).

While it is generally believed that top-down and bottom-up processes interact in some form of parallel processing (Bechtel & Abrahamsen, 2001), the degree to which listeners prefer one process over the other depends on the purpose of listening, learners' language proficiency, and the context of listening events. For example, a listener who wants to clarify a specific detail will engage in more bottom-up processing than a listener who is interested in comprehending the more general essence of a text.

Segalowitz (2003) found that the speed and effectiveness of these processes depend on the degree to which L2 listeners can process what they have heard efficiently. Beginning-level L2 learners have limited linguistic knowledge, while native language (L1) listeners are able to process aural inputs automatically and efficiently; hence, little of aural inputs that L2 learners hear can be processed automatically. Within time limitations, L2 learners need to focus on what they are listening to consciously, given the speed of speech and the ineffective working memory to process all of the information. Moreover, a large proportion of what they

hear may be lost. How well L2 listeners deal with these limitations depends on their current ability to make use of all the available resources to interpret what they hear, such as compensatory strategies. Compensatory strategies include contextual, visual or paralinguistic information, world knowledge, cultural information and common sense, and are used by L2 listeners to strategically compensate for their inadequate knowledge of the target language. How listeners utilize these strategies while they are listening determines the degree of listening success.

Higher proficiency L2 listeners. Research that investigates the differences between higher-proficiency and lower-proficiency listeners provides greater insights into the ways in which listeners constitute their own processes. To gain these insights, "think aloud" and introspective protocols are used. In these studies, the importance of meta-cognitive strategies in L2 listening success has been recognized (Goh, 2002b; Vandergrift, 2003a; Chamot, 2005). In a study of teenage learners of French (Vandergrift, 2003b), significant statistical differences were found in strategy use between high-proficiency and low-proficiency learners.

The higher-proficiency learners reported using about twice as many meta-cognitive strategies as their low-proficiency counterparts. Other statistically significant differences in the use of specific strategies were also found. Higher-proficiency learners reported greater use of strategies, such as compensation monitoring and questioning elaboration, which refer to flexibility in using a combination of questions and world knowledge in evaluating logical possibilities; whereas, lower-proficiency learners preferred online translation. These differences were confirmed by a research of the relationship between language learning strategy use and language proficiency level (Salahshour, Sharifi, & Salahshour, 2012). In this study, they further indicated that high-proficiency learners used effective

combinations of social and meta-cognitive strategies. Among others, Goh (2002a) reported similar findings, in which higher-proficiency listening learners involved a skillful combination of cognitive and meta-cognitive strategies to constitute their own learning processes and achieve listening comprehension.

On the other hand, Goh (2000) also investigated the difficulties that low-proficiency learners faced in real-time listening. These difficulties were analyzed by using Anderson's (1995) three-phase model of perceptual processing, parsing, and utilization; these three phases interconnected. During the first phase, i.e., segmenting phonemes from the speech stream, difficulties reported by low-proficiency learners included: "1) Do not recognize words they know, 2) Neglect the next part when thinking about meaning, 3) Cannot chunk streams of speech, 4) Missing the beginning of the text, and 5) Concentrate too hard" (p. 59).

In addition, during the parsing phase, i.e., segmenting words and constructing a meaningful representation of the meaning, listening difficulties reported were: "1) Quickly forget what is heard, 2) Unable to form a mental representation from words heard, and 3) Do not understand subsequent parts of input because of earlier problems" (p.59). Finally, during the utilization phase, i.e., using information sources in long-term memory to interpret the intended meaning, listening difficulties include: "1) Understand words but not the intended message, and 2) Confused about the key ideas in the message" (p. 59). Among these difficulties reported by all listeners, Goh (2000) noted that the less skilled listeners experienced greater difficulties with word segmentation skills. Therefore, these skills will be further discussed in the next section.

If L2 language learners are to become higher-proficiency listeners, they need to develop better word recognition skills; in the meantime, they must resist the

compulsion to translate mentally. However, Osada (2001) found that an exclusive bottom-up approach, which was designed to help beginning-level listeners develop their word segmentation skills, does not leave L2 listeners with adequate attentional resources to construct meaning by themselves because this approach is often fostered by an overemphasis on bottom-up listening instruction. Therefore, to help lower-proficiency listening learners overcome the compulsion to translate; a complementary top-down approach provides the solution.

With the help of top-down knowledge, Liu (2003) noted that when processing linguistic inputs, this knowledge prevents lower-proficiency learners from accessing contextual information which facilitates the comprehension process via the utilization of a cognitive strategy, such as inferencing, to compensate for unknown words. As a result, activating the top-down process by using compensatory strategies and other relevant available information to inference what was not understood facilitates beginning-level L2 listeners to comprehend what they hear.

Another problem encountered by L2 listeners is also investigated by Hasan (2000). Although both Goh (2000) and Hasan (2000) cite difficulties encountered by less-skilled L2 listeners which are associated with bottom-up processing, they arrive at different conclusions about the pedagogical implications of their findings. Whereas Hasan recommended instruction in top-down compensatory strategies only, Goh recommended a combination of instruction in bottom-up word segmentation skills and top-down compensatory strategies, such as inferencing. Therefore, how top-down compensatory strategies and bottom-up segmentation skills are orchestrated via the effective application of meta-cognitive strategies to construct meaning remains as a fundamental research question to identify an optimal approach to be a skilled L2 listener.

Developing Word Segmentation Skills

Liu (2003) found that word segmentation is a major problem encountered by L2 listeners; since it is different from L2 readers, they do not have the privilege of regular spaces that signal where words begin and end. The sound stream heard by listeners needs to be parsed by them into meaningful units, and word meanings are often hard to determine. Even if they know the word, L2 listeners may not recognize it in a stream of speech. In Cutler's (2001) study, L2 listeners tended to segment on the basis of their L1 language segmentation procedures, and this problem is especially true for less-skilled listeners (Goh, 2000; Graham, 2006). What makes L2 listening particularly difficult, according to Cutler (2001), is that the new language is not rhythmically similar to their L1. However, it is possible for L2 listeners to learn to block the natural compulsion to utilize L1 segmentation procedures to a rhythmically different language (Cutler, 2001). L1 listeners acquire their language-specific procedures early in life and become entrenched in their language processing system. However, when listening to a new language, their L1 language processing procedures are not automatically applied due to the rhythm difference.

Then how are educators to help L2 listeners in word segmentation? Harley (2000) noted that rhythmical features, such as stress and intonation, are useful for determining word boundaries, and paying attention to pause-bounded units rather than syntactic cues proved helpful in English listening comprehension, regardless of the age and background of language of listeners. In addition, Field (2005) revealed that a strategy involving inserting word boundaries before stressed syllables also helps L2 listeners to identify split words in a stream of speech. Another strategy, trusting in the onset of words, was also found to be a reliable word recognition strategy by Field (2004), due to the rhythmical information accompanying the word (Lindfield,

Wingfield, & Goodglass, 1999).

To be successful in L2 segmentation, research by Altenberg (2005) demonstrated that perceptual salience plays an essential role, while transfer and markedness may also be relevant. Finally, Sanders, Neville, and Woldorf (2002) found that skilled L2 listeners used lexical information and stress cues to segment a stream of speech in the meantime use of the latter depending on their L1. Other strategies, such as mapping of rhythm to semantics, seem to be less efficient for L2 listeners (Akker & Cutler, 2003). However, the above research that demonstrated that L2 listeners can learn using segmentation strategies different in L2 from L1 suggests that these processes are amenable to instruction. How best to do this will be explored further in the section on teaching L2 listening.

Explaining Variance in L2 Listening

In the past, Carton (1971) and Anderson and Lynch (1988) raised an essential question about to what degree L1 listening ability might contribute to L2 listening comprehension. There was no answer to this question until recently. In the domain of L2 reading, according to Schoonen, Bossers, and Hulstijn (1998), this question has received significant research attention. However, few studies have focused on L2 listening ability. Before we can accurately answer this question, L1 listening ability might be measuring advertently and be assessing L2 listening ability erroneously. Until recently, Vandergrift (2006) indicated that L1 listening proficiency and L1 listening ability together could explain about 39% of the common variance in L2 listening proficiency, in which L1 ability explains about 25% and L1 proficiency explains about 14%. These results surprisingly confirm those reported for L2 reading ability (Bernhardt, 2005).

What factors also contribute to L2 listening proficiency other than L1 listening

comprehension? French (2003) indicated that phonological memory skills can potentially predict growth in L2 listening comprehension and L2 vocabulary learning, particularly with those children who are at the beginning level of L2 language ability. Among others, Mecartty (2000) discovered that vocabulary knowledge has emerged as a significant predictor and explains about 14% of L2 listening ability. In the meantime, grammatical knowledge failed to emerge as a predictor of L2 listening comprehension. Furthermore, in their validation of the Metacognitive Awareness Listening Questionnaire (MALQ), Vandergrift et al. (2006) found that metacognitive knowledge could explain about 13% of the variance in L2 listening performance.

There is no doubt that this is an area for future research. By building on the current findings and additional identified factors that investigate this question, validity and reliability of future research will be enhanced. Most importantly, research-based evidence of the factors that contribute to L2 listening proficiency can potentially inform the theory and practical instruction of listening comprehension, particularly for EFL contexts, such as the ELT in Taiwan. Although, the MALQ was not used in the current study to describe what metacognitive strategies these Taiwanese students used for listening comprehension and how they felt about listening in the language when they were learning, this is a potential area for future research once the findings from this study are considered and if follow-up with the research participants is permitted.

Social/Psychological Dimensions of L2 Listening

Other than linguistic input and understanding the diverse cognitive demands made on listeners, there are more factors involved in L2 listening performance development. For example, affective factors influence L2 listening success, and comprehension levels can be split even if L2 listeners arrive at a correct literal understanding of an aural text or utterance. This section therefore will further explore

the social and psychological dimensions of L2 listening comprehension.

Pragmatic comprehension. According to Rose and Kasper (2001), pragmatic comprehension involves the application of knowledge about speakers' intentions in a given context, and this context is beyond the literal meaning of the utterance. Pragmatic knowledge used by L2 listeners is culturally bound, and is applied to make inferences and determine the implied meaning of the speaker. Although there has been much research done on the use of pragmatic knowledge by L2 speakers for creating appropriate utterances, little research has been performed on the application of pragmatic knowledge to L2 comprehension.

Cook and Liddicoat (2002) investigated differences between skilled and less-skilled L2 listeners in the ability to process contextual and linguistic information in the comprehension of speech. Less-skilled L2 listeners showed more difficulty in interpretation, since they were forced to rely on bottom-up processes primarily, and their comprehension processes were not sufficiently automatic for them to deal with both contextual and linguistic information. Moreover, Garcia (2004) examined these findings and found greater comprehension of conversational implications, i.e., the attitudes and intention of speakers, by the skilled L2 listeners.

In addition, Taguchi's (2005) study that explored conversational implications confirmed that less conversational implications are more difficult and take a longer time to interpret than more conversational implications. Meanwhile, a strong proficiency effect was found for accuracy for both less and more conversational implications, rather than for speed of comprehension of these implications. Therefore, Taguchi concluded that speed and accuracy may be two different dimensions of pragmatic comprehension. To explain how pragmatic comprehension helps L2 listeners to enrich their linguistic input, Dipper, Black, and Bryan (2005) noticed that

during the utilization phase (Anderson, 1995), L2 listeners generate familiar "conceptual events" or scenarios from long-term memory and match the emerging meaning of the text. According to Dipper et al., in adapting these scenarios, L2 listeners go beyond semantic meaning to consider the contextualized meaning intended by the speaker. This process constitutes the cognitive strategy of elaboration (Vandergrift, 2003a).

Bi-directional listening. In a bi-directional listening context, L2 listeners play the role of listeners and speakers. In bi-directional listening, receptive strategies, such as clarification requests, which signal a comprehension difficulty, and receipt tokens, that move a conversation forward in an interaction with an interlocutor, may be used by listeners. In this context, Vandergrift (2007b) noted that it may be easier than one-way listening since it is more contextualized, i.e., listeners have the freedom to clarify meaning, and to ask the interlocutor to repeat or slow down his or her speech. However, when comprehension is uncertain, the cognitive demands are much greater than one-way listening, since L2 listeners not only process the aural input, they also need to clarify their understanding in order to respond appropriately.

Furthermore, Harris (2003) found some cues that can be added to, or change, the literal meaning of utterances, such as paralinguistic, other non-verbal, and culturally-bound ones. In addition, Carrier (2003) examined the status relationships between interlocutors and found that these relationships affect comprehension and the freedom to negotiate meaning, particularly in contexts in which L2 listeners feel that they have little control, such as job interviews. All of these factors that add affective dimensions to bi-directional listening are not found in one-way listening.

Interested in how L2 listeners use clarification strategies to signal a conversational problem or to signal understanding to move the conversation forward,

Farrell and Mallard (2006) used a task of information-gap. In their study, listeners were able to clarify meaning and advance their interaction with interlocutors without specific strategy training at three proficiency levels. However, three strategies that all of the listeners tended to use were identified: backchannel to signal understanding, hypothesis testing to check understanding, and reprises to confirm understanding.

In addition, to examine how these backchannels used by L2 listeners affect the quality of interaction, Cutrone (2005) noted that backchannels used by Japanese learners of English are expected to be polite and avoid confrontation with interlocutors. However, these strategies frustrated their English L1 interlocutors, since they were not certain to what degree their partners understood them. Cutrone concluded that if reception strategies were not shared by the cultures of speakers and listeners, this could lead to negative perceptions of the other.

To examine the extent to which clarification strategies are involved in the negotiation of meaning for comprehension and language learning in interactional settings, Cabrera and Martinez (2001) discovered that, in helping young children to listen and comprehend, different types of interactional modifications, such as repetitions, comprehension checks and gestures, are crucial. In their study, Spanish-speaking children who are listening to English stories were found to attain significantly higher levels of comprehension when both interactional and linguistic adjustments were made, compared to the use of linguistic adjustments only.

However, Foster and Ohta (2005) demonstrated that negotiation of meaning involves more than clarification of meaning, since very little negotiation of meaning occurred from a quantitative perspective. They therefore used a qualitative analysis of utterances and found that in order to save face, even when the meaning may not have been entirely clear, the interlocutors supported each other actively. Their study reveals

that, from a socio-cultural perspective, a qualitative research design provides interesting insights into a cognitive perspective which are not observable when employing a quantitative analysis.

Affective Dimensions of Listening

In affective dimensions of listening, Vandergrift (2006) argues that there is a positive relationship among motivation, use of meta-cognitive strategies, and listening success. In addition, grounded in Deci and Ryan's (1995) self-determination theory, when listening test scores were correlated with motivation and listening strategy use, an interesting pattern of increasingly higher correlations among the three levels of motivation and use of meta-cognitive strategies emerged. In their study, L2 learners who indicated low levels of motivation, such as a lack of self-confidence and self-efficacy, revealed a passive attitude towards L2 learning. Additionally, they reported using ineffective listening strategies, such as mental translation; whereas, students who scored high on motivation appeared to engage in listening behaviors that were more naturally meta-cognitive. Vandergrift (2006) and Graham (2006) both concluded that motivation and meta-cognition seem to be factors that are part of a cluster of variables contributing to successful L2 listening variance. Among others, Horwitz (2001) found that L2 learners often express feeling anxiety associated with L2 listening success and its effects on L2 performance. In Arabic, significant negative correlations among listening anxiety, L2 learning anxiety, listening comprehension scores, and final scores were found among L2 learners of Arabic (Elkhafaifi, 2005a).

Approaches to Teaching L2 Listening

Morley (1999) indicates that, in the past 50 years, the perspective of listening has changed significantly. It is no longer regarded as a passive skill requiring only little classroom attention, since the teaching of L2 listening not only mirrors overall

developments of language teaching methodology, but has also moved from repetition exercises to discrete-point comprehension to real-time listening, which focuses on completing tasks that reflect real-time communication. Furthermore, Hinkel (2006) indicates that more and more teaching strategies, such as helping students to listen for the essence of spoken content, activating schema in pre-listening, and making predictions and inferences, are recognized as essential for L2 listening instruction.

Notwithstanding that L2 listening instruction may have improved considerably, it is still focused mainly on the product of listening, i.e., the correct answer, rather than the process of listening. Although correct answers may reflect comprehension, they reveal nothing about how L2 listening learners achieve comprehension, or more importantly, how they failed to arrive at comprehension. Worse still, a focus on correct answers for L2 listening learners is often accompanied by a high level of anxiety. On the other hand, a focus on the process of listening through regular classroom practice can help L2 listening learners to develop their listening comprehension when unencumbered by the threat of evaluation (Vandergrift, 2007b).

This section reviews the research in L2 listening instruction within the broad framework of bottom-up and top-down approaches, followed by a discussion of a recent pedagogical model, advocated by some L2 experts, which attempts to integrate the two approaches.

Bottom-up approaches to teaching listening. Hulstijn (2003) argues that helping L2 listening learners to parse linguistic input in order to recognize words quickly is an essential component of L2 listening instruction. L2 listening learners can acquire word segmentation skills through opportunities to "accumulate, and categorize acoustic, phonemic, syllabic, morphological and lexical information" (p. 422). Furthermore, Hulstijn provides a model of a six-step procedure for L2 listening

learners to follow: 1) listen to the recording; 2) ask themselves whether they have understood what they have heard; 3) replay the recording as often as necessary; 4) consult the written text to read what they have just heard; 5) recognize what they should have understood; and 6) replay the recording as often as necessary to understand all of the oral text without written support. In addition, Field (2003) found that through utilizing such an approach, other phenomena in connected speech, such as reduced forms, assimilations, elision, resyllabification, and eliticization, can be considered. When L2 listening learners are made aware of these phenomena and pay attention to them, they can figure the phenomena out for themselves.

A range of experimental research that investigates the effects of a bottom-up approach to teaching L2 listening has been performed. For example, Kiany and Shiramiry's (2002) study that investigated the use of dictation to improve L2 listening performance provides empirical evidence. Additionally, Jensen and Vinther (2003) examined the effects of exact repetition and reduced speech rate. The researchers found that when listening to videotaped dialogues in different modes, i.e., Fast (F) or Slow (S), all three experimental groups, i.e., F-S-S, F-S-F, and F-F-F, outperformed the control groups in more detailed comprehension of the text and in acquisition of phonological decoding strategies. However, within these three experimental groups, the F-F-F group outperformed the other two experimental groups; therefore, reduced speed did not account for better performance. Accordingly, the researchers conclude that L2 listening instruction should not be segregated from regular listening activities in class; rather, it should be integrated with them since these activities allow L2 listening learners to "indulge in hypothesis work regarding all of the linguistic features" (p. 419). This practice is also advocated by Goh (2002b) and Hulstijn (2001).

Top-down approaches to teaching listening.

Developing meta-cognitive knowledge. Although some prominent researchers (Berne, 2004; Mendelsohn, 2006) have advocated the necessity of raising L2 learners' meta-cognitive awareness about listening, empirical study on raising these learners' meta-cognitive awareness of the listening process is still in its early stages of development (Vandergrift, 2007b). To elicit and develop meta-cognitive awareness of the listening process, some reflection activities, such as questionnaires (Goh, 2000; Zhang & Goh, 2006), listening diaries (Goh, 2000, 2002b), small group interviews (Goh, 2000), and discussions (Vandergrift, 2007a) can be useful for both listeners and teachers.

Furthermore, certain listening tasks, such as the use of prediction, monitoring, evaluating, and problem-solving, not only guide the L2 learner through the process of listening, but also help them develop meta-cognitive knowledge. Meta-cognitive knowledge is essential for developing self-regulated listening. By using these approaches, Vandergrift (2002, 2003a) found that both beginning-level elementary school learners and beginning-level university students of French commented on the power of predictions for successful listening, the importance of collaboration with a partner for monitoring, and the confidence-building impact of meta-cognitive knowledge. Goh and Taib (2006) also demonstrated that meta-cognitive knowledge, accompanied by teacher discussion, proved to be effective for young learners.

Through a process approach to listening development, growth in meta-cognitive knowledge can be fostered. Although some researchers report positive results for the use of one or two listening strategies, some claim that this kind of instruction does not help to improve listeners' overall ability (Field, 2001), and this instruction may be resisted by learners (Chen, 2005). To prevent the aforementioned situation from

occurring in L2 language classrooms, Vandergrift (2007b) suggests an "orchestra" strategy in which "instruction should focus on a more holistic, process-oriented approach to L2 listening" (p. 198).

Using prior knowledge. The importance of prior knowledge in facilitating successful L2 listening comprehension has long been recognized (Long, 1990; Chiang & Dunkel, 1992; Pica, 2005). To activate learners' prior knowledge and develop a conceptual framework for making inferences, L2 listeners can use advance organizers. These organizers include pictures, video clips, key vocabulary presentation, class discussion, cultural information, and question preview. Recently, Elkhafaifi (2005b) investigates the importance of pre-listening activities, question preview, and vocabulary preview, for learners of Arabic listening to videotext; it was found that both treatment groups outperformed the control group. Furthermore, the question preview (multiple-choice) group outperformed its vocabulary preview counterparts. In another study that investigated the influence on listening success of different types of question previews, Chung (2002) found that multiple choice questions had a greater influence than open-ended questions.

To free up attentional resources for processing linguistic input, Tyler (2001) illustrates the importance of background knowledge. In this interesting study, Tyler found that when listeners had access to the topic through an advance organizer, differences between L1 and L2 listeners in working memory consumption were not statistically significant. Nevertheless, when the topic was not available, working memory consumption for L2 listeners was found to much higher than for L1 listeners. This may result from inefficient bottom-up processing of L2 listeners, since their word recognition skills are not yet fully established.

Despite the fact that the importance of prior knowledge was demonstrated for

facilitating listening comprehension, it can also be misleading for the L2 listener when used arbitrarily. Macaro, Vanderplank, and Graham (2005) systematically reviewed recent research on listening comprehension and noted that when prior knowledge is not supported by clarifying evidence later in the text, L2 listeners can be led to inaccurate comprehension. This is the procedure of adopting the strategy of "questioning elaboration" (Vandergrift, 2003a), used by more-skilled listeners. This "questioning elaboration" strategy underscores the importance of flexibility, and continually using a combination of questions and word knowledge to evaluate possibilities during the process in which the interpretation of the texts develops.

An integrated model for teaching L2 listening. To help L2 listeners develop real-life listening skills, instruction should include ample practice in listening to realistic texts (Buck, 1995; Goh, 2002b; Vandergrift, 2003b, 2007a; Field, 2007a, b). Through such listening practice, listeners can gain a greater awareness of meta-cognitive processes via successful listening and learn to control these processes. Vandergrift (2004) presents the pedagogical steps involved in this tandem and the meta-cognitive processes underlying each step. This pedagogical cycle not only develops top-down and bottom-up dimensions of listening, but also meta-cognitive awareness of cognitive processes underlying successful L2 listening. Listeners acquire meta-cognitive knowledge about listening processes through the orchestrated use of hypotheses formation and verification, with the application of prior knowledge to compensate for gaps in understanding.

Furthermore, to help listeners develop awareness of form-meaning relationships and word recognition skills, teachers can match all or parts of aural text with a transcription of that text. It is important to note that this step occurs only after language learners have engaged in the cognitive processes which reflect real-life

listening. If language learners access the written text too early in the cycle, according to Osada (2001), they may develop an inefficient on-line translation approach to listening. L2 language learners have to learn to rely on real-life listening and use these cues to interpret what they hear. Guiding L2 language learners to use this process as a part of regular listening activities helps them to improve overall as efficient listeners (Field, 2001, 2007a, b; Goh, 2002b; Holden, 2002; Vandergrift, 2002, 2003a; Wilson, 2003). In addition, Gruba (2006) argues that the use of videotext helps L2 language learners to develop their "playful media literacy." Vandergrift (2007b) claims that this approach, used by skilled listeners, should require language learners to engage in repeated and systematic exposure to this same sequence of meta-cognitive processes. Moreover, all of the tasks should be grounded in the same meta-cognitive cycle. This approach will have the teacher play a greater role and remove the scaffolding gradually. Consequently, language learners do the work themselves, and the meta-cognitive process becomes automatic. Furthermore, it will enable language learners to take part in communicative activities outside of the classroom at an early stage of language learning, since this approach reflects real-life listening (Field, 2007a).

This pedagogical cycle not only has strong theoretical support, since it parallels research demonstrating implicit learning via task performance (Johnston, 2006), but also has empirical support. In a study, Vandergrift (2007a) found that intermediate-level university language learners of French who were guided through this process approach to listening outperformed their counterparts. In addition, Mareschal (2007) claims that successful L2 language learners can benefit from this kind of listening practice. Over an eight-week long course, L2 language learners who were exposed to this pedagogical cycle were better able to regulate their listening

processes (see Table 2-2). However, the author suggested that future study of this approach to teaching L2 listening needs to be replicated in other settings and with other languages.

Table 2-2

Stages of Listening Instruction and Related Metacognitive Processes

PLANNING/PREDICTING STAGE	1. planning and directed attention
1. Once students know the topic and text type, they predict types of information and possible words they may hear.	
FIRST VERIFICATION STAGE	2. monitoring
2. Students listen to verify initial hypotheses, correct as required and note additional information understood.	
3. Students compare what they have written with peers, modify as required, establish what needs resolution and decide on the important details that still need special attention.	3. monitoring, planning and selective attention
SECOND VERIFICATION STAGE	4. monitoring and problem-solving
4. Students selectively attend to points of disagreement, make corrections and write down additional details understood.	
5. Class discussion in which all class members contribute to the reconstruction of the text's main points and most pertinent details, interspersed with reflections on how students arrived at the meaning of certain words or parts of the text.	5. monitoring and evaluation
FINAL VERIFICATION STAGE	6. selective attention and monitoring
6. Students listen for the information revealed in the class discussion which they were not able to decipher earlier and/or compare all or selected sections of the aural form of the text with a transcription of the text.	
REFLECTION STAGE	7. evaluation
7. Based on the earlier discussion of the strategies used to compensate for what was not understood, students write goals for the next listening activity. A discussion of discrepancies between the aural and written form of the text could also take place at this stage.	

(Adapted from Vandergrift 2004)

Authenticity and L2 listening. Helping L2 language learners understand the target language in everyday situations is the ultimate goal of listening instruction. Therefore, authentic listening materials are suited to achieve this goal since they reflect real-life listening, are relevant to the language learners' lives, and allow L2

language learners to be exposed to different varieties of the target language. Vandergrift (2002, 2003b) and Mareschal (2007) found that the exposure to authentic-type texts and natural speech rate is preferred by L2 language learners and can be beneficial for their listening development. In addition to the absence of the threat of evaluation, L2 language learners find that it motivates their ability to understand rapid, authentic-type texts, since this kind of practice can help them more easily access similar texts in real-life listening. Others (Gallien 1998; Blanco 2002) noted that exposure to authentic-type texts can result in greater gains in comprehension ability than exposure to simplified texts only. Furthermore, LeLoup and Pontierio (2007) and Robin (2007) claim that online courses with authentic video and audio can help L2 language instructors prepare listeners for "optimal work."

On the other hand, as Richards (2006) pointed out, it is difficult to find truly authentic materials appropriate for beginners or low-proficiency language learners. Therefore, Thanajaro (2000) suggests that, for L2 language learners at the beginning levels, texts that approximate authentic form, and use appropriate cultural and situational contexts can be used by native speakers to serve a useful role in developing L2 listening proficiency. In addition, Derwing and Munro (2001) investigated preferred rate of speech by L2 language learners and found that adjusting the rate of speech did not produce improvements in listening rating. These results, along with other studies (Jensen & Vinther, 2003), lead prominent researchers to conclude that slowing down the rate of speech does not help for comprehension purposes. Thus, authentic texts, form, and rate of speech should not be sacrificed in the interest of simplifying L2 listening for language learners (Jensen & Vinther, 2003). In addition, Fox (2002) explores the question of variety of language in listening instruction and proposes a model for the introduction of variety of language. Each variety involves

social and situational variants. In this model, language learners will listen to authentic texts spoken and heard by L1 speakers.

Technology Based Instruction in Education

Today, technology is being used to support education programs in an attempt to improve the teaching-learning process in classrooms. Some governments and international agencies are collaborating to develop and implement technology based educational tools across regions. These are aimed at complementing the traditional teaching-learning processes in school education for improving the learning outcomes of students. The premise of utilizing technology based solutions to provide quality education is supported by research evidence (Bakshi & Jha, 2013).

Research demonstrates that technology leads to several kinds of improvements in educational outcomes. For example, Dede (2012) mentions at least four kinds of improvements in educational outcomes: increased learner motivation, advanced topics mastered, students acting as experts, and better outcomes on standardized tests. Also, Culp and MacMillan (2003) list three reasons for investing in technology for education: technology as a tool for addressing challenges in teaching and learning, technology as a change agent, and technology as a central force in economic competitiveness.

The range of technology in education includes use of computers, radio, multimedia such as CD and DVD players, and a range of wireless devices such as the Internet that can be accessed across regions by providing both audio and visual amenities for exchange of instructions. The role of the worldwide web, or the Internet, has grown dramatically as it helps minimize the costs in reaching millions of students across geographical regions. For instance, Kurrien (2008) states that, in the context of the Indian education system, the choice of a particular technology, be it television,

radio, computers, or other, must be guided not by its availability or accessibility, but by the innate characteristics that make it appropriate for the educational goals, curricular objectives and pedagogical styles on a large scale.

The Incorporation of Multimedia

Moore, Burton, and Myers (2004) indicated that the term *multimedia* has long been used by educators as well as those in the technology industry. Yet there is little consensus as to what, exactly, the concept includes. Until recently, the term has meant the use of several media devices in a coordinated fashion (e.g., synchronized slides with audiotape). Advances in technology, however, have combined these media so that information previously delivered by several devices is now integrated into one device. Obviously the computer plays an essential role in this technological environment. Therefore, the term *multimedia* used in the current study follows the above definition.

Educational Radio/Audio Instruction

Introduction. Williams, Nicholas, and Gunter (2005) indicated that at the dawn of the twentieth century, the development of "radio" began. Soon after, concomitant with the growing popularity of radio broadcasting was an increasing interest in its use in education. For example, in the mid-1920s, the Department of Education in the UK began to provide schools with radio based instruction and soon 10,000 schools were using BBC radio programs to support classroom learning. In the field of higher education, Bakshi and Jha (2013) indicate that in the 1930s, radio became a popular education technology when the UK Open University first made use of it. The Open University proved that radio has been a great tool for underachieved students who benefit from radio as a supplementary learning tool (Vyas, Sharma, & Kumar, 2002).

Similarly, in the United States, Casey (2008) revealed that educational radio was provided both by educational institutions and by private, for-profit broadcasters. Starting in 1921, broadcasting licenses were held by universities in Utah, Wisconsin, and Minnesota (p. 46). Once, the use of radio as an educational tool further augmented its informational function. Certain programs designed specifically for K-12 and post-secondary education were developed, both by private broadcasters and by radio stations exclusively for the use of education. Students, in traditional classroom settings (or individually via distance education) could listen to programs, or with the use of transceivers, could interact with radio programs (Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer, 2004).

Although L2 learners have found that listening to radio broadcasts improves their listening skills and comprehension, Moore and Carreon (2012) note that none of the published research referring to listening comprehension instruction has given much attention to the various discourses of ubiquitous radio broadcasts and the challenges they present to language learners. Also, Bishop and Cates (2001) note that although audio is an important instructional tool, it has not been studied as much as other media. However, there are some articles and research can be found in this technological age through the Internet.

Educational radio/audio in the US. In a study, Bianchi (2002) explored the factors that made Wisconsin School of the Air (WSA), a successful educational radio program for nearly a half century. During that time, WSA successfully broadcast a curriculum of art, music, science, literature, and conservation to hundreds of thousands of students in Wisconsin through radio. Bianchi argues that WSA succeeded because of the following success factors: 1) focused on specific educational needs using technology, rather than on the technology, as is often done

today; 2) designed instruction that complemented radio's ability to stimulate active involvement and creative imagining; 3) created opportunities for community; and 4) maintained a human touch.

Decline of WSA. Bianchi (2002) contributed the decline of WSA to the fundamental changes in population and education needs. By the mid 1970s, not only was the rural population declining, but also the school consolidation movement was in full swing. Consequently, many one room and small schools in the USA were closed. By 1975, most rural students attended large schools that offered classes in art, music, science, literature, social studies, and physical education taught by qualified teachers. As is the case with any major technological advancement, particularly in education, educational radio in the United States met with a collision between adversity and bewilderment. Thus, the development and popularity of new technologies such as DVDs and videos on the Internet that combine the aural texts with visual ones contributed to WSA's decline as well. Given the options now available to educational institutions, such as Studio Classroom in the current study, broadcasts radio and video options via the Internet, it is important for educators to choose resources appropriately depending on their equipment accessibility and time availability.

Educational radio/audio in Canada. In Canada, Buck (2006) described the first developments and implementation of radio for distance learning and education in Canada, beginning in the early 1920s. Buck claims that Canada developed educational radio in a somewhat similar fashion to the United States, albeit on a smaller scale. Starting in 1925, the Canadian National Railways (CNR) radio network broadcasted musical appreciation programs. The following year in 1926, CNRV, the CNR radio station in Vancouver broadcasted directly to Point Grey School for the Deaf and Blind. The CNR radio network later was transformed into the Canadian

Radio Broadcasting Commission, which ultimately became the Canadian Broadcasting Corporation (CBC).

The CBC continued to provide educational radio programs for provinces such as British Columbia, where other educational radio broadcasts took place through various provincial ministries of education via local radio stations. For example, CMHS in Nova Scotia provided government endorsed educational programming, while in Edmonton, Alberta, local station CKUA was the vehicle for educational radio (Buck, 2006). Like the situation in the USA, it is unlikely that such technology will again gain the prominence it once enjoyed, some of the ideas it embodied and other ideas that were tried and found may be worthwhile to consider in light of "new" approaches such as podcasts and netcasts which served as the intervention applied in the current study.

Educational radio/audio in Australia. The Australian government (2007) states that the development of educational radio in Australia evolved in very different conditions. Due to low population densities in many areas of the country, K-12 students in remote locations either needed to attend boarding school, or work with postal-based correspondence school materials. First in 1948, through the support of the Royal Flying Doctors Service, shortwave radio broadcasts began to be delivered to outback students. By 1956, the "School of the Air" (SOTA) was developed and as of 2005, sixteen schools were in operation. Nowadays, they use high frequency (HF) radio transceivers to receive their lessons and new technology is constantly being incorporated into the schools of the air. A new initiative had brought the SOA into the digital age with the use of the Internet. The current study adopted the same concept with the SOA that brought the radio into the digital age with the widespread use of the Internet in Taiwan since in some remote or mountain areas, qualified English teachers

and technological facilities are still lacking. The educational radio broadcasts by computer are not only convenient at any time, but also affordable for most schools.

Educational Radio/Audio for Learning Foreign Language

Interactive radio/audio instruction.

What is interactive radio/audio instruction? The Interactive Radio/audio Instruction (IRI) was first developed in the 1970s in Nicaragua by Stanford University and funded by the United States Agency for International Development (USAID) (Ho & Thukral, 2009). The IRI is defined, according to the World Bank (2005), as the following: “Interactive Radio Instruction (IRI) is a distance education system that combines radio broadcast with active learning to improve educational quality and teaching practices (p.1)”. Today, IRI is part of the ongoing effort by the World Bank’s Africa Region to deepen understanding of how distance education and information communication technology, the radio, can support education in Africa. Research demonstrates the positive aspects of the use of radio technology in education (Bakshi & Jha, 2013). Various IRI studies around the world show that radio has emerged as an effective tool to bridge gaps in education as it helps in improving the learning outcomes of the students (e.g. Leigh, 1995; Bosch, Rhodes, & Kariuki, 2001; Ho & Thukral, 2009; Yasin & Tilson, 2009; Solomon & Sankey, 2010).

Leigh (1995) examined the way in which the fundamental principles and practices of a well-established model of IRI in South Africa and Bolivia can make an impact. In South Africa, Leigh revealed that, students who received fewer than 33 English in Action lessons improved by 6.7%, students who received between 34 and 66 lessons improved by 13%, and students who received more than 66 programs improved by 24%. Similar results were found in Bolivia. In 1991, evaluators found that the average score of learners using Radio Math jumped from 47.0% to 66.23%,

the mean score of the control group was 35%. Of these, the experimental students who had already completed one year of the radio lessons did much better (51.9% correct), and those students who completed two years of radio programs scored even higher (61.6%). Leigh's data showed that the IRI programs in South Africa and Bolivia facilitates student's performance in both English and mathematics.

Bosch, Rhodes, and Kariuki (2001) found that in the Dominican Republic, an IRI project, also sponsored by the USAID, called Radio Assisted Community Basic Education, or RADECO was created for children who had no access to school and has been broadcasting for 12 years. Early evaluations compared children who had just five hours of integrated instruction a week using IRI and 30 minutes of follow-up activities with students who were in a regular formal school for more than twice that amount of time. Studies showed that first graders using the RADECO programs responded correctly 51% of the time on posttests, versus 24% of the time for the control group. Meanwhile, second graders using IRI contributed 10% more correct answers. Overall, even though these students had enormous obstacles, students in both grades who used IRI for an hour a day had comparable results in reading, writing, and language, compared with the control group, and performed significantly better in math. Results of the application of IRI showed that the IRI programs in the Dominican Republic help students not only in reading, writing, and language, but also in math.

Ho and Thukral (2009) analyzed 37 records that ranged from a variety of subject areas (such as mathematics, English, and social studies), projects (reported by Education Development Center, Inc. (EDC)), and participant countries (such as Haiti, Indonesia, and Nicaragua) from 1977 to 2008. The analysis to follow was based upon learning outcomes data reported by EDC's projects. They found that exposure to

Interactive Radio Instruction (IRI) was associated with higher levels of student achievement, consistently producing learning gains among its participants of diverse ages and in diverse settings. Also, in Haiti, Zambia and Sudan, IRI mathematics instruction has shown positive results with respect to pre- to post-test gains. Even for early learners, IRI has proved to improve not only increase in access to education. More importantly, Radio Instruction to Strengthen Education (RISE) improved students' overall academic achievement in Zanzibar. The data they analyzed all showed positive effects not only on a variety of subject areas, such as mathematics, English, and social studies, but also in different countries where IRI was implemented.

Yasin and Tilson (2009) examined the effects of USAID funded IRI programs in both Somalia and South Sudan. In Somalia, IRI programs are broadcast by five international and local radio stations five hours a day, five days a week, and listened to across the Horn of Africa. The assessment in their study consisted of two subtests: Somalia literacy with a maximum of 34 points, and Mathematics with a maximum score of 20 points. They found that IRI learners performed better than learners in non-IRI control schools in both subtests (61.8 percent compared to 53.8 percent in Somali Literacy, and 71.0 percent compared to 59.0 percent in Math). The comparison between IRI and control learners gives an indication of the value added by IRI programs.

In South Sudan, they evaluated whether learners exposed to IRI programs achieved basic literacy and numeracy skills designed in the curriculum. Significant gains were found in all three subtests: Local Language Literacy, English, and Mathematics. Even though learners performed poorly in Local Language Literacy, learners achieved a gain of 27.8 percent in English, from a mean pre-test of 15.4

percent to a mean posttest of 43.2 percent. Meanwhile, learners gained 12.7 percent in local language literacy, from the mean pre-test of 15.3 to 27.7 percent in the posttest, while the gain in mathematics was 21.8 percent (from 35.1 percent to 56.8 percent). The results showed that learners in IRI schools performed better in all three subtests than learners in non-IRI control schools. The mean difference between IRI and control groups was 14.1 percent for English, 4.3 percent for Local Language Literacy, and 4.3 percent for Mathematics. The findings showed positive effects on Somali literacy, mathematics in Somalia and English, local language literacy, and mathematics in South Sudan, where IRI programs were adopted.

Solomon and Sankey (2010) investigated the effect of the use of interactive radio instruction in a five-year basic education part of the Community Participation for Action in the Social Sector (COMPASS) project in Nigeria from 2004 to 2009. Their data clearly showed that the COMPASS interventions had a strong, positive impact on student achievement over the span of the project than the control schools that demonstrated consistent declining average scores in both English and mathematics for all grade levels. Specifically, the COMPASS 2008 cohort results were telling in that at almost all grade level gains over one year are much higher than gains of the other cohorts in the same period of time. These extraordinary results, according to the authors, may be attributed to the implementation of the COMPASS innovations. The data attained from their study suggested that a successful program needs to be implemented and examined over a certain time period.

Educational Video Instruction

Theories in educational video instruction. With the constant advancement of new technologies in this digital age, people can more easily access TV, video equipment, computers, and more recently, the Internet. In the meantime, teachers have

found more opportunities to use audio-visual materials at all levels of second language teaching and foreign language teaching (Hayati & Mohmedi, 2011). Thus, with the incorporation of multimedia technology in language teaching and learning, learners are exposed to different stimuli such as verbal, visual, auditory, and physical ones simultaneously (BavaHarji, Alavi, & Letchumanan, 2014). Hsia (1971) proposed multiple-channel theory, which involves at least two input information channels, and argued that comprehension increases as learners interact with any combination of the different available sensory channels. Also, Richards and Burns (2012) advocate that video, as a medium, enables learners to use visual information to enhance comprehension. It allows learners to observe the gestures, facial expressions and other aspects of body language that accompany speech. It also presents authentic language as well as cultural information about speakers of English.

Furthermore, Barron (2004) claims that studies investigating channels of transmission have been ongoing for decades and continue in the present. The research typically centers on an auditory or visual channel and compares it with a combined audiovisual presentation. In some cases, the visual channel is further subdivided into a pictorial channel (nonverbal) and a print channel (visual-verbal). Other theories related to multiple-modality of working memory (Baddeley, 1998), and dual coding (Paivio, 1991) advocate the premise that combination of verbal and nonverbal information, using both audio and visual modalities, can increase working memory. Although there are many theories related to multichannel communications, Barron (2004) notes that five of them are often cited in research related to auditory instruction:

1. Single-channel processing theory: There is only one channel to higher centers of the brain; therefore, dual-channel transmission can be equal to,

but not greater than, the single-channel processing. In fact, if both stimuli arrive at the same time, information jamming may occur and cause the dual-channel effectiveness to be less than that of either of the single channels.

2. Cue summation theory: Dual-channel presentations result in more learning than single-channel presentations because the number of stimuli or cues is increased.
3. Limited-capacity information processing: If the combined amount of information of two single channels exceeds the upper limit of the central nervous system capacity, then interference may occur, causing equal or less gain to take place. If combined stimuli are less than the capacity, however, then the dual-channel presentation is more efficient and effective.
4. Dual-coding theory: Information is processed in either a verbal or a nonverbal form. By coding semantically connected information in both formats, recall and recognition can be enhanced because information from one code acts as a retrieval cue for information in the other mental store.
5. Cognitive load theory: Working memory is limited; therefore, designers should seek to structure the learning materials to minimize the requirements on (Short Term Memory) STM (by using two modalities, reducing the complexity, organizing the material, etc.) (p. 958).

However, the current study dealt with the effects of complementary audio, visual, or TV program interventions to CLT instruction in Taiwan. The next section will discuss the *single channel processing theory*, *cue summation theory*, and *dual coding theory* respectively, as they relate to the current study.

Single-channel theory. The development of *single channel processing theory*

has been traced back to the 1950s. In 1958, Broadbent first proposed the theory of perception that was constructed on the assumption that there is only one single channel to the brain's higher centers. Broadbent found that, by conducting several experiments, when the limit of the center nervous system has been met, some information is stored in a holding area. Since this system generally handles only one message at a time, it is referred to as the *single-processing theory* or *single-channel theory*. Thus, if information (from one or more sources) reaches the brain at a very slow rate, all of the information can be processed. Whereas, when the limit is reached, only one source will be able to enter the system, the rest will be excluded. Based on this *single-channel theory,* Van Mondfrans and Travers (1964) conducted a study that assigned 72 male and female undergraduate students to three kinds of presentation. These presentations consisted of a series of learning trials with stimulus materials of differing degrees of meaningfulness and redundancy presented in an auditory and an audiovisual format. The first group received stimuli at the rate of one stimulus every 4 seconds, the second group at the rate of one stimulus every 2 seconds, the third one at a 1-second rate, and fourth one at the rate of one stimulus every 0.6 seconds. They found that there were no significant differences between the auditory and the audiovisual modes of presentation across all types of stimulus material. Furthermore, according to a series of research studies and Broadbent's (1958) theoretical model of the perceptual system as a single-channel system, Travers (1970) arrived at the following conclusions regarding multichannel transmission of information:

1. The transmission of redundant information through two perceptual systems will not lead to more effective information transmission than the use of a single modality except when the rate of information transmission is very slow (p. 105).

2. When non-redundant information is transmitted through two different perceptual systems . . . the two channels together do not result in the retention of greater quantities of information than when one channel is used alone (p. 106).
3. The main factor limiting the rate at which information is received and at least temporarily stored depends on events at the highest levels of the nervous system and not on the number of perceptual systems through which information is transmitted (p. 106).
4. The bottleneck in the information processing occurs "upstairs," in the brain, and both auditory and visual information seem to encounter either the same bottleneck or bottlenecks of equal size (p. 92).

Although these research studies seem quite out of date, they are classic research in the field of second language learning. Based on their findings, there were no significant differences found between the auditory and the audiovisual modes of intervention across all types of stimulus material. Therefore, it is important and timely to have conducted a similar research study by examining the efficacy between auditory and audiovisual instruction in contemporary Taiwan.

Cue summation theory (multichannel theory). On the other hand, as noted by Jaspers (1995), audio instruction is very rarely presented in isolation, even with telephone and radio instruction, guidelines dictate having complementary visual materials. This dual channel approach derives from the fact that many educators believe that more learning will occur if instruction is presented through two sensory channels as opposed to one. Several studies demonstrated that by using two channels of instruction, audiovisual, rather than one channel increased learner achievement (Barron, 2004). For example, in a study, Lise and Gisele (1996) compared vocabulary

acquisition in audio and video contexts. Subjects were English speaking university students enrolled in a French L2 course. In order to determine whether the vocabulary gains of the two experimental groups (video and audio) were similar, an analysis of variance (ANOVA) with a repeated measure on vocabulary was performed. Also, a separate analysis was performed for familiar words and unfamiliar words. Results indicated that there were no statistically significant differences between scores for the two experimental groups on either familiar words or unfamiliar words. The learners obtained comparable scores in the vocabulary tests under both listening conditions, video and audio. In other words, based on their findings, the two experimental groups made progress between the pre-test, post-test 1 and post-test 2 and results do not indicate any statistically significant overall benefit for video over audio treatment.

Vandergrift (2007b) argues that the visual modality can activate L2 language learners' top-down processing since it provides context and non-linguistic inputs. Moreover, video clips can be used to prepare L2 language learners for listening successfully (Wilberschied & Berman, 2004). Seo (2002) compared L2 language learners who view and listen simultaneously with those who only listen, and found that L2 language learners in the former group seem use more top-down processing strategies to compensate for inadequate linguistic knowledge than those in the latter group. Furthermore, Verdugo and Belmonte (2007) noted that opportunities to interact with visual components, such as "digital stories" can advance L2 language learners listening comprehension. They conducted a carefully controlled, longitudinal experiment with young English language learners and found that weekly interaction with "internet-based" technology using songs, games, and stories generated greater listening comprehension gains than did regular textbook-based listening activities.

Widespread availability of video with multilingual soundtracks and subtitles

provide L2 language learners the choice of written support in either L1 or L2 to help enhance listening comprehension. Markham, Peter, and McCarthy (2001) examined different captions on listening to a short DVD program and found that the L1 subtitles group outperformed the L2 subtitles group who, in turn, outperformed the no-subtitles group. On the other hand, Stewart and Pertusa (2004) compared the effects of different captions on listening when watching two full-length films. The L2 captions group recalled slightly more vocabulary than the L1 group. Furthermore, in a post-study questionnaire, language learners in the L2 captions group responded positively to the experience and reported a greater "connection" between the text and the soundtrack.

Dual coding theory. The dual-code model was developed by Paivio (1986), who stated that the two types of information (verbal and imaginal) are encoded by separate subsystems, one specialized for sensory images and the other specialized for verbal language. Paivio defines his two systems very broadly; an image can be a picture or a sound or even perhaps a taste, whereas the verbal language, on the other hand, is referred broadly to mean a language element such as vocabulary, grammatical rules, and comprehension (Moore, Burton, & Myers, 2004).

Technological environments make L2 language learners' work not only with audio, visual, and text, but also other types of support, such as annotations and dictionaries. Jones and Plass (2002) compared the effect of different support, and found that pictorial support and written annotations can help L2 language learners gain more vocabulary and recall aural text better than pictorial annotations only and written annotations only. Furthermore, pictorial annotations have a stronger and longer-lasting effect than written annotations both on vocabulary retention and retention of comprehended information. Additionally, the use of written or pictorial

components seems to make a difference. Jones (2004) claims that the visual measures help L2 language learners to comprehend; on the other hand, written support helps them to produce.

There are several options to choose from technological tools in second language education. However, radio remains a popular medium in the education system when the expensive display devices are insufficient such as in Africa and remote mountain areas in Taiwan because of its affordability and accessibility; specifically, it is compatible in the digital age with the use of computers and the Internet as media. Most importantly, at the time in which the current research study was being conceptualized there was no research study designed regarding the help of using radio in English language learning as a possible useful means to enhance their performance on English standardized tests such as TOEIC, TOEFL, IELTS, and GEPT.

Conclusion

Current research and understanding of L2 language listening has developed with the advent of communicative language teaching (CLT), a better understanding of oral communication, and newer technologies. Although some prominent research has broadened our understanding of some of factors, such as metacognition, L1 listening ability, and L2 vocabulary that influence L2 listening outcomes, the L2 listening process has not received adequate research attention. Researchers need to determine how L2 language learners, who are metacognitively aware, build meaning and remedy comprehension breakdowns to inform those lower-performance L2 language learners.

At the same time, rapid developments of network-based multimedia provide L2 language learners with a vast library of resources for listening practice. This broader access to new technologies seems to shift the focus from the traditional classroom to independent learning and needs more research attention. Vandergrift (2007b)

compares L2 listening research to the foundation of a building project that still needs work to shore up its foundations, while new layers are built on findings that have been confirmed by contemporary researchers as being strong and durable.

Although numerous L2 language learning and teaching methodologies, and theories have been proposed over the past decades, most of them originated in places where English is spoken, such as in the UK and the U.S. However, it is impossible to transfer these L2 teaching methodologies and theories from the contexts where English is the mother tongue to a setting where English is merely spoken indirectly, such as in Taiwan. Taiwan is still not an ESL setting, since English is not an official language, or even an official second language. As a matter of fact, English has been a foreign language in Taiwan for decades. Chang and Feng (2012) argue that what has made Taiwanese perform unsatisfactorily on standardized tests, such as the TOEIC, is the lack of knowledge to comprehend the listening contexts, since there is no official assessment on the joint entrance examinations to colleges and senior high schools. In Taiwan, subjects that are not tested in the joint entrance examinations are ignored by school teachers on purpose, since parents regard their children's academic performance as a top priority due to the entrenched Confucian tradition. Therefore, the current study aimed to study the impact of various interventions on English language learning and teaching situations to actually help these underachievers in English language advance their overall English proficiency from the very beginning. By first focusing on establishing a firm foundation of the building, i.e., English listening proficiency, for Taiwanese English language learners, the current study played an essential role to examine how complementary aural and visual texts worked for them.

CHAPTER III

Methodology

Research Design

The current study aimed to assist Taiwanese institutes to enhance their students' English proficiency by investigating whether or not complementary authentic aural, visual, and TV-program texts had a significant effect on standardized English language test performance for these students. Since ETS administers the listening and reading comprehension sections only on the TOEIC tests, not all four skills, the study examined participants' listening and reading abilities only on the standardized English language tests. The study utilized quantitative research methods for data collection and data analyses. With exposure to authentic contexts in listening comprehension for one semester, the researcher expected to determine if Taiwanese undergraduate students would benefit from interventions by analyzing scores attained on pre-post standardized English examinations (TOEIC tests). Since there were no known English classes in which authentic aural, visual, and TV-program texts were utilized in Taiwan, the study allowed the researcher to provide research-based evidence regarding the implementation of unique interventions. Specifically, the researcher proposed the design of an eighteen-week long (a whole semester) English program (See Appendices C, D, E, and F). For this study, the data was collected by administering one pre-test (See Appendix G for example of pre and post) and one post-test which was administered by ETS Taiwan at the target school.

Participants and Sampling

The current study was conducted at a private four-year university in central Taiwan, where the researcher has been working as an adjunct lecturer since 2008. The university was established in 1961 and consists of eight colleges offering three unique

doctoral degree programs; eight graduate degree programs; and 57 humanities, engineering, design, information technological, and management-related bachelor degree programs, using a four-year curriculum. Students are required to complete a total of 128 credits during four years of study. Moreover, students are admitted only if they pass the Joint Entrance Exam for Colleges and Universities held each July. Students come from all counties and six major metropolitan areas from within Taiwan. The student body is currently totaling over 20,000 individuals.

In Taiwan, the MOE is the only sponsor for all public schools. However, there has been some specific funding made available – "*Program for Promoting Teaching Excellence Universities*" - sponsored by the MOE for private schools to apply for since 2005, yet not all of them receive the funding. Among all private colleges in Taiwan, the target school has received the most funding from the MOE in the past years, and they have received more than thirty million USD towards researching alternative methods of promoting excellence in English language instruction. Also, the target school is the only one that has administered official TOEIC tests for their freshmen as a required part of their final exams in Taiwan for three years in a row, since the 2014 school year. Accordingly, the target school has more autonomy to explore teaching English with a method which is not necessarily aligned with the mandated method of English language instruction (GTM) at public higher education institutes and other private institutions that regard reading comprehension as the top priority for Taiwanese students to improve their overall English proficiency.

The participants in the study were freshmen from eight required English classes and were conveniently divided into four groups: three experimental groups and one control group. Each group contained two classes. Other than the control group, all three experimental groups were given extra listening instructions which included

audio, video, and TV program interventions respectively. The participants in the study total 253 freshmen students, approximately 32 students in each class, whose first language is Mandarin Chinese in eight freshmen English courses instructed by four instructors, two classes per teacher. In order to protect the anonymity of all student participants, no names were used in the research. Instead, the student ID# given during matriculation to the university served as the student identifier. The researcher was then able to match the pre-test results to the post-test results using the ID #s.

The freshmen English program used a standard textbook adopted by all classes, *Network,* for all students in the research. As freshmen English courses are mandatory, the program was designed and supervised by the language center, which specializes in designing English courses, which include freshman English, sophomore, and short-term English courses, to serve the needs of currently-enrolled students who attend classes. The program was held as a regular two-credit course that met two hours every Monday, for eighteen continuous weeks (See Figure 3-1 below: 36 classroom contact hours per semester). Aside from the researcher, who participated as a teacher for one of the intervention groups, three additional English teachers at the language center and students from different departments were invited to participate voluntarily, and consent was attained for their participation in the research both in English and Chinese versions (see Appendix A & B).

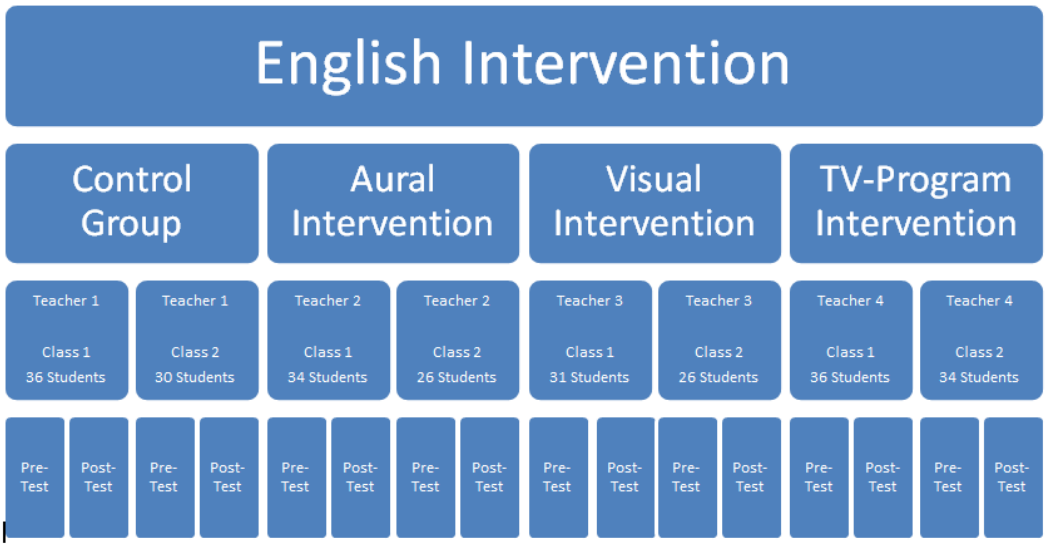

Figure 3-1. Research Design Model.

Instrumentation

Quantitative research methods were utilized for this study because the researcher investigated whether the complementary aural, visual text or TV program interventions had a significant effect on the English standardized test scores for undergraduate students in Taiwan. The data collected were scores from two tests, i.e., pre- and post-program and an initial questionnaire administered to all participants. Therefore, the instrumentation used in the study was the two TOEIC tests which had been endorsed by the MOE of Taiwan. Specifically, the post-test was designed and administered by ETS Taiwan. The primary reason that the TOEIC tests were chosen as the instruments is because of their high validity and reliability, in addition to their international reputation. Strong validity scores of 0.81 and reliability of 0.96 were found respectively (ETS, 2010, 2011; Woodford, 1982) on the TOEIC tests. The TOEIC tests have been administered in over 60 countries and are taken by more than 4.5 million people per year (Trew, 2007).

According to ETS (2011), there are set standards for the listening and reading test sections of in the TOEIC tests, which were designed to measure English

comprehension skills needed for the job environment (Gilfert, 1996). The TOEIC tests contain a total of 200 norm-referenced multiple-choice questions in listening and reading, with a focus on workplace communication. There are one-hundred listening questions relevant to English used in meetings, videoconferencing, podcasts and telephone conversations, while another one-hundred questions are typically about email, reports, newsletters and other forms of business correspondence (ETS, 2011).

The TOEIC test is one of the twelve standardized tests, which are verified by the MOE in Taiwan, to be adopted by those academic institutes to help set up the exit requirements for their college students to graduate (MOE, 2009). All standardized tests approved by the MOE (2005) in Taiwan need to follow the guidelines established by the Council of Europe (COE), known as Common European Framework of Reference for languages: Learning, Teaching, Assessment (CEFR) which was introduced in the previous chapter.

Interventions.

Textbook. The textbook used during the research study was *Network*, first published and introduced in 2013 by Oxford University Press. Since the series was brand new to all teachers at the target school, all teachers were obligated to attend the seminar for the newly released books. The Network Teacher Orientation took place on September 15, 2013 in Lab C at the foreign language center of the target school (see Appendix H) and was hosted by Miss Shane and Miss Chang. As for the current study, a briefing was given in the office of the foreign language center of the target school to introduce the study on June 3rd, 2015 right after the general meeting of the foreign language center. The administration requested that all teachers be informed by the researcher regarding the study, in order to prepare all instructors regarding their possible recruitment for participation in the study. The second meeting was held on

the 7th of September after the first general meeting of the 2015 school year. The 2015 school year began on the 14th of September, 2015 (see Appendix I). All details including the syllabus and how to administer the pre-test was reviewed at the September meeting. The *Network* series consists of a five-level general English course that harnesses the use of social networking to help students learn English. Level 2 was selected for this study, based on students' current English proficiency suggested by individual colleges and then the courses are administered by the foreign language center of the target school. In addition, there are certain features of the series that helped the author decide to use it. Mainly, that it is a state-of-the-art example of a current ELT teaching textbook.

In addition, *Network* uses social networking to link learners to common goals, shared language success, and professional growth. Social-networking themes are incorporated through a variety of classroom-based and online tasks. These provide an authentic and meaningful context for language learning. Moreover, a learning-outcome-approach is used to help teachers to track students' progress. Each unit contained in the student book, begins with a conversation that presents the unit topic, vocabulary, and grammar in context. In addition to presentations of vocabulary, grammar, and pronunciation, English language learners practiced all four skills, listening, speaking, reading, and writing. Furthermore, additional resources were included: an authentic audio and video from the BBC Motion Gallery was provided for each unit for the instructors to use optionally. Therefore, the design of the study used each of the resources as a separate intervention. The teacher only using the textbook for teaching English taught two classes as the control groups. The teacher incorporating the authentic audio in addition to the text for two classes was categorized as the aural intervention. The teacher using the video provided as a

resource in addition to the textbook for two classes was categorized as the visual intervention. Lastly, there was a teacher teaching two courses with the textbook and incorporating an outside resource as an intervention –a TV program not provided by the textbook company as a resource.

Audio and visual materials. Since the *Network* package included the student book, class audio, and DVD with BBC motion footage, two experimental groups adopted audio and video respectively for the research. The Class Audio program for each *Network* unit was available on CDs and included the Conversation, Vocabulary, Grammar, Reading, and Real-World Listening. The distinction among the control group and three experimental groups was the section of Real-World Listening which was available in two formats, audio and video from the publishing company. The control group students were not taught the Real-World Listening section while the first experimental group students were instructed using the audio version of the Real-World Listening section and the second experimental group was given the video version of the Real-World Listening section. Each audio track on CDs and video clip on DVDs lasted for about 3 to 4 minutes. Along with two comprehensive assignments afterward, each track and clip needed to be played two to three times. Therefore, the listening section lasted for 10 to 12 minutes each week. The last experimental group viewed the most popular English Language Teaching TV program in Taiwan, *Let's Talk in English* (intermediate edition).

TV program. The TV program intervention, which was adopted for the study, was not face-to-face instruction, but rather a free-access daily English teaching/learning program available on television, and/or Internet broadcast, entitled "*Let's Talk in English*" broadcast by Studio Classroom. Studio Classroom began in 1962 as a single-page lesson sheet with an accompanying radio program. *Let's Talk in*

English, was a program designed specifically for learners who are willing to improve their everyday English conversation skills. The lively radio programs along with the interesting content of the magazines led Studio Classroom and *Let's Talk in English* to become one of Taiwan's most popular ways of learning English. In 1997, Studio Classroom began a daily TV version of its popular radio program, *Studio Classroom*. In 2000, *Let's Talk in English* began a television broadcast in partnership with Taiwan's Public Television Station (PTS). Currently, these daily programs can also be accessed by the Internet. The TV program is internationally respected and serves as a complementary activity for not only enhancing English proficiency, but also cultivating self-study learning habits after school. Originally, the TV shows lasted for an average of 25 minutes, encouraging viewers to participate in a lesson-a-day, five days a week in order to cover a wide range of interesting stories and topics, which are relevant to authentic daily life activities and some real-life social events. By listening to and watching the programs regularly as part of the English language learning complementary materials, along with regular weekly instruction, it helps promote learners' listening and reading comprehension skills (Chang & Feng, 2012). However, since the current research was an intensive program requiring eighteen weeks and the researcher intended to investigate whether or not the TV program intervention used in regular English classes, which met once a week, would increase scores on standardized tests of English, the researcher adopted programs uploaded by the Studio Classroom via Youtube.com for the teaching of three complete topics. Each TV program was divided into two sections, the main content and the review section. Each section lasted for about 12 minutes, therefore 24 minutes in total a day. However, in order to meet the time constraints for the classes, and ensure the same amount of time for the TV program intervention as in the other two experimental groups, twelve

minutes, the review section was excluded.

Data Collection Procedures

Prior to beginning the interventions proposed for the research, the pre-test was given immediately following the introduction to the course and a summary of the research was shared at the first class meeting. Before that, a demographic questionnaire (see Appendix J) was administered to gather some important data, such as gender, what countries and regions the students were from, what kind of high school they attended, how many years they studied English in school, if they studied English outside of school, if they ever traveled to any English speaking countries and for how long, if they play English video games in English, and do they listen to music in English? This demographic data was very important since it allowed the researcher to quickly identify some Independent Variables to be used for the data analysis phase.

The pre-test, the mock TOEIC test, took 120 minutes to complete. Since each class session lasts 100 minutes in Taiwan (10 minutes for recess), the pre-test was administered for the first two weeks, including the administration of the demographic questionnaire, from the 14th to 25th of September, 2015. Then the interventions started in the third week from 28th of September to 3rd of October. The post-test was administered by ETS Taiwan on the 6th of January, 2016 on campus. Both the pre- and post-tests included 30 minutes for an introduction to the test, 45 minutes for 100 listening questions, and 75 minutes for 100 reading questions. The total time span for taking the TOEIC test was 150 minutes.

However, prior to the administration of the pre-test, the proposed research needed the approval from the committee and the IRB members of Barry University and the permission from the chair who is in charge of the freshmen English teaching of the target school (see Appendix K). Since there is no Institutional Review Board to

review research studies conducted in Taiwan to protect human subjects, upon approval of the Barry IRB, the researcher had attained all permissions necessary to conduct the current study. All research participants remained anonymous, in that student ID numbers issued at the time of university matriculation were used in the study to protect the identity of all participants. The data from the pre- and post-tests were analyzed first using descriptive statistics and then analyzed using the Statistical Package for the Social Sciences (SPSS) version 22.0. The discussion regarding the data analysis and findings is included in Chapter IV.

Appendices C, D, E and F are summaries of the topics to be addressed on the syllabi for each of the interventions. The real-world listening sections consisted of one audio track and two assignments; therefore, the instructor was required to play the audio three times and it took about 12 minutes. For example, the unit 1, *Let's get started!*, requested that English language learners listen to the report on Times Square and match the tourist with the correct information after listening to the audio. The audio and video clips lasted for 3 to 4 minutes. Each listening section took about 12 minutes to conduct.

The sections that were included in all four groups consisted of Conversation, Vocabulary, Grammar, and Reading. The six units that were given every two weeks for the research were Unit 2) On the job, Unit 3) My daily life, Unit 5) Getting around, Unit 6) What is a good story, Unit 7) Seeing the world, and Unit 8) What's she like? Following the final week of class instruction, the post-test, an official TOEIC test was administered to all freshmen by ETS Taiwan. Afterward, the data was collected and analyzed by utilizing SPSS 22.0. The data collected and their statistics features such as descriptive statistics, the relationship and difference between both tests and all relevant results are reported in Chapter IV and the implications are later discussed in

Chapter V.

Processes to Ensure Valid and Reliable Results

The development of listening-comprehension skills has shown its beneficial impact on the development of speaking skills (Eggly, Musial, & Smulowitz, 1999), and speaking and writing skills (Chen, 2004; Krashen, 2002). Eggly, Musial, and Smulowitz (1999) examined the relationship of the performance between the SPEAK test and the TOEIC test among 20 medical specialists representing 12 diverse native languages; they discovered a strong positive correlation of 0.78 in the listening-comprehension section. In other words, "there is a likely connection between the ability to understand spoken English and the more complex ability to understand spoken English and then to function in English in response" (ETS, 1993, p.14).

Some concluded that listening-comprehension ability plays a key role that influences success on the English language proficiency test, i.e., the TOEIC (Chang & Feng, 2012; Feng & Chang, 2010). However, no research has investigated the relationship of the performance between the listening and reading comprehension sections on the standardized tests that follow the CEFR framework when L2 learners receive complementary aural, visual text and TV program interventions along with regular instruction. Therefore, this study is unique in that it explored the relationship between the listening and reading sections on a standardized test after receiving the diverse complementary treatments.

In short, to ensure the valid and reliable results in the current study in addition to using valid and reliable instruments and data gathering, the following steps were adopted: first, the latest version of SPSS was used to calculate the data gathered from the two tests in the study. Therefore, inferential statistics that provide descriptive statistics, confidential intervals, sample sizes for each of the variables, the value of the

test statistic, its direction, the degrees of freedom, and the significance level, were used; second, the researcher explained the data collected and their statistical treatment and results in relation to the research problem the researcher was investigating; third, the researcher reported the unexpected events, if there were any, that occurred during the procedure of data collection; fourth, tables and figures were used in the research to provide exact values and global effects; finally, in Chapter IV the researcher tells the readers what to look for in the tables and figures (Babbie, 2015).

Data Analysis and Interpretation

The data collected from the pre-test and post-test, respectively, were analyzed using SPSS 20.0 version, and the following eight research questions were answered and discussed in Chapters IV and V.

1. Does CLT help EFL students improve their listening comprehension more than auditory-CLT, visual-CLT, and TV-CLT?
2. Does auditory-CLT help EFL students improve their listening comprehension more than visual –CLT, TV-CLT, and CLT?
3. Does visual-CLT help EFL students improve their listening comprehension more than auditory-CLT, TV-CLT, and CLT?
4. Does TV-CLT help EFL students improve their listening comprehension more than auditory-CLT, visual-CLT and CLT?
5. Does CLT help EFL students improve their reading comprehension more than auditory-CLT, visual-CLT, and TV-CLT?
6. Does auditory-CLT help EFL students improve their reading comprehension more than visual –CLT, TV-CLT, and CLT?
7. Does visual-CLT help EFL students improve their reading comprehension more than auditory-CLT, TV-CLT, and CLT?

8. Does TV-CLT help EFL students improve their reading comprehension more than auditory-CLT, visual-CLT and CLT?

CHAPTER IV

Results

Overview

The purpose of this chapter is to report the findings of the research study. First, a summary of the demographic information of participants is provided and then the data analysis of the results collected from the questionnaire and two instruments, the pre-mock TOEIC test and the post- mock TOEIC test are discussed. Also, major findings as they relate to the research questions will be considered. The first part of this chapter introduces participants' personal information and experiences related to English-language learning, obtained from the demographic questionnaire (see Appendix H) given in the first week of the Fall semester, 2015.

The second part of this chapter presents the results of the first mock TOEIC test, which served as the pre-test of the current study, developed from two sections of the TOEIC test: listening comprehension and reading comprehension. The pre-tests were administered by four instructors, and the instruments were sponsored by Oxford University Press Taiwan. The third part of this chapter communicates the results gathered from the post-test, which was administered by ETS Taiwan at the target school. After the presentation of results, each of the research questions is examined and answered in the final section of this chapter.

Findings

Characteristics of participants. The first part of this section describes the demographic information of the subjects who participated in the present study. The demographic data was attained via a questionnaire given in the first week. There were 253 students from 8 Freshman Level 2 English classes who were categorized into four instruction models (see Table 4-1). Each group (instructional model) was assigned

two classes which participated in the current study. The participants included 149 male students and 104 female students (see Table 4-2). For the nationalities of the participants in the current study, most of them, 237 students, were Taiwanese, 5 participants came from Mainland China, 6 participants were from Macau and Hong Kong, and 6 of them came from Malaysia and Vietnam (see Table 4-3).

Table 4-1

Distribution of Participants in the Different Classes and Groups

	Class 1	Class 2	Total
CLT	36	30	66
Auditory-CLT	34	26	60
Visual-CLT	31	26	57
TV-CLT	36	34	70
Total	--	--	253

Table 4-2

Gender of Participants

	Male	Female	Total
CLT	36	30	66
Auditory-CLT	36	24	60
Visual-CLT	43	14	57
TV-CLT	34	36	70
Total	149	104	253

Table 4.3

Countries and Languages Represented by the Participants

Nationality	Languages	Number of participants
Taiwanese	Chinese	237
Overseas Chinese	Malay	1
Mandarin Chinese	Chinese	5
Hong Kong/ Macau	Cantonese	6
English speakers	English	0
Non-English foreigners	Vietnamese/Malay	4
Total		253

Regarding the type of high school these participants attended, 192 students went to public high schools and 61 attended private ones (see Table 4-4). Table 4-5 shows the length of time these students have studied the English language. Most of the students, 161 participants, have studied English for more than 10 years. In terms of places to learn English outside of school, such as cram schools and language schools, 207 students have studied the English language as an extracurricular activity (see Table 4-6).

Table 4-4

High School Format Participants Attended

	Total
Public high school	192
Private high school	61
Total	253

Table 4-5

Length of Time in English Language Learning

Years of English learning	Total
< 8 years	27
8 years	43
9 years	22
10 years	57
11 years	17
12 years	34
> 12 years	53
Total	253

Table 4-6

Number of Students Learning English Outside of School

	Total
Yes	207
No	46
Total	253

Table 4-7 informs that only 5 subjects have studied in countries where English is spoken. Most of the participants, 248 students, have been studying English in EFL contexts such as Taiwan and Mainland China. Concerning the entertainment activities related to English-language learning, 107 subjects have reported playing English online games or computer games, 146 have not (see Table 4-8). Finally, Table 4-9 reveals that most of these students, 250 people, have been listening to English music; only 3 of them have never listened regularly to English songs.

Table 4-7

Number of Students Who Have Studied in English Speaking Countries

	Total
Yes	5
No	248
Total	253

Table 4-8

Number of Students Who Have Played Online/Computer Games in English

	Total
Yes	107
No	146
Total	253

Table 4-9

Number of Students Who Listen to Music in English

	Total
Yes	250
No	3
Total	253

Pre-Test Results

Introduction. Before the Fall 2015 semester, the researcher and the four instructors who were involved in the study met to discuss the details regarding how to administer the questionnaire and the pre-test. The first week for all incoming Freshmen enrolled in the English program is required to be an introduction to the course and the program. Given this requirement of the target school, the remaining time was not sufficient to administer the pre-test in one sitting. The TOEIC test lasts for 120 minutes, and a typical English class in one week lasts only for 100 minutes.

Therefore, the researcher in consultation with the four instructors made the decision to split the pre-test into two parts: the listening section and the reading comprehension section. These pretest sections were given in the second and the third week of the Fall 2015 semester, respectively.

In addition to determining when all participants would complete the pretest sections, the researcher in consultation with the instructors made several other decisions of note to the study. It was agreed that all participants would complete the questionnaire in the first week. Also, given that the Friday in the third week was a national holiday, the Middle Autumn Festival in Taiwan, the pre-test for the one class scheduled to meet on that day was administered in the first and the second weeks to account for the holiday. In addition, the TV-CLT teacher suggested that the originally proposed intervention, *Let's Talk in English*, was designed for elementary English-language learners such as elementary-school students and high-school students in Taiwan. Given that the vast majority of participants would have at least several years of experience with the English language (which was confirmed with the results presented from the questionnaire in Table 4-5), , *Let's Talk in English* seemed to not be appropriate for this population of undergraduate students. The researcher and the instructors were aware of the fact that there are three levels in this series of TV program, elementary, intermediate, and advanced. Accordingly, it was determined that the intervention for the TV-CLT group should be shifted from the elementary level to the intermediate one, *Studio Classroom,* in the series.

There were 8 out of 52 freshmen English classes in Level Two which were selected to participate in the study. Students were arranged and assigned into four levels, Level 1, 2, 3, and 4 by their college. Two classes were each assigned to one of four major instruction modes respectively: the Communicative Language Teaching

(CLT) group (served as the control group), CLT with Auditory, CLT with Visual, and CLT with TV program complementary interventions that accompanied the CLT instruction served as the three experimental groups.

There were two sections on the TOEIC tests used for this study: the listening and reading comprehension sections. For purposes of data analysis, the researcher will report the results in three separate segments in the following sections: the listening comprehension section, the reading comprehension section, and overall performance from each instructional group. Furthermore, the two classes for each instruction mode were combined into one major instruction group for discussion in each section below.

The control group. Two classes were assigned the CLT instruction group and served as the control group. In the first CLT class, 36 students were assigned and registered for the freshmen English program before the semester began. All students in this group took the first mock TOEIC test, the pre-test. However, one more student (who failed the Freshman English program in the previous year) was added into the class and participated in the class beginning in the third week, the deadline for the add/drop period at the target school. Therefore, this additional student was excluded from the current research since the student did not take the first section, listening comprehension, of the pre- TOEIC test. The first class in the control group achieved an average score of 215 points on the listening comprehension section and 170 points in reading comprehension, with a total score of 385 points.

In the second class of the control group, 30 students were assigned and registered at the beginning of the Fall 2015 semester and took the pre-test. However, 4 more students were added in the following weeks and took the reading comprehension section only. As a result, the additional students were excluded due to their absence from the first listening comprehension section of the pre-test. The second CLT

instruction group students scored 237 points on the listening comprehension section, 204 points on the reading comprehension section respectively, for a combined total of 442 points. There was a 57 point difference between the two classes. As a whole, there were 66 students assigned to the control CLT instruction group. The control CLT group achieved a combined score of 225 points in listening comprehension and 185 points on the reading comprehension section, with an average score of 411 points in total (see Table 4-10).

Table 4-10

Performance of CLT Group on the Pre-Test

	Listening	Reading	Total scores
Class 1 (N=36)	210	170	385
Class 2 (N=30)	237	204	442
Average (N=66)	225	185	411

The Auditory-CLT group. The first experimental group, the CLT instruction approach accompanied with auditory complementary materials provided by the publisher of the textbook, Oxford University Press, also consisted of two classes. Thirty-four students were assigned and registered in the first Auditory-CLT class at the beginning of the semester and all of them took the post-test. However, one student dropped out in the middle of the semester, therefore, the dropped student data was excluded from the current study. The first Auditory- CLT class scored an average of 177 points in listening comprehension, 155 on the reading comprehension section, and 332 points for the total score.

The second Auditory-CLT class had 26 students enrolled when the semester began. However, one more student was added into the class in the following week and took part in the third week. The data from the added student was excluded from the

analysis because of not having taken the pre-test. The second Auditory-CLT class achieved a score of 203 points on the listening comprehension section and 146 points in reading comprehension with an average total score of 349 points. There was a 17 point difference between the two classes. The sixty students combined achieved an average score of 188 points on the listening comprehension section, 151 points on the reading comprehension section, and 339 points in total (see Table 4-11).

Table 4-11

Performance of Auditory-CLT Group on the Pre-Test

	Listening	Reading	Total scores
Class 1 (N=34)	177	155	332
Class 2 (N=26)	203	146	349
Average (N=60)	188	151	339

The Visual-CLT group. The second experimental group, the Visual-CLT instruction group, was comprised of two classes as well. In the first Visual-CLT class, there were 31 students assigned and enrolled in this class. All of them took the pre-test, the first mock TOEIC test, at the beginning of the semester. However, 3 more students were added into the class in the following week and were excluded from the present study. The first Visual-CLT class scored an average of 224 points on the listening comprehension section and 152 points in reading comprehension with a total score of 376 points.

In the second Visual-CLT class, 26 students took the pre-test at the beginning of the semester. However, 7 more students were added into the class in the following weeks and were excluded due to not having taken the pre-test. The second Visual-CLT class achieved an average score of 182 points on the listening comprehension section, 121 on the reading comprehension section, and 303 points total. There was a 73 point

difference between the two classes. A total of 57 students in this group scored an average of 205 points on listening comprehension and 138 in the reading comprehension section with a total of 343 points. All 57 subjects in this group scored an average of 205 points on the listening comprehension section, 138 points in reading comprehension, and 343 points in total (see Table 4-12).

Table 4-12

Performance of Visual-CLT Group on the Pre-Test

	Listening	Reading	Total scores
Class 1 (N=31)	224	152	376
Class 2 (N=26)	182	121	303
Average (N=60)	205	138	343

The TV-CLT group. There were also two classes involved in the third experimental group, the TV-CLT instruction group. At the beginning of the Fall semester, 2015, 36 students were assigned and registered in the first TV-CLT class. However, 3 more students were added in the following week and were excluded from the current study because of their absence from the pre-test. After they took the pre-test, the mock TOEIC test, the students in this group scored an average of 202 points on the listening comprehension section, 183 points on the reading comprehension section, with a total average score of 385 points.

In the second TV-CLT class, 34 students were assigned and registered at the beginning of the semester. No one was added or dropped out during the semester. The second TV-CLT achieved a score of 227 points on the listening comprehension section, 149 points on reading comprehension, and 376 points for the total score. There was a 9 point difference between the two classes. Both classes with a total of 70 students scored an average of 214 points on listening comprehension and 167 points on the

reading comprehension section with a total average of 381 points (see Table 4-13). A summary of the aforementioned performance of each of the four groups on the pre-test can be found in the Table 4-14.

Table 4-13

Performance of TV-CLT Group on the Pre-Test

	Listening	Reading	Total scores
Class 1 (N=36)	202	183	385
Class 2(N=34)	227	149	376
Average (N=70)	214	167	381

Table 4-14

Summary of Performance of Each of the Four Groups on the Pre-Test

	Listening	Reading	Total scores
CLT (N=66)	225	185	411
Auditory-CLT(N=60)	188	151	339
Visual-CLT (N=57)	205	138	343
TV-CLT (N=70)	214	167	381
Total (N=253)	209	161	370

Post-Test Results

The control group. In the first class of the control group, which received the traditional Communicative Language Teaching instruction approach, 39 subjects took the post-test. However, 3 students were excluded from the current study because of their absence from the pre-test. Therefore, the data from 36 students in this class were considered for analysis. On average, they scored 254 points on the listening comprehension section and 148 points in reading comprehension with a total score of 402 points.

In the second CLT class, 34 subjects took the post-test. However, 4 students were

excluded due to their absence from the pre-test. Therefore, 30 students were involved in the study from this class. They achieved an average score of 277 points in listening comprehension, 191 points on the reading comprehension section, and an average of 468 points in total on the post-test. Combining these two classes together, the 66 subjects attained an average of 264 points in listening comprehension and 167 points on the reading comprehension section with a total average score of 431 points on the post-test (see Table 4-15). There was a 20 point gain in average score from the pre-test to the post-test.

Table 4-15

Performance of CLT Group on the Post-Test

	Listening	Reading	Total scores
Class 1 (N=36)	254	148	402
Class 2 (N=30)	277	191	468
Average (N=66)	264	167	431

The Auditory-CLT group. In the first class of the Auditory-CLT group, 35 subjects took the post-test since one student dropped out in the middle of the semester; the student was excluded in the analysis conducted for the current study. The 34 students scored an average of 225 points on the listening comprehension section, 144 points in reading comprehension, and 369 points for an average total. In the second class of this group, 27 students took the post-mock TOEIC test administered by ETS. However, the data from one subject was excluded for analysis in the current study because of the student's absence from the pre-test. Therefore, only 26 students were involved in this class. These subjects achieved an average score of 242 points on the listening comprehension section and 138 points in reading comprehension, with a total average score of 380 points. Combined, the 60 subjects from these two classes

together, scored an average of 233 points in listening comprehension, 141 points on the reading comprehension section, and an average of 374 points in total on the post-test (see Table 4-16). The difference between the pre- and the post-test was a gain of 35 points.

Table 4-16

Performance of Auditory-CLT Group on the Post-Test

	Listening	Reading	Total scores
Class 1 (N=34)	255	144	369
Class 2 (N=26)	242	138	380
Average (N=60)	233	141	374

The Visual-CLT group. There were 37 subjects in the first class of the second experimental group, the Visual-CLT, which took the mock TOEIC test given by ETS. However, 3 students were excluded in the present study due to their absence from the pre-test. The 31 Visual-CLT subjects achieved a score of 265 points on the listening comprehension section and 145 points in reading comprehension, with an average total of 410 points on the post-test. In the second Visual-CLT class, 33 subjects took the TOEIC test administered by ETS. However, 7 students were excluded due to their absence from the pre-test. These 57 students performed an average of 232 points in listening comprehension, 138 points on the reading comprehension section, and an average of 370 points in total on the post-test (see Table 4-17). There was a 41-point improvement between the pre- and the post-test.

Table 4-17

Performance of Visual-CLT Group on the Post-Test

	Listening	Reading	Total scores
Class 1 (N=31)	265	145	410
Class 2(N=26)	232	138	370
Average (N=60)	250	142	392

The TV-CLT group. In the first class of the third experimental group, the TV-CLT, 39 subjects took the mock TOEIC test administered by ETS. However, 3 students were excluded because of their absence from the pre-test. Therefore, 36 subjects were involved in the study from the first class. The first TV-CLT students achieved an average score of 265 points on the listening comprehension section, 193 points in reading comprehension, and 458 points for the average total score on the post-test.

In the second class of the TV-CLT group, 34 students took the TOEIC given by ETS. During the semester, since there were no subjects added and no participants dropped out, the performance of all subjects were valid in the current study. The second TV-CLT class scored an average of 260 points in listening comprehension and 160 points on the reading comprehension section, with a total average score of 420 points on the post-test. Combined, 70 students achieved an average score of 263 points on the listening comprehension section, 177 points on the reading comprehension section, and 440 points for the total score on the post-test (see Table 4-18). The TV-CLT group gained 59 points from the pre-test to the post-test. Table 4-19 displays a summary of the performance of all four groups on the post-test.

Table 4-18

Performance of TV-CLT Group on the Post-Test

	Listening	Reading	Total scores
Class 1 (N=36)	265	193	458
Class 2 (N=34)	260	160	420
Average (N=70)	263	177	440

Table 4-19

Summary of performance of four groups on the post-test

	Listening	Reading	Total scores
CLT (N=66)	264	167	431
Auditory-CLT(N=60)	233	141	374
Video-CLT (N=57)	250	142	392
TV-CLT (N=70)	263	177	440
Average (N=253)	253	158	411

Descriptive Statistics

Listening comprehension. The descriptive statistical results for the listening comprehension section for the four groups can be seen in Table 4-20. The table presents the means and standard deviations for the pre- and post-tests on the listening comprehension section for the four groups respectively. For the pre-test, the CLT group (*m* = 225, *sd* = 57.30) outperformed the other three groups (*m* =188, *sd* = 51.42, *m* = 205, *sd* = 64.74, *m* = 214, *sd* = 64.67). If evaluated by the post-test, the CLT group (*m* = 264, *sd* = 56.03) and the TV-CLT group (*m* = 263, *sd* = 56.19) did better than the Auditory-CLT group (*m* = 232, *sd* = 46.65) and the Visual-CLT group (*m* = 250, *sd* = 29.49).

Table 4-20

Descriptive Statistics for Listening Comprehension for the Four Groups

		Pre-test		Post-test	
	N	M	SD	M	SD
CLT	66	225	57.30	264	56.03
Aural-CLT	60	188	51.42	232	46.65
Visual-CLT	57	205	64.74	250	59.49
TV-CLT	70	214	64.67	263	56.19
Average	253	209	61.01	253	55.97

Prediction of post-test listening scores based on pre-test listening scores. To predict students' performance in terms of listening comprehension on the post-test, a simple linear regression was computed to predict the 253 participants' listening performance on the post-test. A significant regression equation was found (F (1, 251) = 32.674, $p < .001$) with an R^2 of .115. The predicted listening scores on the post-tests are equal to 188.172 + .311 points when the pre-test scores were compared. That means, for each point earned on the section of listening comprehension on the pre-test, the average listening scores on the post-test increased 0.311.

Relationship between pre- and post-test listening comprehension scores. The 253 participants' scores on both the pre- and post-test were examined to find out how well the different instructions were implemented on listening comprehension at the target university. SPSS 22.0 was used to compute the Pearson correlation coefficient, or simply the Pearson *r*, to determine the strength of the linear relationship between these scores. The Pearson correlation coefficient indicated that there was a significant difference in the implementation of various instructions on the listening comprehension section between the pre- and post-test scores at the target university. A positive correlation was found (r (253) = .339, $p < .001$), indicating a significant linear relationship between two tests. Subjects who scored higher from the pre-test tended to perform better on the post-test on the listening comprehension section of the TOEIC tests.

A one-way ANOVA was conducted to compare the listening comprehension scores for these four groups on the pre- and post-tests. On the pre-test, a significant difference was found among these 4 groups (F (3, 249) = 4.216, $p < .05$). Tukey's *HSD* was used to determine the nature of the differences among these 4 groups. In terms of the pre-test listening scores, this analysis revealed that students who were

placed in the CLT group scored significantly higher (*m* = 225, *sd* = 57.3) than students who were placed in the Auditory-CLT group (*m* = 188, *sd* = 51.42). However, no significant difference was found with the Visual-CLT (*m* = 205, *sd* = 64.74) and/or the TV-CLT group (*m* = 214, *sd* = 64.67).

Regarding the post-test, a significant difference was found among these four groups (F (3, 249) = 4.55, $p<.05$). Tukey's *HSD* indicated that in terms of the listening comprehension on the post-test, students in the CLT group (*m* = 264, *sd* = 56.03) performed significantly higher than students who were in the Auditory-CLT group (*m* = 232, *sd* = 46.65). However, no significant difference was found with the Visual-CLT group (*m* = 250, *sd* = 59.49) and/or the TV-CLT group (*m* = 263, *sd* = 56.19). Because the ANOVA results were significant, more detailed post-hoc analyses will be reported in the Results section in reference to the Research Questions.

Reading comprehension. Table 4-21 shows the descriptive statistical results for the four groups on the reading comprehension section. Figure 4-11 communicates the scores students obtained from the post-test, administered by ETS Taiwan, on the reading comprehension section for the four groups in detail. For the pre-test, the CLT group outscored (*m* = 186, *sd* = 61.36) the other three groups (*m* = 151, *sd* = 43.88, *m* = 138, *sd* = 46.89, and *m* = 166, *sd* = 61.86). The assessment data attained by the post-test revealed thatthe TV-CLT did better (*m* = 177, *sd* = 61.77.3) than the CLT group, the Auditory-CLT, and Visual-CLT groups (*m* = 167, *sd* = 53.89, *m* = 141, *sd* = 38.37, *m* = 142, *sd* = 42.50).

Table 4-21

Descriptive Statistics for Reading Comprehension for the Four Groups

		Pre-test		Post-test	
	N	M	SD	M	SD
CLT	66	186	61.36	167	53.89
A-CLT	60	151	43.88	141	38.37
V-CLT	57	138	46.89	142	42.50
TV-CLT	70	166	61.86	177	61.77
Average	253	162	57.23	158	52.85

Prediction of post-test reading scores based on pre-test reading scores. To predict subjects' performance in terms of reading comprehension on the post-test, a simple linear regression was calculated to predict the 253 participants' reading performance on the post-test. A significant regression equation was found (F (1, 251) = 34.986, $p < .001$) with an R^2 of .122. The predicted reading scores on the post- tests are equal to 101.616 + .379 points when the reading scores on the pre-test were compared. That means, for each point earned on the reading comprehension section of the pre-test, the average reading scores on the post-test increased 0.379.

Relationship between pre- and post-test reading comprehension scores. To find out how well the different instructions were implemented on reading comprehension in the target university, the 253 participants' scores obtained on both the pre- and post-tests were examined. SPSS 22.0 was used to calculate the Pearson correlation coefficient to determine the strength of the linear relationship between these pre- and post-test scores. The Pearson correlation coefficient indicated that there was a significant difference in the implementation of various instructions in reading comprehension between the pre- and post-tests at the target university. A positive correlation was found (r (253) = .350, $p < .001$), indicating a significant linear

relationship between the two tests. Students who did better on the pre-test tended to score higher on the post-test in reading comprehension on the TOEIC tests.

A one-way ANOVA was conducted to compare the scores of these four groups in reading comprehension on the pre- and post-tests. On the pre-test, a significant difference was found among the 4 groups (F (26,624) = 8.892, p<.001). Tukey's *HSD* was used to determine the nature of the differences among these 4 groups. In terms of the pre-test reading scores, this analysis revealed that students who were placed in the CLT group (m = 186, sd = 61.36) scored significantly higher than students who were placed in the Auditory-CLT group (m = 151, sd = 43.88) and/or the Visual-CLT group (m = 138, sd = 46.89). However, no significant difference was found with the TV-CLT group (m = 166, sd = 61.86).

On the post-test, a significant difference was also found among the four groups (F (3, 249) = 8.263, p<.001). Tukey's *HSD* further indicated that in terms of the post-test reading comprehension scores, students from the TV-CLT group (m = 177, sd = 62.77) performed significantly higher than students who were placed in the Auditory-CLT group (m = 141, sd = 38.37) and/or the Visual-CLT group (m = 142, sd = 42.50). However, no significant difference was found with the CLT group (m = 167, sd = 53.89). Because the ANOVA results were significant, more detailed post-hoc analyses will be discussed in the Results section in reference to the Research Questions.

The drop in reading comprehension scores attained from the pre-test to the post-test for the CLT group and the Aural intervention group in this study could be blamed on the "washback effect". This is known as the effect of testing on teaching, since English language teaching in Taiwan is heavily influenced by entrance examinations to high schools and colleges directly. In junior high and senior high

schools in Taiwan, the schools only teach students what is going to be tested as part of the entrance examinations. Other subject matters such as physical education and music courses are always ignored and replaced by courses to help Taiwanese students obtain the highest scores possible in the areas being tested.

The overall performance. The overall performance which combines the two major sections for a total score on the listening comprehension and the reading comprehension sections for both the pre- and post-tests were posted in Table 4-22 and Figure 4-12. Table 4-15 reveals the overall performance of the 253 subjects on the listening and reading comprehension sections from the pre- and post-tests. For the pre-test, the CLT group scored higher (*m* = 411, *sd* = 100.05) than the Auditory-CLT group (*m* = 340, *sd* = 75.74), the Visual-CLT group (*m* = 343, *sd* = 96.69), and the TV-CLT group (*m* = 381, *sd* = 107.11). When considering the evaluation by solely the post-test, the TV-CLT group outperformed (*m* = 440, *sd* = 102.65) the other three groups (*m* = 432, *sd* = 97.02, *m* = 374, *sd* = 71.54, and *m* = 392, *sd* = 90.10).

Table 4-22

Descriptive Statistics of the Total Scores for the Four Groups

		Pre-test		Post-test	
	N	M	SD	M	SD
CLT	66	411	100.05	432	97.02
A-CLT	60	340	75.54	374	71.54
V-CLT	57	343	96.69	392	90.10
TV-CLT	70	381	107.11	440	102.65
Total scores	253	370	99.99	411	95.28

Prediction of post-test total scores based on pre-test total scores. To predict students' overall performance in terms of listening and reading comprehension on the post-test, a simple linear regression was computed to predict the 253 participants'

total scores on the post-test. A significant regression equation was found (F (1, 251) = 48.546, $p < .001$) with an R^2 of .162. The predicted total scores on the post- tests are equal to 196.571 + .422 points when the pre-test total scores were compared. That means, for each point earned on the pre-test (total score of both sections), the average total score on the post-test increased 0.422.

Relationship between pre- and post-test total scores. The 253 participants' total scores on both the pre- and post-test were examined to figure out how well the different instructions were implemented on overall performance in the target university. SPSS 22.0 was adopted to compute the Pearson correlation coefficient, or simply the Pearson *r*, to determine the strength of the relationship between these total scores. The Pearson *r* indicated that there was a significant difference in the implementation of different instruction modes on the total scores in listening and reading comprehension between the pre- and post-tests among these students. A positive correlation was found (r (253) = .403, $p < .001$), indicating a significant relationship between the two tests. Participants who performed better on the pre-test tended to gain higher total scores on the post- TOEIC test.

A one-way ANOVA was conducted to compare these four groups in total scores of the pre- and post-test. On the pre-test, a significant difference was found among these 4 groups (F (3, 249) = 7.823, $p < .001$). Tukey's *HSD* was adopted to determine the nature of the differences among these 4 groups. In terms of the pre-test total scores, this analysis revealed that students who were placed in the CLT group scored higher (m = 411, sd = 100.05) than students who were placed in the Auditory-CLT group (m = 340, sd = 75.54) and/or the Visual-CLT (m = 343, sd = 96.69). However, no significant difference was found with the TV-CLT group (m = 370, sd = 99.99).

On the post-test, a significant difference was found among the four groups (F (3,

249) = 7.60, $p < .001$). Tukey's *HSD* indicated that in terms of the post-test total scores, students in the TV-CLT group ($m = 440$, $sd = 102.65$) outperformed students who were in the Auditory-CLT group ($m = 374$, $sd = 71.54$). However, no significant difference was found with the CLT group ($m = 432$, $sd = 37.02$) and/or the Visual-CLT group ($m = 392$, $sd = 90.10$).

Results by Research Question

This section of Chapter four is organized based on the research questions posed for the present dissertation research. Each research question will be examined and answered according to the results interpreted above.

Question 1: Does CLT help EFL students improve their listening comprehension more than Auditory-CLT, Visual-CLT, and TV-CLT?

The first research question intended to investigate the effect of different instructional interventions on listening comprehension proficiency. To answer this research question, the results of the two TOEIC tests, the pre-test and the post-test in the area of listening comprehension, were compiled. The results of the pre- and post-test from the four different instructional groups on the listening section can be seen in Figure 4-1 and 4-2. In terms of English listening comprehension, Figure 4-1 shows that for the pre-test, participation in the CLT group ($m = 225$, $sd = 57.30$) led to better results than the other three groups, the Auditory-CLT group ($m = 188$, $sd = 51.42$), the Visual-CLT group ($m = 205$, $sd = 64.74$), and/or the TV-CLT group ($m = 214$, $sd = 64.67$).

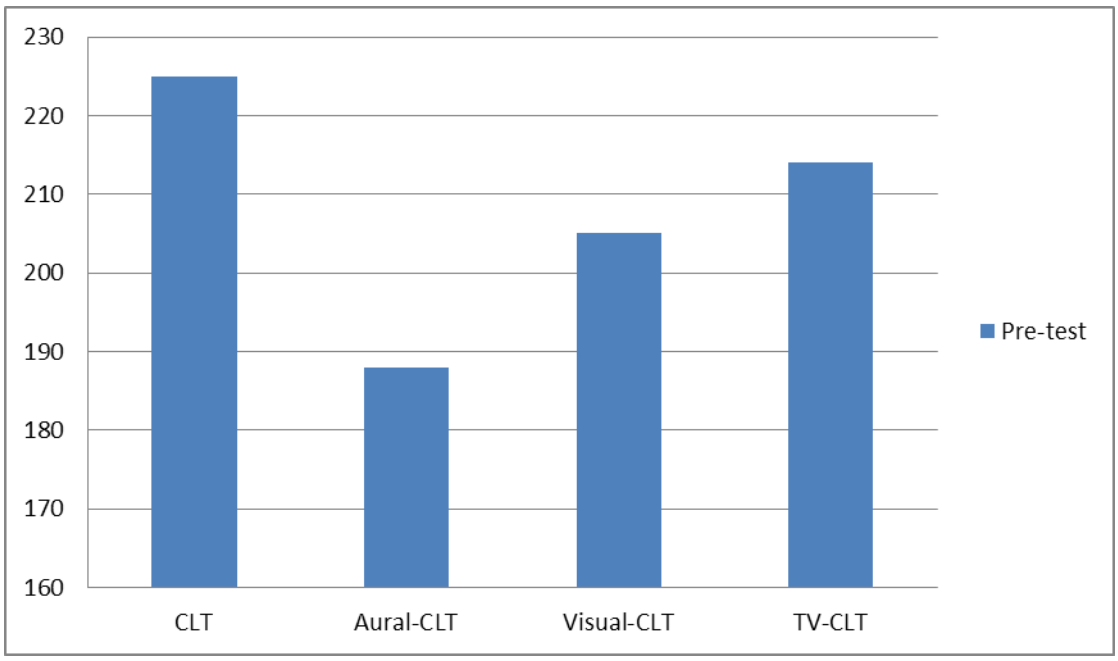

Figure 4-1. Performance on listening section for CLT and the other three groups on the pre-test.

The author calculated a one-way ANOVA to determine the proportion of variability attributed to each of the several components. A significant difference was found among these 4 groups (F (3, 249) = 4.216, p<.05). Further Tukey's *HSD* revealed that students who were placed in the CLT group (m = 225, sd = 57.3) scored significantly higher than students who were placed in the Auditory-CLT group (m = 188, sd = 51.42). However, no significant difference was found among the CLT group (m = 225, sd = 57.3), the Visual-CLT group (m = 255, sd = 64.74), and/or the TV-CLT group (m = 214, sd = 64.67).

On the post-test, Figure 4-2 indicates that the CLT group (m = 264, sd = 56.03) did better than the Auditory-CLT group (m = 232, sd = 46.65), the Visual-CLT group (m = 250, sd = 29.49), and TV-CLT group (m = 263, sd = 56.19). The author used a one-way ANOVA comparing the post-test scores of subjects from the four different instructional groups. A significant difference was found among these four groups (F

(3, 249) = 4.55, $p<.05$). Further Tukey's *HSD* indicated that in terms of listening comprehension of the post-test, students in the CLT group (m = 264, sd = 56.03) performed significantly higher than students who were placed in the Auditory-CLT group (m = 232, sd = 46.65). However, no significant difference was found among the CLT group (m = 264, sd = 56.03), the Visual-CLT group (m = 250, sd = 59.49) and the TV-CLT group (m = 263, sd = 56.19).

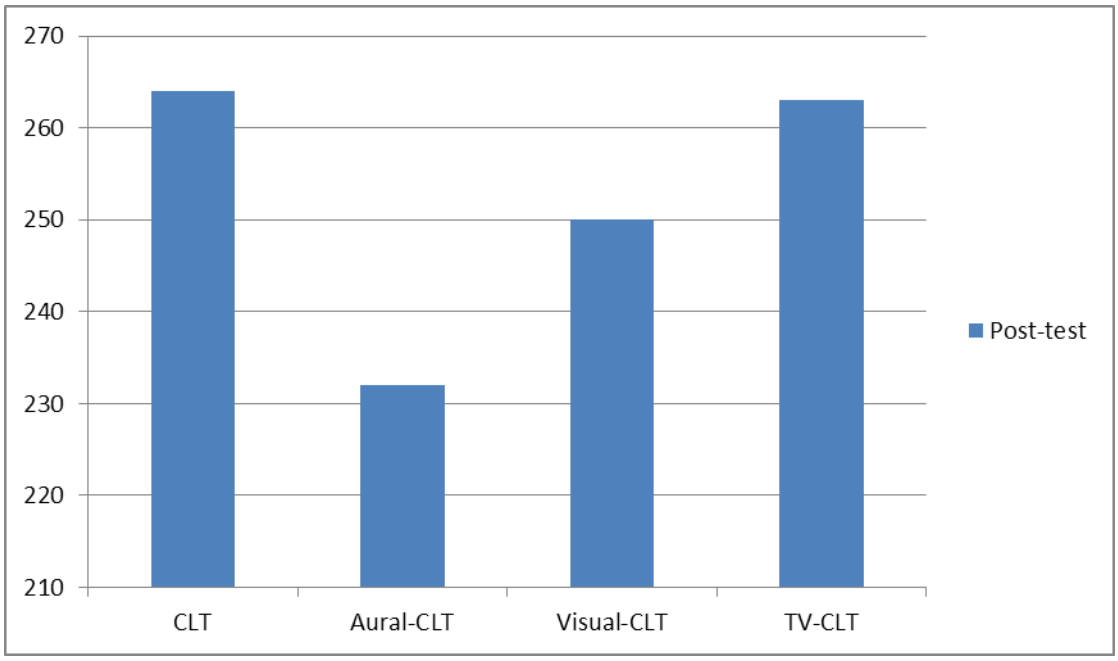

Figure 4-2. Performance on listening section for CLT and the other three groups on the post-test.

To investigate if the CLT instruction helped students enrolled in that group improve their English listening proficiency more than the other three groups, the author computed a mixed-design ANOVA using SPSS 22.0 to investigate scores from the pre- and post-test in each group and respond to the research question (see Figure 4-3). Since there are two independent variables that are represented as multiple variables, the pre-test and post-test and the four groups in the current study, the researcher used the repeated measures to run a mixed-design ANOVA (Cronk, 2006).

The mixed-design ANOVA tests effects of more than one independent variable. In the present study, there are two independent variables, TIME and INSTRUCT. The independent variable TIME represents the two sets of grades, pre-test and post-test, two different times during one semester in the present study. Another independent variable INSTRUCT refers to the 4 different instructional modes. Thus, the current study is a 2 X 4 mixed-design, one variable with two levels and another variable with four levels. There are three answers at least for all mixed-design ANOVAs (Cronk, 2006). In the current study design, they are the main effects of TIME, INSTRUCT, and TIME x INSTRUCT.

A 2 X 4 mixed-design ANOVA was calculated to examine the first research question. No significant findings for TIME x INSTRUCT were found (F (3, 249) = .241, $p > .05$). However, the main effect for time was significant (F (3, 249) = 107.676, $p < .001$). The descriptive statistics data revealed that all students who participated in the current study did better on the post-test (m = 253, sd = 55.98) than they did on the pre-test (m = 209, sd = 61.02) after a semester of instruction. In addition, the main effect for instructional modes was significant (F (3, 249) = 6.566, $p < .001$). Further Tukey's *HSD* indicated that in terms of the performance in listening comprehension from different instructional modes, students in the CLT group (m = 264, sd = 56.03) performed significantly better than students who were in the Auditory-CLT group (m = 232, sd = 46.65). However, there was no significant difference found among the CLT group (m = 264, sd = 56.03) and the other two groups, Visual-CLT (m = 250, sd = 59.49) and TV-CLT (m = 263, sd = 56.19).

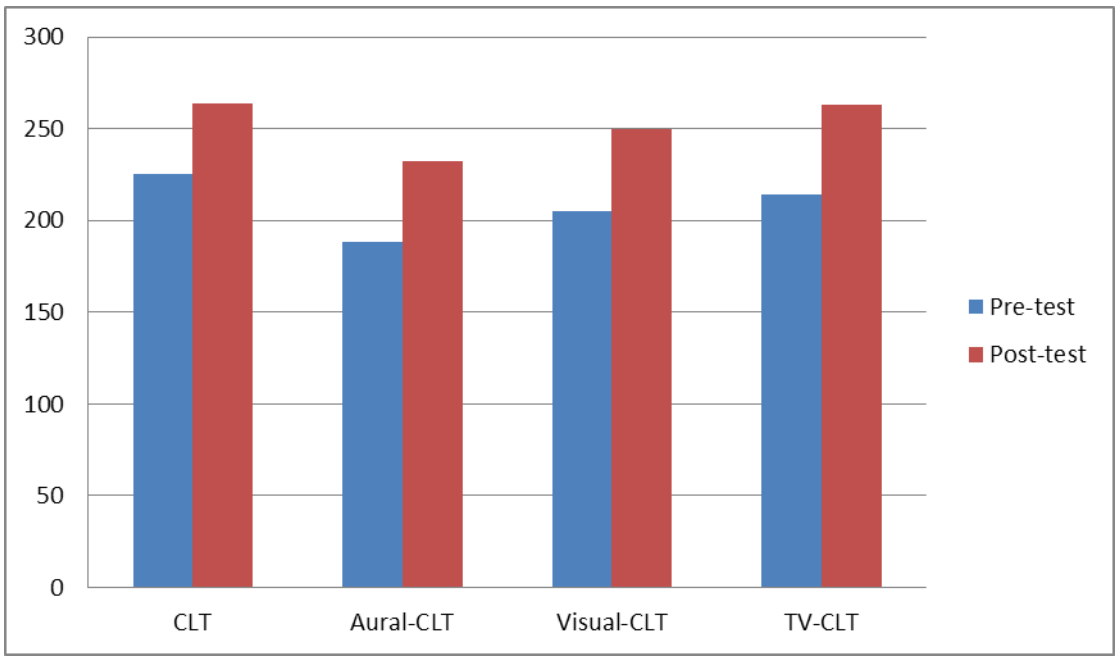

Figure 4-3. Performance on listening section for CLT and the other three groups.

In summary, the results indicate that the CLT instructional mode resulted in significantly better performance in listening comprehension than the Auditory-CLT group, only after an entire semester of instruction. However, no significant difference was found among the CLT group and the other two groups. Thus, we fail to reject null hypothesis 1 which states that students in the CLT group did not improve their listening comprehension more than Auditory-CLT, Visual-CLT, and TV-CLT.

Question 2: Does Auditory-CLT help EFL students improve their listening comprehension more than Visual –CLT, TV-CLT, and CLT?

The second research question aimed to figure out the effect of the first experimental instruction group, the Auditory-CLT group, in comparison with the other three groups in terms of listening comprehension proficiency. The results of the two TOEIC tests were used to answer this question. Figure 4-4 and 4-5 show the performance in the area of listening comprehension that the students obtained from the pre- and post-test. Figure 4-4 indicated that, for the pre-test, students in the

Auditory-CLT group (*m* = 188, *sd* = 51.42) performed lower than students in the other three groups (*m* = 225, *sd* = 57.30, *m* = 205, *sd* = 64.74, and *m* = 214, *sd* = 64.67).

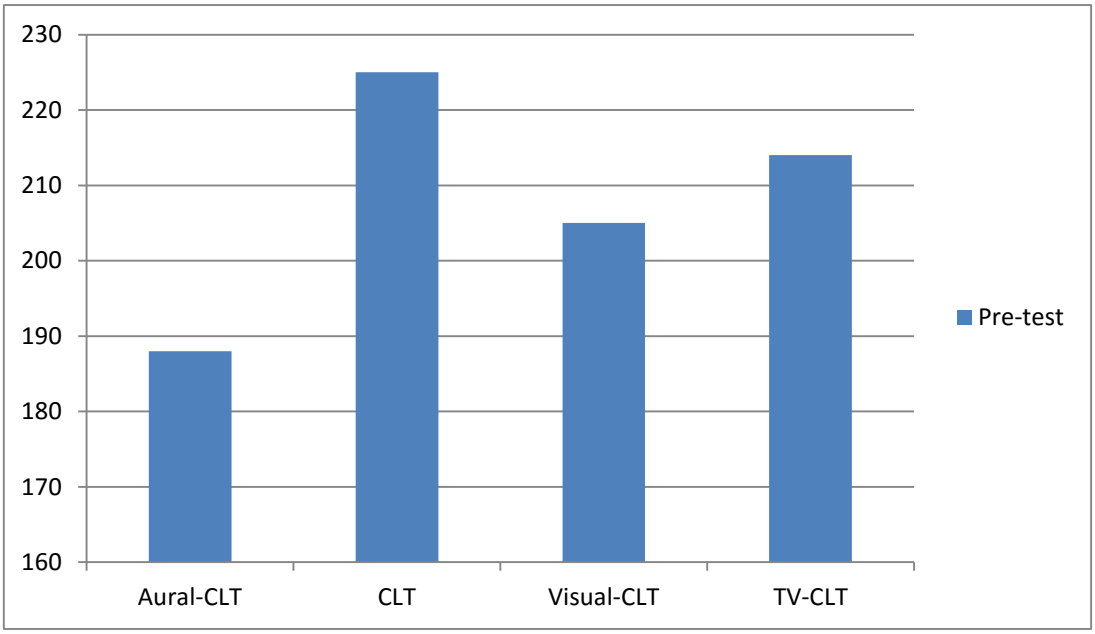

Figure 4-4 Performance on listening section for Aural-CLT and the other three groups on the pre-test.

However, to determine if significant differences existed among the several groups, a one-way ANOVA was used. By computing the analyses using SPSS 22.0, a significant difference was found among these 4 groups (F (3 , 249) = 4.216, p<.05). Tukey's *HSD* revealed that students who were placed in the Auditory-CLT group scored lower (*m* = 188, *sd* = 51.42) than students who were placed in the CLT group (*m* = 225, *sd* = 57.3). However, no significant difference was found among students placed in the Auditory-CLT group (*m* = 188, *sd* = 51.42), Visual-CLT group (*m* = 205, *sd* = 64.74), and/or the TV-CLT group (*m* = 214, *sd* = 64.67).

On the post-test, Figure 4-5 shows that the Auditory-CLT group (*m* = 232, *sd* = 46.65) scored lower than the CLT group (*m* = 264, *sd* = 56.03), the Visual-CLT group (*m* = 250, *sd* = 29.49), and the TV-CLT group (*m* = 263, *sd* = 56.19). The researcher computed a one-way ANOVA comparing post-test scores of subjects who took a

course from one of four different instructional interventions. A significant difference was found among these four groups (F (3, 249) = 4.55, p<.05). Tukey's *HSD* further indicated that in terms of listening comprehension on the post-test, subjects in the Auditory-CLT group (m = 232, sd = 46.65) performed lower than students who were in the CLT group (m = 264, sd = 56.03) and the TV-CLT group (m = 263, sd = 56.19). However, no significant difference was found between the Auditory-CLT group (m = 232, sd = 46.65) and the Visual-CLT group (m = 250, sd = 59.49).

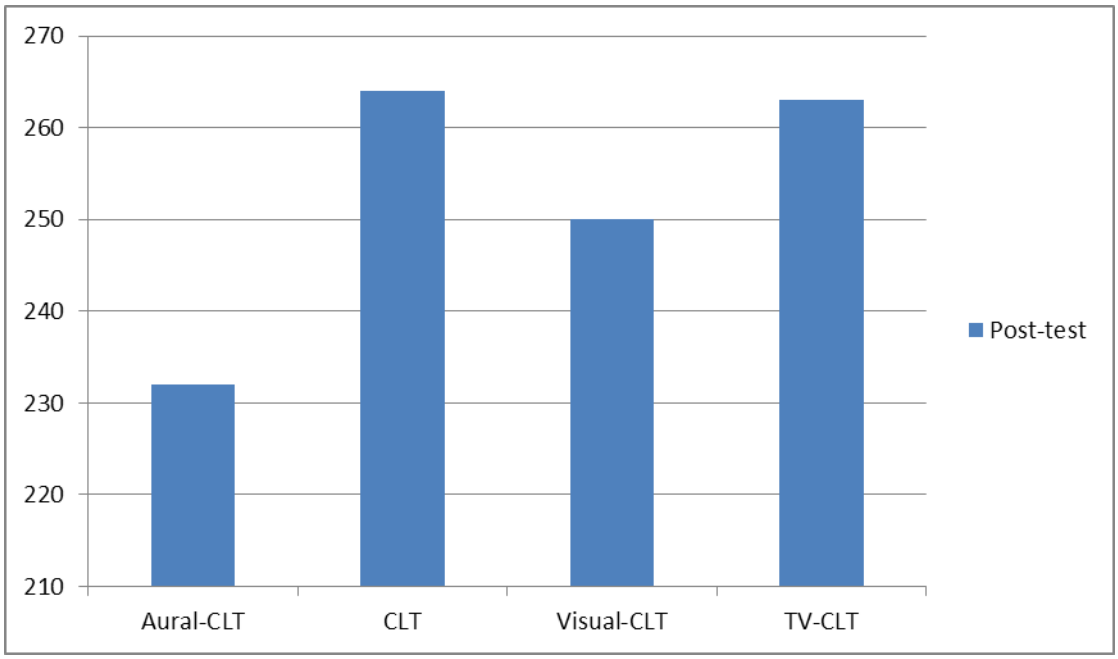

Figure 4-5. Performance on listening section for Aural-CLT and the other three groups on pre-test.

To understand whether the Auditory-CLT instruction mode helped students improve their English listening proficiency more than the other three groups, the researcher computed a mixed-design ANOVA using SPSS 22.0 for the pre- and post-test in each group to investigate the aforementioned research question (see Figure 4-6). The mixed-design ANOVA tests effects of more than one independent variable, the TIME, the pre- and post-test in one semester, and INSTRUCT, 4

different instructional groups in the present study. Thus, the current study uses a 2 X 4 mixed-design. The first independent variables, TIME, with two levels (the pre- and post-test) and the second independent variable, INSTRUCT with four levels (CLT, Auditory-CLT, Visual-CLT, and TV-CLT). Three main effects were answered for this mixed-design, TIME, INSTRUCT, and TIME x INSTRUCT.

A 2 X 4 mixed-design ANOVA was computed to investigate the second research question. First, no significant difference of TIME x INSTRUCT was found (F (3, 249) = .241, $p > .05$). However, the main effect for TIME was significant (F (3, 249) = 107.676, $p < .001$). The descriptive statistics data showed that subjects did better on the post-test (m = 253, sd = 55.98) than they did on the pre-test (m = 209, sd = 61.02) in the current study. Additionally, the main effect for the four different instructional interventions was significant (F (3, 249) = 6.566, $p < .001$). Tukey's *HSD* further indicated that in terms of English listening comprehension in one semester, subjects in both the CLT group (m = 264, sd = 56.03) and TV-CLT (m = 263, sd = 56.19) scored higher than subjects in the Auditory-CLT group (m = 232, sd = 46.65). However, there was no significant difference found between the Auditory-CLT group (m = 232, sd = 46.65) and the Visual-CLT (m = 250, sd = 59.49) group.

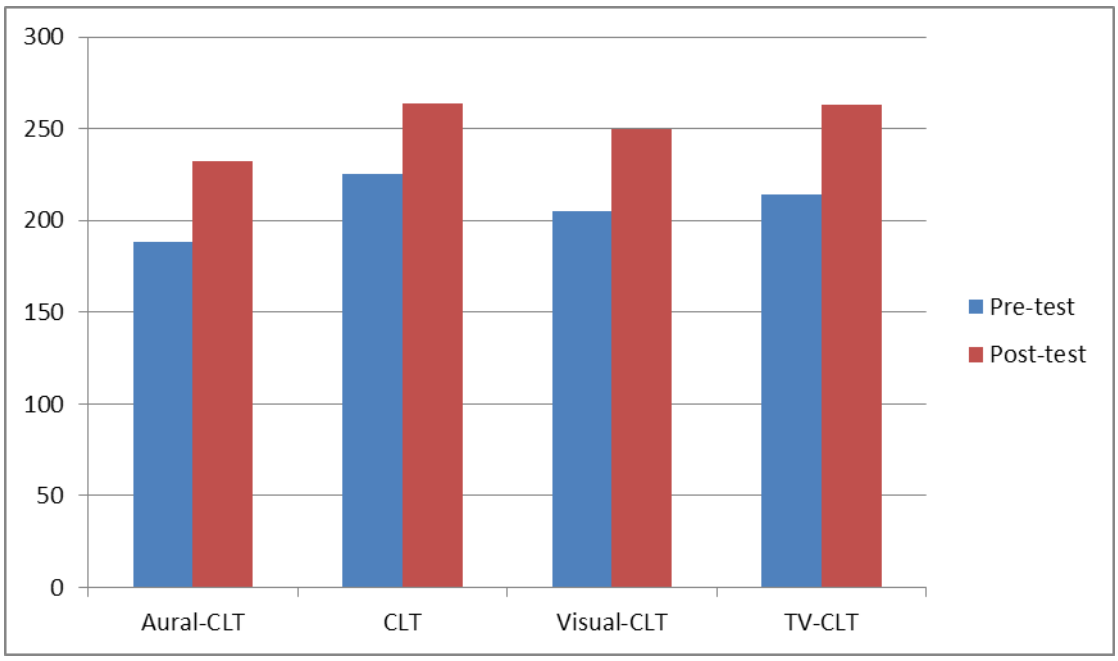

Figure 4-6. Performance of listening of Aural-CLT and other three groups.

In sum, the aforementioned results revealed that students placed in the Auditory-CLT instruction group performed significantly lower in listening comprehension than the CLT group and the TV-CLT group after one semester of instruction. That is, the researcher can reject null hypothesis 2 which states that students in the Auditory-CLT group did not improve their listening comprehension more than CLT, Visual-CLT, and TV-CLT.

Question 3: Does Visual-CLT help EFL students improve their listening comprehension more than Auditory-CLT, TV-CLT, and CLT?

The third research question intended to discover the effects of various instructional modes on listening comprehension. The results of the two TOEIC tests were computed to answer this question. Figure 4-7 and 4-8 present the results of the pre- and post-tests. For the pre-test in terms of English listening comprehension, Figure 4-7 shows that the Visual-CLT group (m = 205, sd = 64.74) performed better than the Auditory-CLT group (m = 188, sd = 51.42) but scored lower than the CLT

group (*m* = 225, *sd* = 57.30) and the TV-CLT group (*m* = 214, *sd* = 64.67). However, by computing a one-way ANOVA, it was determined that no significant difference was found among these 4 groups: the CLT group (*m* = 225, *sd* = 57.3), Auditory-CLT group (*m* = 188, *sd* = 51.42), Visual-CLT (*m* = 255, *sd* = 64.74) and TV-CLT group (*m* = 214, *sd* = 64.67).

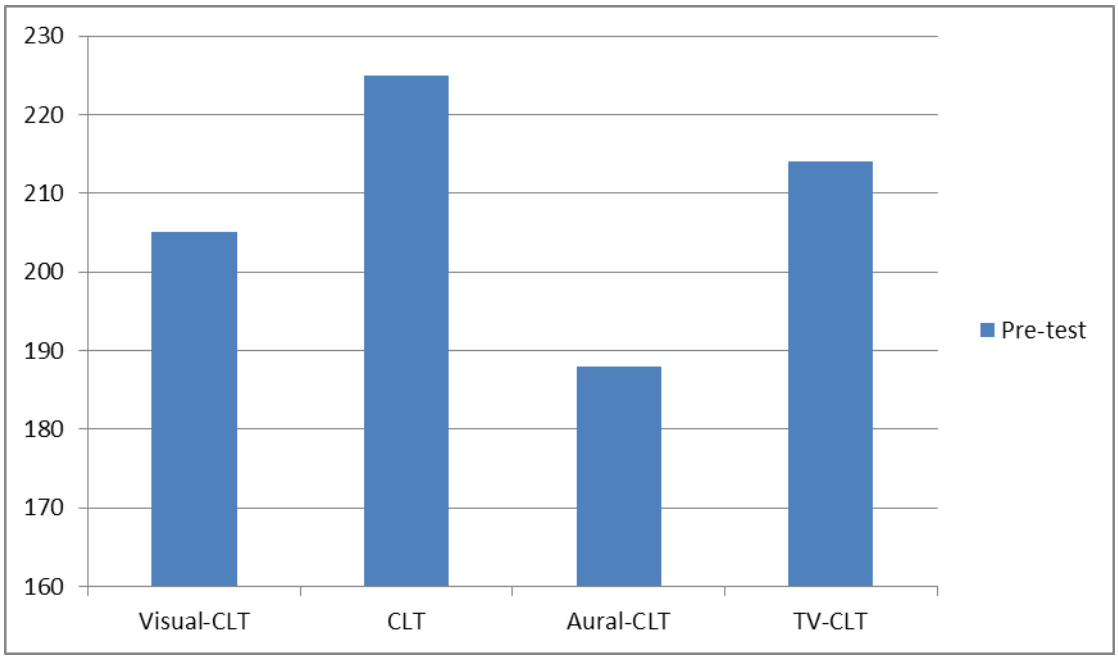

Figure 4-7. Performance on listening section for Visual-CLT and the other three groups on the pre-test.

On the post-test, Figure 4-8 displays that students placed in the Visual-CLT group (*m* = 250, *sd* = 29.49) performed better than those assigned to the Auditory-CLT group (*m* = 232, *sd* = 46.65), but lower than the CLT group (*m* = 264, *sd* = 56.03) and the TV-CLT group (*m* = 263, *sd* = 56.19). The author computed a one-way ANOVA to compare post-test scores of students from the four different instructional modes. No significant difference was found among the four different instructional groups: the CLT group (*m* = 264, *sd* = 56.03), Auditory-CLT group (*m* =

232, *sd* = 46.65), Visual-CLT group (*m* = 250, *sd* = 59.49), and the TV-CLT group (*m* = 263, *sd* = 56.19).

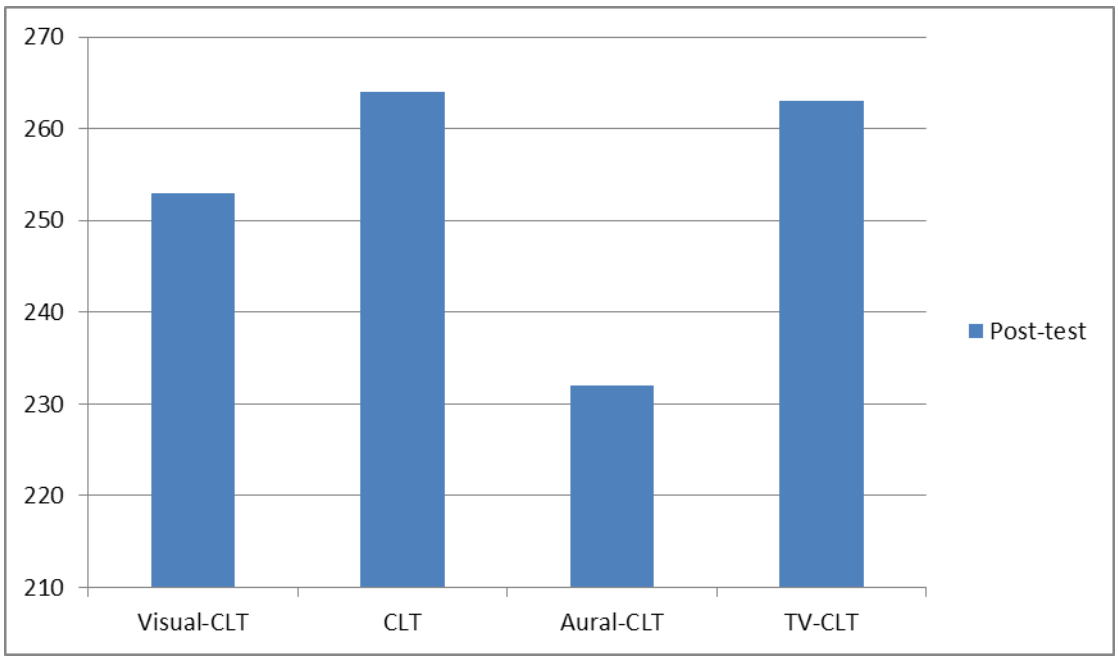

Figure 4-8. Performance on listening section for Visual-CLT and the other three groups on the post-test.

To figure out if the Auditory-CLT instructional group helped students improve their English listening proficiency more than the other three groups, the author used SPSS 22.0 to perform a mixed-design ANOVA by using the pre- and post-tests in each group to test the research question (see Figure 4-9). A 2 X 4 mixed-design ANOVA was calculated to examine the third research question. No significant difference was found (F (3, 249) = .241, $p > .05$) in TIME x INSTRUCT. However, the main effect for time was significant (F (3, 249) = 107.676, $p < .001$). The descriptive statistics data analysis indicated that all students did better on the post-test (*m* = 253, *sd* = 55.98) than they did on the pre-test (*m* = 209, *sd* = 61.02).

In addition, the main effect for instructional modes was significant (F (3, 249) = 6.566, $p < .001$). Tukey's *HSD* further indicated that in terms of the performance in

listening comprehension in one semester, subjects in the Visual-CLT group (*m* = 250, *sd* = 59.49) did not perform better than students who were placed in the CLT group (*m* = 264, *sd* = 56.03), Auditory-CLT group (*m* = 232, *sd* = 46.65), and/or the TV-CLT group (*m* = 263, *sd* = 56.19).

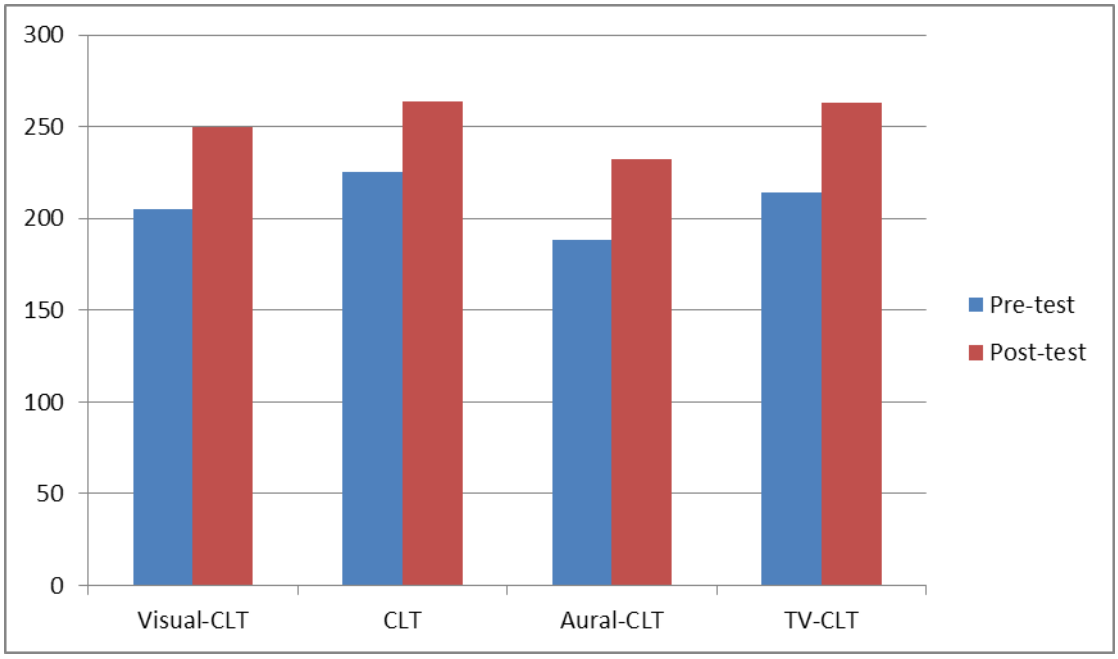

Figure 4-9. Performance on listening section for Visual-CLT and the other three groups.

In short, the results display that subjects who were placed in the Visual-CLT instructional group performed the same as the CLT group, Auditory-CLT group, and the TV-CLT group in listening comprehension after one semester of instruction. Therefore, we fail to reject null hypothesis 3 which states that students in the Visual-CLT group did not improve their listening comprehension more than the CLT, Auditory-CLT, and TV-CLT.

Question 4: Does TV-CLT help EFL students improve their listening comprehension more than Auditory-CLT, Visual-CLT and CLT?

The fourth research question was focused on the effect of TV programs on the

results of the two TOEIC tests in terms of listening comprehension proficiency. Therefore, four groups' performances on the pre- and post-tests were compiled to answer this research question. The performance scores in the area of listening comprehension attained by the students on both the pre- and post-tests can be seen in Figure 4-10 and 4-11. Figure 4-10 showed that, for the pre-test, students in the TV-CLT group (m = 214, sd = 64.67) scored higher than the Auditory-CLT group (m = 188, sd = 51.42) and the Visual-CLT group (m = 205, sd = 64.74). However, they performed lower than students in the CLT group (m = 225, sd = 57.30).

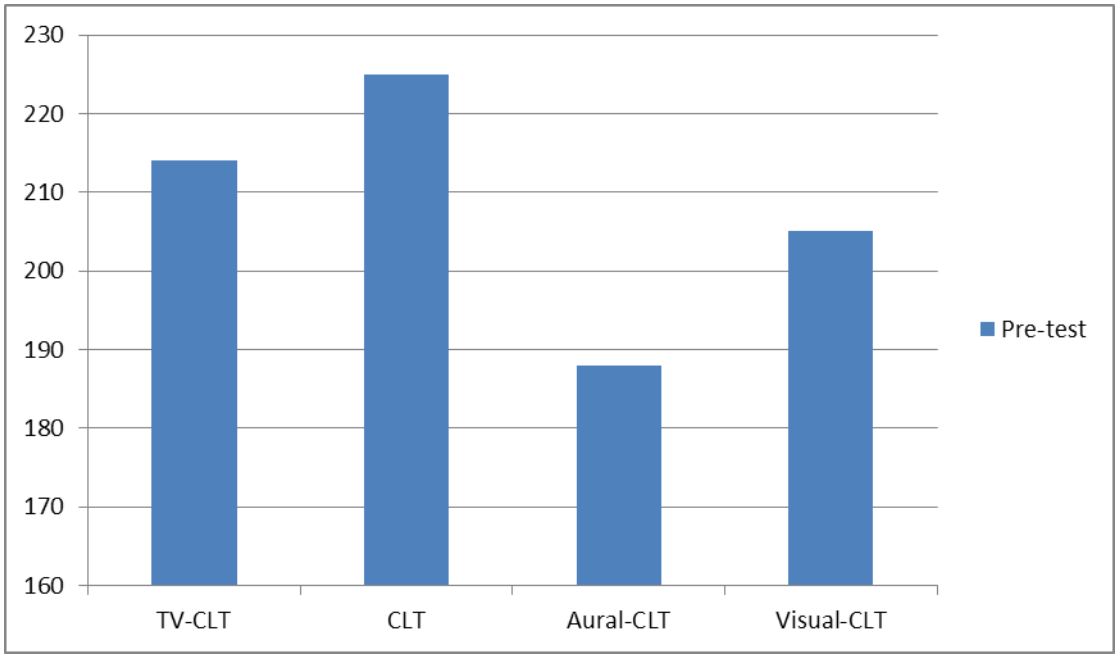

Figure 4-10. Performance on listening section for TV-CLT and the other three groups on the pre-test.

A one-way ANOVA was used to determine if there were significant differences which existed among these groups. Using SPSS 22.0 to conduct the analyses, no significant difference was found among students placed in the Visual-CLT group (m = 205, sd = 64.74), CLT group (m = 225, sd = 57.3), Auditory-CLT group (m = 188, sd = 51.42), and students who were placed in the TV-CLT group (m = 214, sd = 64.67)

from their performance on the pre-test.

On the post-test, Figure 4-11 shows that the Auditory-CLT group (*m* = 232, *sd* = 46.65) scored lower than the CLT group (*m* = 264, *sd* = 56.03), the Visual-CLT group (*m* = 250, *sd* = 29.49), and the TV-CLT group (*m* = 263, *sd* = 56.19). The author computed a one-way ANOVA comparing post-test scores of subjects who took a course in one of four different instructional modes. A significant difference was found among these four groups (F (3, 249) = 4.55, $p<.05$). Tukey's *HSD* further revealed that in terms of listening comprehension on the post-test, subjects in the TV-CLT group (*m* = 263, *sd* = 56.19) performed better than students who were in the Auditory-CLT group (*m* = 232, *sd* = 46.65). However, no significant difference was found among the TV-CLT group (*m* = 263, *sd* = 56.19), CLT group (*m* = 264, *sd* = 56.03) and the Visual-CLT group (*m* = 250, *sd* = 59.49).

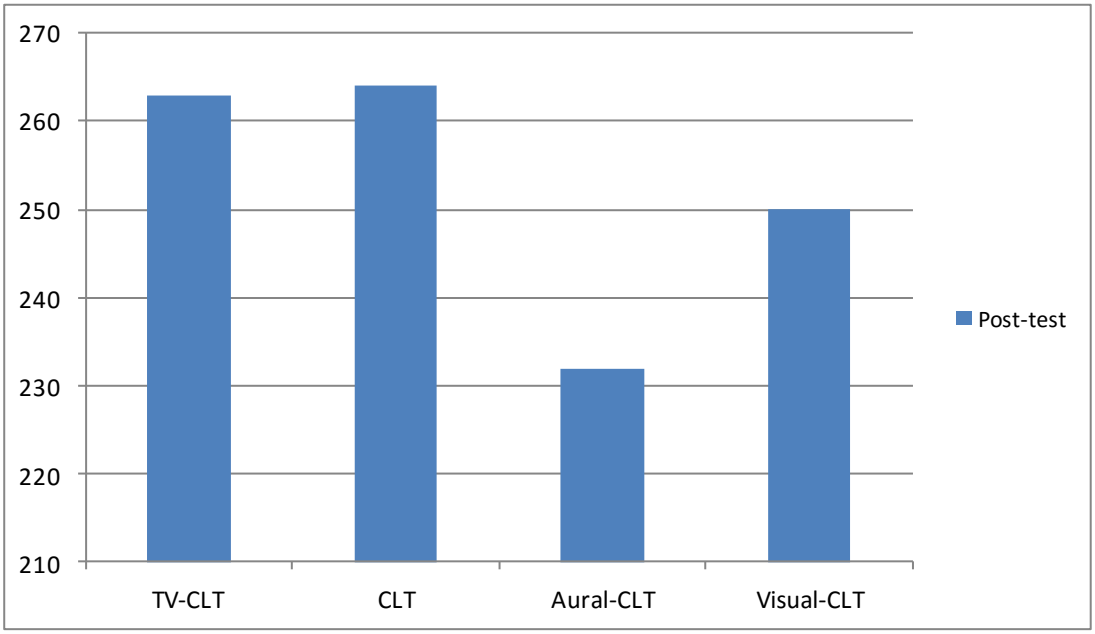

Figure 4-11. Performance on listening section for TV-CLT and the other three groups on the post-test.

To know if the TV-CLT instructional intervention helped students improve their English listening proficiency more than the other three groups, the author used SPSS

22.0 to run a mixed-design ANOVA for the pre- and post-tests in each group in order to answer the above research question. The mixed-design ANOVA examines effects of more than one independent variable, TIME, the pre- and post-test in one semester, and INSTRUCT, 4 different instructional groups in the current study. Accordingly, the current study adopted a 2 X 4 mixed-design. The first independent variable, TIME, with two levels (the pre- and post-test) and the second independent variable, INSTRUCT with four levels (CLT, Auditory-CLT, Visual-CLT, and TV-CLT). Three main effects were answered for this mixed-design, TIME, INSTRUCT, and TIME x INSTRUCT.

A 2 X 4 mixed-design ANOVA was used to test the fourth research question. No significant difference of TIME x INSTRUCT was found (F (3, 249) = .241, $p > .05$). However, the main effect for TIME was significant (F (3, 249) = 107.676, $p < .001$). The descriptive statistics data analysis indicated that students performed better on the post-test (m = 253, sd = 55.98) than they did on the pre-test (m = 209, sd = 61.02) in the present study.

Furthermore, the main effect for the four different instructional options was significant (F (3, 249) = 6.566, $p < .001$). Tukey's *HSD* further revealed that in terms of English listening comprehension after receiving one of four different instructional interventions for one semester, students in the TV-CLT (m = 263, sd = 56.19) scored higher than subjects in the Auditory-CLT group (m = 232, sd = 46.65). However, no significant difference was found among TV-CLT (m = 263, sd = 56.19), CLT group (m = 264, sd = 56.03), and the Visual-CLT (m = 250, sd = 59.49) group.

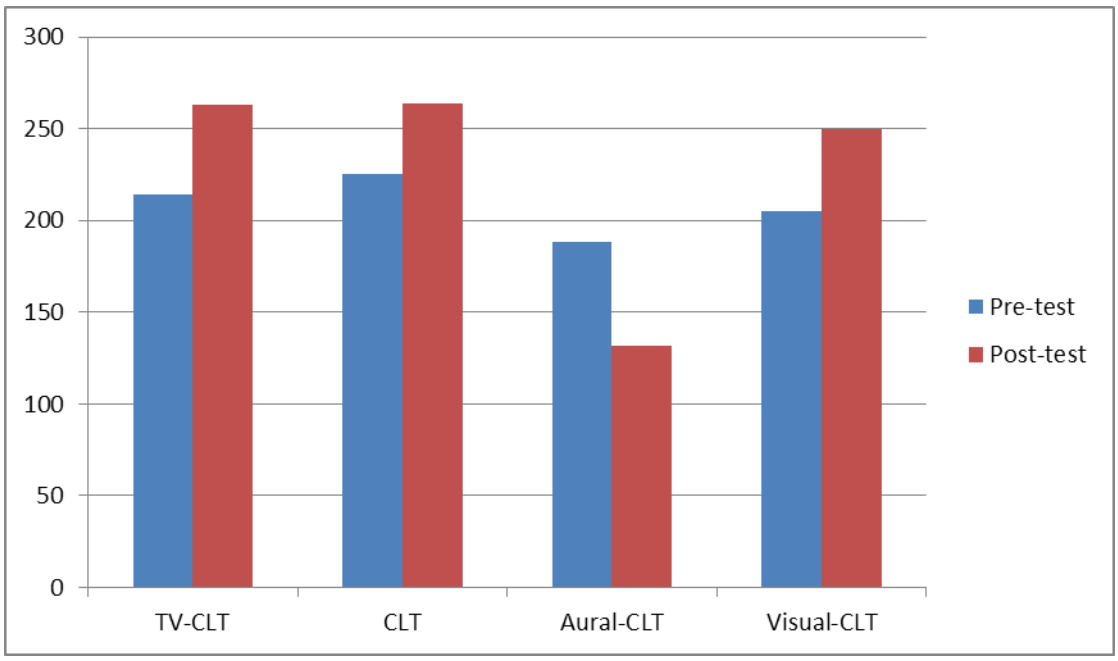

Figure 4-12. Performance on listening section for TV-CLT and the other three groups.

In summary, the aforementioned results display that students who were placed in the TV-CLT instructional group performed significantly higher on the listening comprehension section than the Auditory-CLT group after one semester of instruction. Hence, the researcher can reject null hypothesis 4 which stated that students in the TV-CLT group would not improve their listening comprehension more than the CLT, Auditory-CLT, and/or Visual-CLT group.

Question 5: Does CLT help EFL students improve their reading comprehension more than auditory-CLT, Visual-CLT, and TV-CLT?

The fifth research question intended to investigate the effect of different instructional groups on reading comprehension proficiency. To answer this research question, the results of the reading comprehension scores from two TOEIC tests, the pre-test and the post-test, were compiled. The results from the pre- and post-tests of four different instructional groups on the reading section can be seen in Figure 4-13 and Figure 4-14. In terms of English reading comprehension, Figure 4-13 shows that

for the pre-test, the CLT group (*m* = 186, *sd* = 61.36) led to better results than the other three groups (*m* = 151, *sd* = 43.88, *m* = 138, *sd* = 46.89, *m* = 166, *sd* = 61.86).

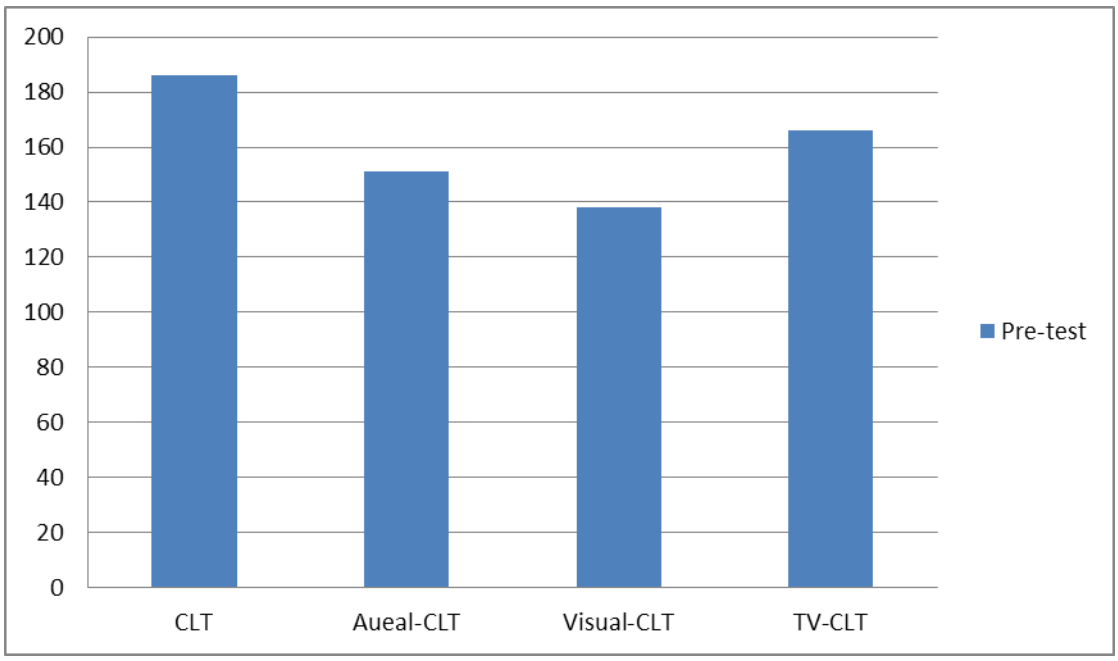

Figure 4-13. Performance on reading comprehension section for CLT group and the other three groups on the pre-test.

The researcher calculated a one-way ANOVA to determine the proportion of variability attributed to each of several components. A significant difference was found among these 4 groups (F (3, 249) = 8.892, p<.05). Tukey's *HSD* revealed that students who were placed in the CLT group (*m* = 186, *sd* = 61.36) scored significantly higher than students who were placed in the Auditory-CLT group (*m* = 151, *sd* = 43.88) and the Visual-CLT group (*m* = 138, *sd* = 46.89). However, no significant difference was found between the CLT group (*m* = 186, *sd* = 61.36) and the TV-CLT group (*m* = 166, *sd* = 61.86).

On the post-test, Figure 4-14 indicates that the CLT group (*m* = 167, *sd* = 53.89) did better than the Auditory-CLT group (*m* = 141, *sd* = 38.37) and the Visual-CLT group (*m* = 142, *sd* = 42.50). However, the CLT group scored lower than the TV-CLT

group (*m* = 177, *sd* = 61.77). The author used a one-way ANOVA to compare post-test scores of subjects from the four different instructional groups. A significant difference was found among these four groups (F (3, 249) = 8.263, p<.001). Tukey's *HSD* indicated that in terms of reading comprehension on the post-test, students in the CLT group (*m* = 167, *sd* = 53.89) performed significantly higher than students who were placed in the Auditory-CLT group (*m* = 141, *sd* = 38.37) and the Visual-CLT group (*m* = 142, *sd* = 42.50). However, no significant difference was found between the CLT group and the TV-CLT group (*m* = 177, *sd* = 61.77).

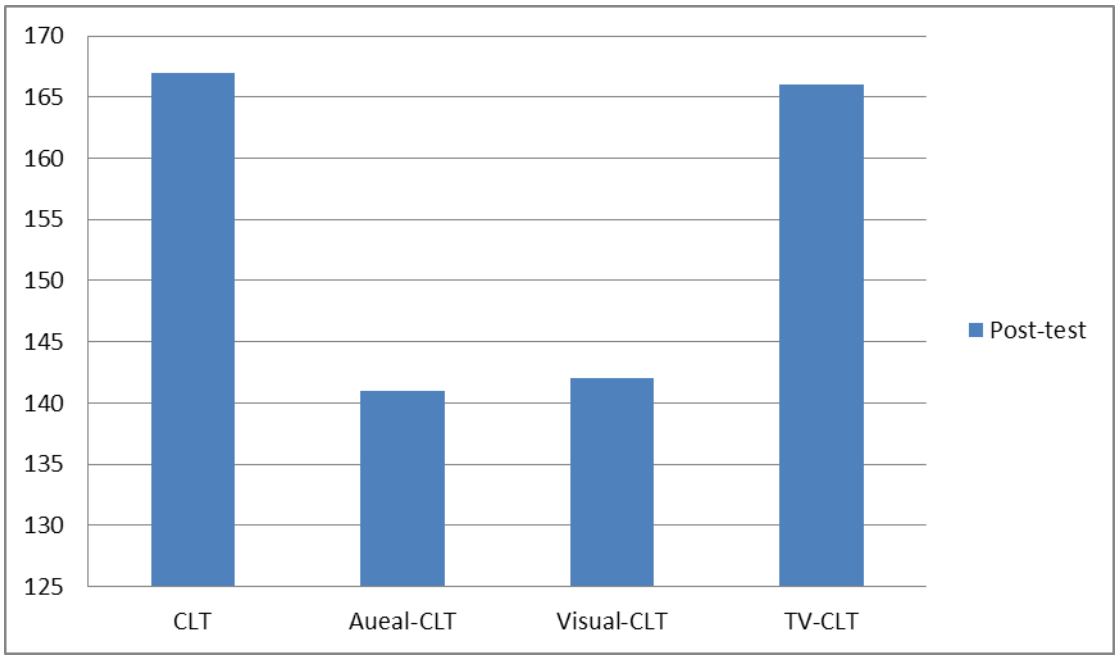

Figure 4-14. Performance on reading comprehension section for CLT and the other three groups on the post-test.

To investigate if the CLT instructional group helped EFL students improve their English reading comprehension proficiency score more than the other three groups, the author computed a mixed-design ANOVA by using SPSS 22.0 to analyze the pre- and post-tests from each group in order to respond to the research question (see Figure 4-15). The mixed-design ANOVA tests effects of more than one independent variable,

TIME, 2 different times of tests in one semester, and INSTRUCT, 4 different instructional modes in the present study. Thus, the current study is a 2 X 4 mixed-design. There are two independent variables (TIME and INSTRUCT), one with two levels and one with four levels. There are three answers at least for all mixed-design ANOVAs (Cronk, 2006). In the current study design, they are the main effects of TIME, INSTRUCT, and TIME x INSTRUCT.

A 2 X 4 mixed-design ANOVA was calculated to examine the fifth research question. No significant difference for TIME was found (F (3, 249) = .766, $p > .05$). The descriptive statistics data revealed that students didn't perform significantly better on the post-test (m = 161, sd = 57.23) from the scores they attained on the pre-test (m = 158, sd = 52.85). However, the main effect for TIME x INSTRUCT was significant (F (3, 249) = 3.026, $p < .05$). Upon examination of the data, it seems the TV-CLT group and the Visual-CLT group showed improvement in scores over time (see Figure 4-15).

In addition, the main effect for instructional intervention mode was significant (F (3, 249) = 11.561, $p < .001$). Tukey's *HSD* indicated that in terms of the performance in reading comprehension after one semester of instruction, students in the CLT group (m = 167, sd = 53.89) performed better than students who were in the Auditory-CLT group (m = 141, sd = 38.37) and the Visual-CLT (m = 142, sd = 42.50). However, there was no significant difference found between the CLT group (m = 167, sd = 53.89) and the TV-CLT (m = 177, sd = 61.77).

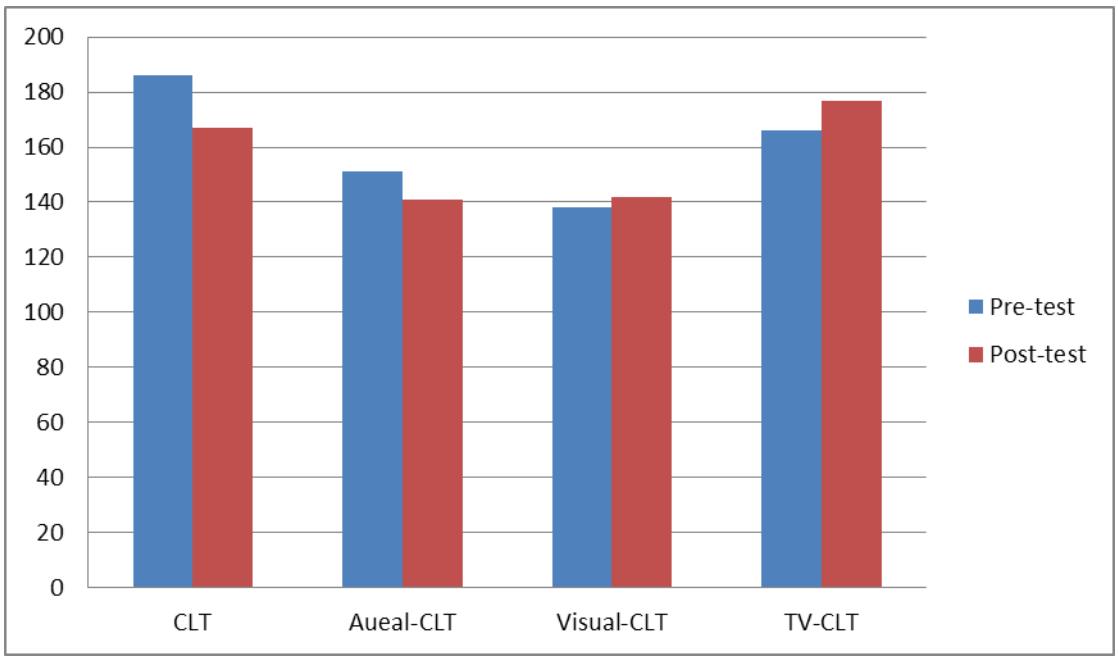

Figure 4-15. Performance on reading comprehension for CLT and the other three groups.

In summary, the aforementioned results indicate that the CLT instructional mode resulted in significantly better performance in reading comprehension than the Auditory-CLT group and the Visual-CLT group after one semester of instruction. Thus, the researcher can reject null hypothesis 5 which states that students in the CLT group did not improve their reading comprehension more than the Auditory-CLT, Visual-CLT, and TV-CLT.

Question 6: Does Auditory-CLT help EFL students improve their reading comprehension more than Visual –CLT, TV-CLT, and CLT?

The sixth research question aimed to figure out the effect of the first experimental group, the Auditory-CLT group, comparing it with other three groups in terms of reading comprehension proficiency. The results of the two TOEIC tests were used to answer this question. Figure 4-16 and 4-17 show the performance of reading comprehension these students obtained on the pre- and post-test. Figure 4-16

indicated that, for the pre-test, students in the Auditory-CLT group (*m* = 151, *sd* = 43.88) performed higher than the Visual-CLT group (*m* = 138, *sd* = 46.89). However, it scored lower than students in the CLT group (*m* = 186, *sd* = 61.36) and TV-CLT group (*m* = 166, *sd* = 61.86).

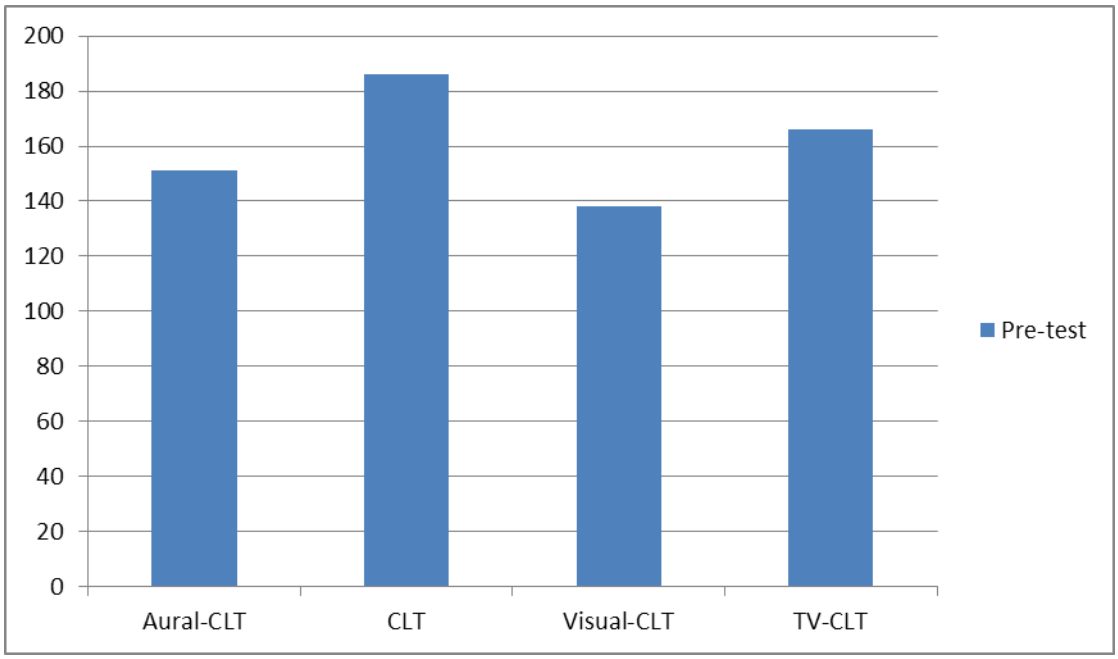

Figure 4-16. Performance on reading comprehension for Aural-CLT and the other three groups on the pre-test.

To determine if there were significant differences which existed among the several groups, a one-way ANOVA was used. By using SPSS 22.0 to conduct the computation, a significant difference was found among the 4 groups (F (3, 249) = 8.892, p<.05). Tukey's *HSD* revealed that students who were placed in the Auditory-CLT group (*m* = 151, *sd* = 43.88) scored significantly lower than students who were placed in the CLT group (*m* = 186, *sd* = 61.36). However, no significant difference was found among students placed in the Auditory-CLT group (*m* = 151, *sd* = 43.88), Visual-CLT group (*m* = 138, *sd* = 46.89), and the TV-CLT group (*m* = 166, *sd* = 61.86).

On the post-test, Figure 4-17 shows that the Auditory-CLT group (*m* = 141, *sd* = 38.37) scored lower than the CLT group (*m* = 167, *sd* = 53.89) and the TV-CLT group (*m* = 177, *sd* = 52.85). The author computed a one-way ANOVA comparing post-test scores for subjects from each of four different instructional options. A significant difference was found among these four groups (*F* (3, 249) = 8.263, *p*<.001). Tukey's *HSD* further indicated that in terms of reading comprehension on the post-test, subjects in the Auditory-CLT group (*m* = 141, *sd* = 38.37) performed significantly lower than students who were in the CLT group (*m* = 167, *sd* = 53.89) and TV-CLT group (*m* = 177, *sd* = 61.77). However, no significant difference was found between the Auditory-CLT group (*m* = 141, *sd* = 38.37) and the Visual-CLT group (*m* = 142, *sd* = 42.50).

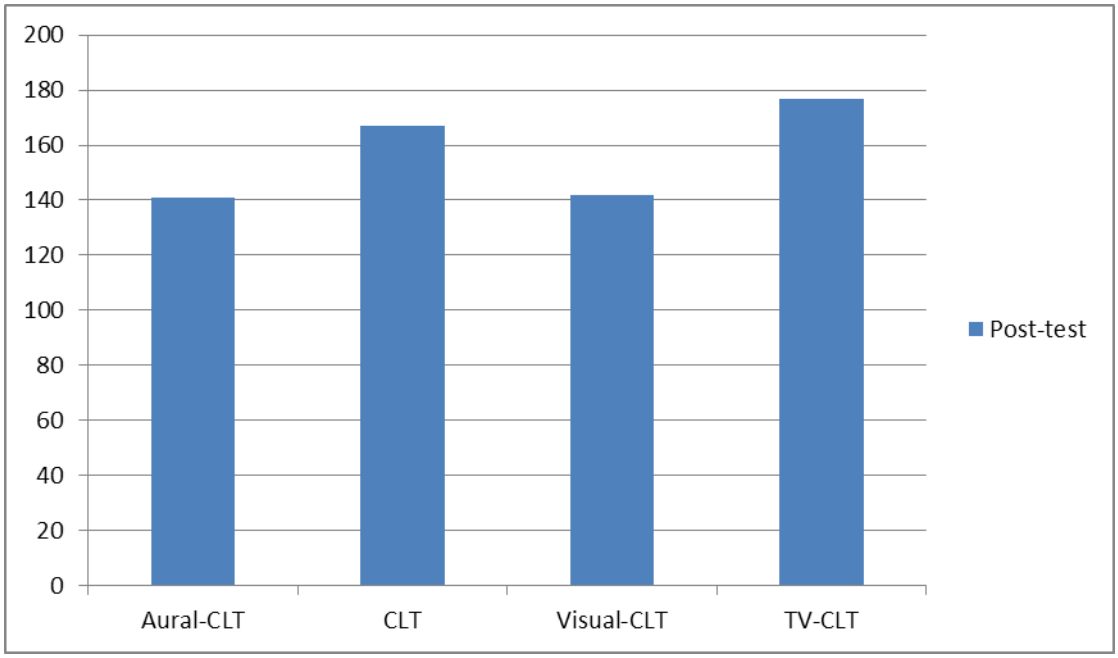

Figure 4-17. Performance in reading comprehension for Aural-CLT and the other three groups on the post-test.

To understand whether the Auditory-CLT instructional intervention mode helped students improve their English listening proficiency more than the other three groups, the researcher used SPSS 22.0 to compute a mixed-design ANOVA for the pre- and post-test in each group to respond to the aforementioned research question (see Figure 4-18). The mixed-design ANOVA tests effects of more than one independent variables, the variable of TIME, the pre- and post-test in one semester, and INSTRUCT, 4 different instructional groups in the present study. Thus, this study used a 2 X 4 mixed-design. The first independent variable, TIME, with two levels (the pre- and post-test) and the second independent variable, INSTRUCT with four levels (CLT, Auditory-CLT, Visual-CLT, and TV-CLT). Three main effects were answered for this mixed-design, TIME, INSTRUCT, and TIME x INSTRUCT.

A 2 X 4 mixed-design ANOVA was computed to answer the sixth research question. First, no significant difference for TIME was found (F (3, 249) = .766, p > .05). The descriptive statistics data showed that subjects did the same on the post-test (m = 158, sd = 52.85) as they did on the pre-test (m = 161, sd = 57.23) in the current study. However, the main effect for TIME x INSTRUCT was significant (F (3, 249) = 3.026, p < .05). Upon examination of the data, it seems the TV-CLT group and Visual-CLT group showed improvement in scores over time (see Figure 4-18).

Additionally, the main effect for the four different instructional interventions was significant (F (3, 249) = 11.561, p < .001). Tukey's *HSD* further indicated that in terms of English reading comprehension in one semester, subjects from the Auditory-CLT group (m = 141, sd = 38.37) scored significantly lower than subjects in both the CLT group (m = 167, sd = 53.89) and TV-CLT (m = 177, sd = 61.77). However, there was no significant difference found between the Auditory-CLT group (m = 141, sd = 38.77) and the Visual-CLT (m = 142, sd = 42.50) group.

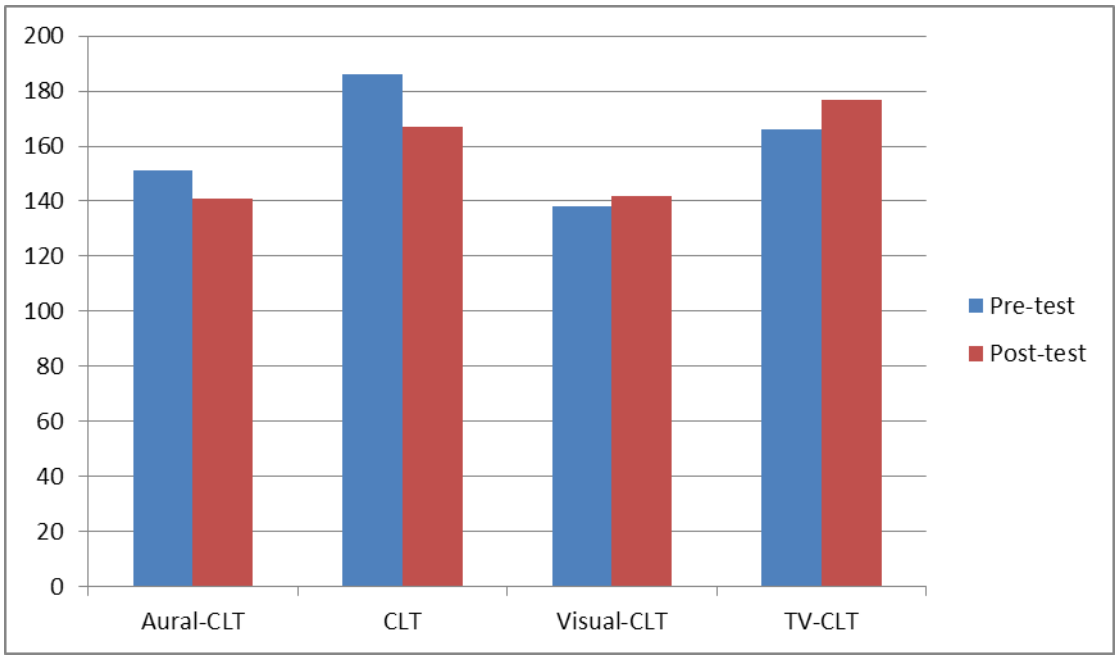

Figure 4-18. Performance in reading comprehension for Aural-CLT and the other three groups.

In sum, the aforementioned results reveal that students placed in the Auditory-CLT instructional group performed significantly lower in reading comprehension than the CLT group and the TV-CLT group after one semester of instruction. That is, the researcher can reject null hypothesis 6 which states that students in the Auditory-CLT group did not improve their listening comprehension more than the CLT, Visual-CLT, and TV-CLT.

Question 7: Does Visual-CLT help EFL students improve their reading comprehension more than Auditory-CLT, TV-CLT, and CLT?

The seventh research question intended to discover if there were different effects on reading comprehension scores which were dependent on the mode of instruction. The results of the two TOEIC tests were computed to answer this question. Figure 4-19 and 4-20 present the results of the pre- and post-tests. For the pre-test in terms of English reading comprehension, Figure 4-19 shows that the Visual-CLT group (*m* =

138, *sd* = 46.89) performed lower than the other three groups, the CLT group (*m* = 186, *sd* = 61.36), the Auditory-CLT group (*m* = 151, *sd* = 43.88), and the TV-CLT group (*m* = 166, *sd* = 61.86). A significant difference was found (F (3, 249) = 8.892, $p < .05$) among these 4 groups by computing a one-way ANOVA. Tukey's *HSD* further showed that in terms of English reading comprehension in one semester, students enrolled in the Visual-CLT group (*m* = 138, *sd* = 46.89) scored significantly lower than those who were in the CLT group (*m* = 186, *sd* = 61.36) and the TV-CLT group (*m* = 166, *sd* = 61.86). However, there was no significant difference found between the Visual-CLT group (*m* = 138, *sd* = 46.89) and the Auditory-CLT group (*m* = 151, *sd* = 43.88).

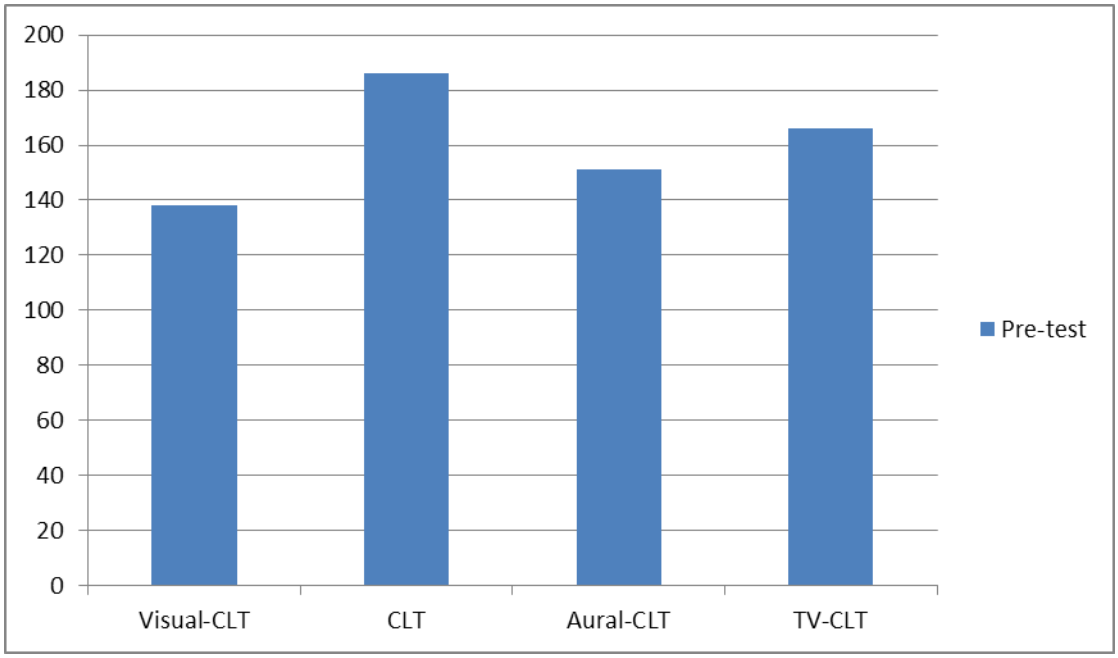

Figure 4-19. Performance in reading comprehension for the Visual-CLT group and the other three groups on the pre-test.

On the post-test, Figure 4-20 displays that students placed in the Visual-CLT group (*m* = 142, *sd* = 42.50) performed better than those in the Auditory-CLT group (*m* = 141, *sd* = 38.37). However, the Visual-CLT group scored lower than the CLT

group (*m* = 167, *sd* = 53.89) and the TV-CLT group (*m* = 177, *sd* = 61.77). The author computed a one-way ANOVA to compare post-test scores of students from the four different instructional modes. A significant difference was found (F (3, 249) = 8.263, $p < .001$) among the four different instructional groups. Tukey's *HSD* further indicated that the English reading comprehension scores of students in the different instructional groups showed that, after one semester, the Visual-CLT group (*m* = 142, *sd* = 42.50) obtained lower scores than subjects in the CLT group (*m* = 167, *sd* = 53.89) and the TV-CLT group (*m* = 177, *sd* = 61.77). However, there was no difference between the Visual-CLT group (*m* = 142, *sd* = 42.50) and the Auditory-CLT group (*m* = 141, *sd* = 38.37).

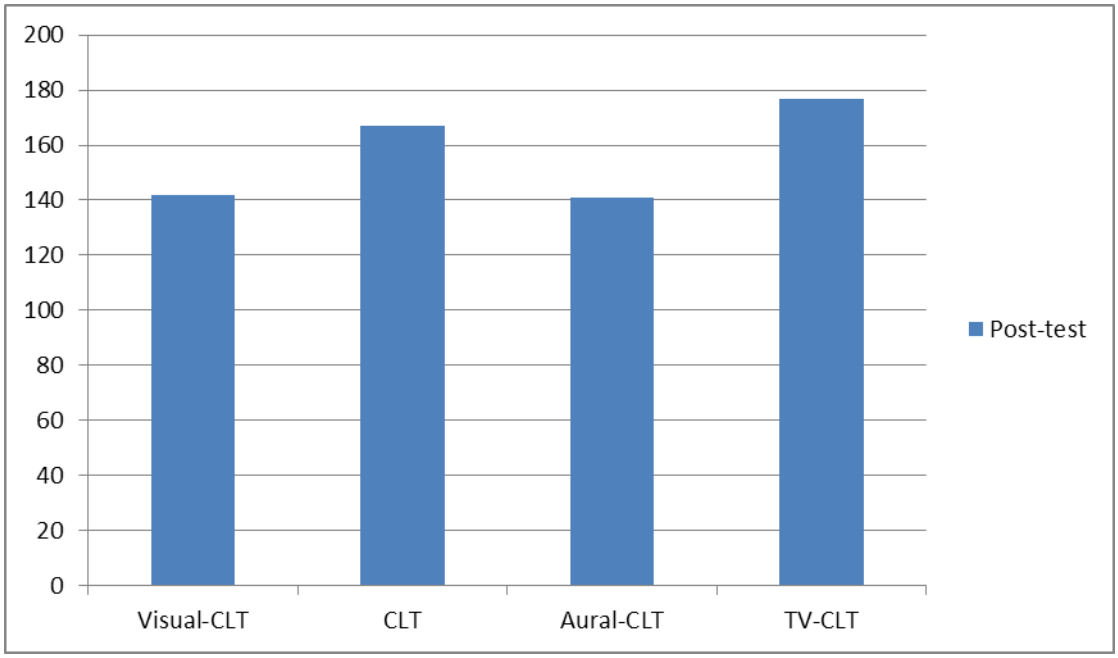

Figure 4-20. Performance in reading comprehension for the Visual-CLT and the other three groups on the post-test.

To figure out if the Auditory-CLT instructional group helped students improve their English reading comprehension proficiency more than the other three groups, the

author used a mixed-design ANOVA by using SPSS 22.0 to conduct the analyses on the pre- and post-test scores obtained from each group to explore the above research question (see Figure 4-21). A 2 X 4 mixed-design ANOVA was calculated to examine the seventh research question. No significant difference was found (F (3, 249) = .766, $p > .05$) in examining TIME as a factor. The descriptive statistics data analysis indicated that students did the same on the post-test (m = 158, sd = 52.85) as they did on the pre-test (m = 161, sd = 57.23). However, the main effect for TIME x INSTRUCT was significant (F (3, 249) = 3.026, $p < .05$). Upon examination of the data, it seems the TV-CLT group and the Visual-CLT group showed improvement in scores over time (see Figure 4-21).

In addition, the main effect for instructional modes was significant (F (3, 249) = 11.561, $p < .001$). Further Tukey's *HSD* analysis indicated that in terms of the performance in reading comprehension in one semester, subjects enrolled in the Visual-CLT group (m = 142, sd = 42.50) performed lower than students who were placed in the CLT group (m = 167, sd = 53.89) and TV-CLT group (m = 177, sd = 61.77). However, no significant difference was found between the Visual-CLT (m = 142, sd = 42.50) and the Auditory-CLT group (m = 141, sd = 38.37).

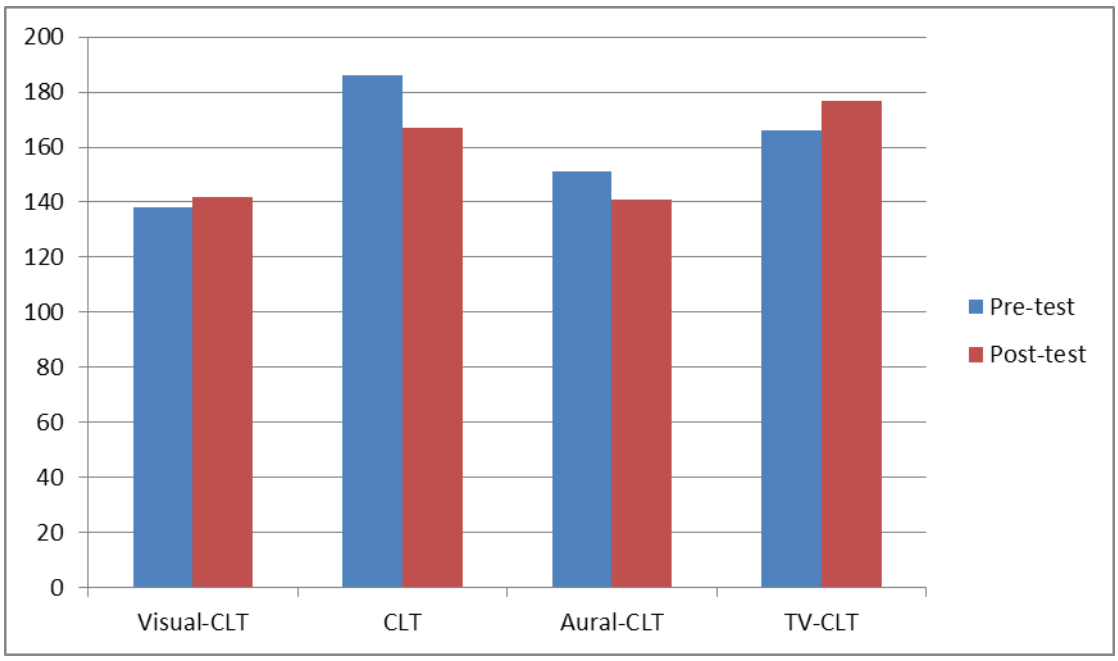

Figure 4-21. Performance in reading comprehension for the Visual-CLT and the other three groups.

In short, the above results displayed that subjects who were placed in the Visual-CLT instruction group performed lower than those in the CLT group and the TV-CLT group in reading comprehension after one semester of instruction. Therefore, the researcher can reject null hypothesis 7 which stated that students in the Visual-CLT group did not improve their reading comprehension more than CLT, Auditory-CLT, and TV-CLT.

Question 8: Does TV-CLT help EFL students improve their reading comprehension more than Auditory-CLT, Visual-CLT and CLT?

The final research question was focused on the results of two TOEIC tests in terms of reading comprehension proficiency. Therefore, the four groups' performances on the pre- and post-tests were compiled to answer this research question. The performance in reading comprehension on the pre- and post-tests for all students can be seen in Figure 4-22 and 4-23. Figure 4-22 showed that, for the pre-test,

students in the TV-CLT group (*m* = 166, *sd* = 61.86) scored higher than the Auditory-CLT group (*m* = 151, *sd* = 43.88) and the Visual-CLT group (*m* = 138, *sd* = 46.89). However, TV-CLT students performed lower than students in the CLT group (*m* = 186, *sd* = 61.36).

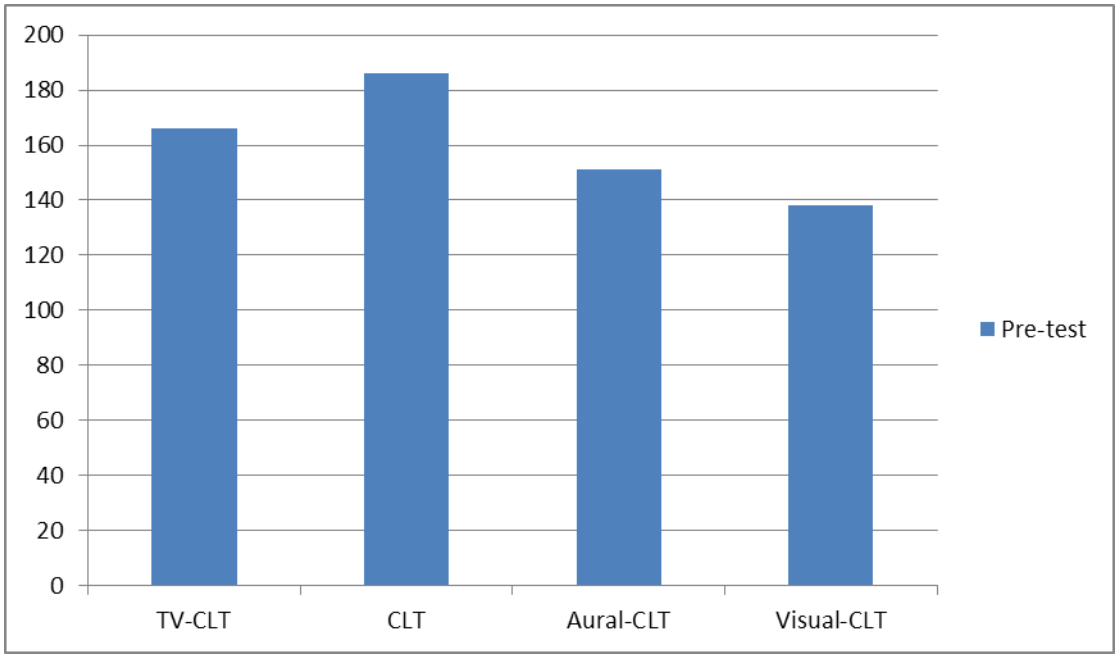

Figure 4-22. Performance in reading comprehension for the TV-CLT and the other three groups on the pre-test.

A one-way ANOVA was used to determine if significant differences existed among these groups. By running this statistical analysis using SPSS 22.0, a significant difference was found (F (3, 249) = 8.892, $p < .05$) among students placed in the TV-CLT group (*m* = 214, *sd* = 64.67) and the other groups. Tukey's *HSD* further revealed that in terms of English reading comprehension in one semester, students who were placed in the TV-CLT group (*m* = 166, *sd* = 61.86) scored significantly higher than those who were in the Visual-CLT group (*m* = 138, *sd* = 46.89). However, there was no significant difference found among the TV-CLT group (*m* = 166, *sd* = 61.86), the CLT group (*m* = 186, *sd* = 61.36), and the Auditory-CLT group (*m* = 151,

sd = 43.88).

On the post-test, Figure 4-23 shows that the TV-CLT group (*m* = 177, *sd* = 61.77) scored higher than the other three groups, the CLT group (*m* =167, *sd* = 53.89), the Auditory-CLT group (*m* =141, *sd* = 38.37), and the Visual-CLT group (*m* =142, *sd* = 42.50). The author computed a one-way ANOVA comparing post-test scores of subjects who took the course in each of the four different instructional modes. A significant difference was found among these four groups (*F* (3, 249) = 8.263, *p*<.001). Tukey's *HSD* further revealed that in terms of reading comprehension on the post-test, subjects in the TV-CLT group (*m* =177, *sd* = 61.77) performed significantly better than students who were in the Auditory-CLT (*m* =141, *sd* = 38.37) group and the Visual-CLT group (*m* =142, *sd* = 42.50). However, no significant difference was found between the TV-CLT group (*m* = 177, *sd* = 61.77) and the CLT group (*m* = 167, *sd* = 53.89).

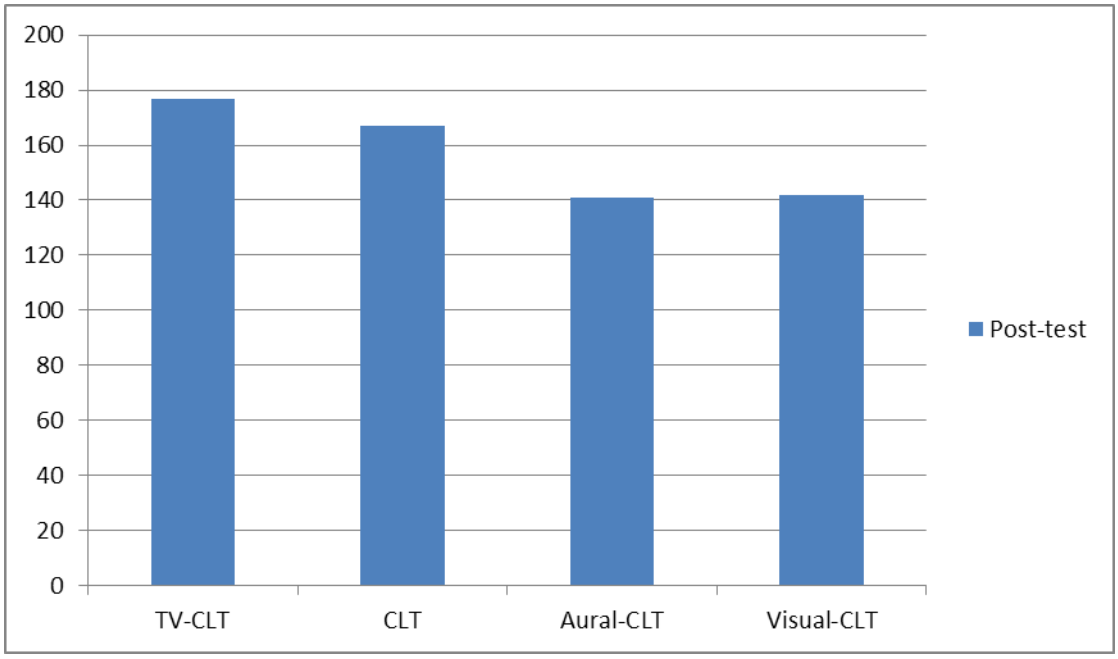

Figure 4-23. Performance in reading comprehension for the TV-CLT group and the other three groups on the post-test.

To know if the TV-CLT instructional mode helped students improve their English reading proficiency more than the other three groups, the author computed a mixed-design ANOVA by using SPSS 22.0 for the pre- and post-test in each group to answer the above research question (see Figure 4-24). The mixed-design ANOVA examined effects of more than one independent variable, the variable of TIME, the pre- and post-test in one semester, and INSTRUCT, 4 different instructional groups in the current study. Accordingly, the current study adopted a 2 X 4 mixed-design. The first independent variable, TIME, with two levels (the pre- and post-test) and the second independent variable, INSTRUCT with four levels (CLT, Auditory-CLT, Visual-CLT, and TV-CLT). Three main effects were answered for this mixed-design, TIME, INSTRUCT, and TIME x INSTRUCT.

A 2 X 4 mixed-design ANOVA was used to test the last research question. No significant difference for the variable of TIME was found (F (3, 249) = .766, $p > .05$). The descriptive statistics data analysis indicated that students performed the same on the post-test (m = 253, sd = 55.98) as they did on the pre-test (m = 209, sd = 61.02) in the present study. However, the main effect for TIME x INSTRUCT was significant (F (3, 249) = 3.026, $p < .05$). Upon examination of data, it seems the TV-CLT group and the Visual-CLT group showed improvement in scores over time (see Figure 4-24).

Furthermore, the main effect for the four different instructional modes was significant (F (3, 249) = 11.561, $p < .001$). Tukey's *HSD* further revealed that in terms of English reading comprehension scores, after receiving different instructional interventions for one semester, the students in the TV-CLT group (m = 177, sd = 61.77) scored higher than the subjects in the Auditory-CLT group (m = 141, sd = 38.37) and the Visual-CLT (m = 142, sd = 42.50) group. However, no significant

difference was found between the TV-CLT group (*m* = 177, *sd* = 61.77) and the CLT group (*m* = 167, *sd* = 53.89).

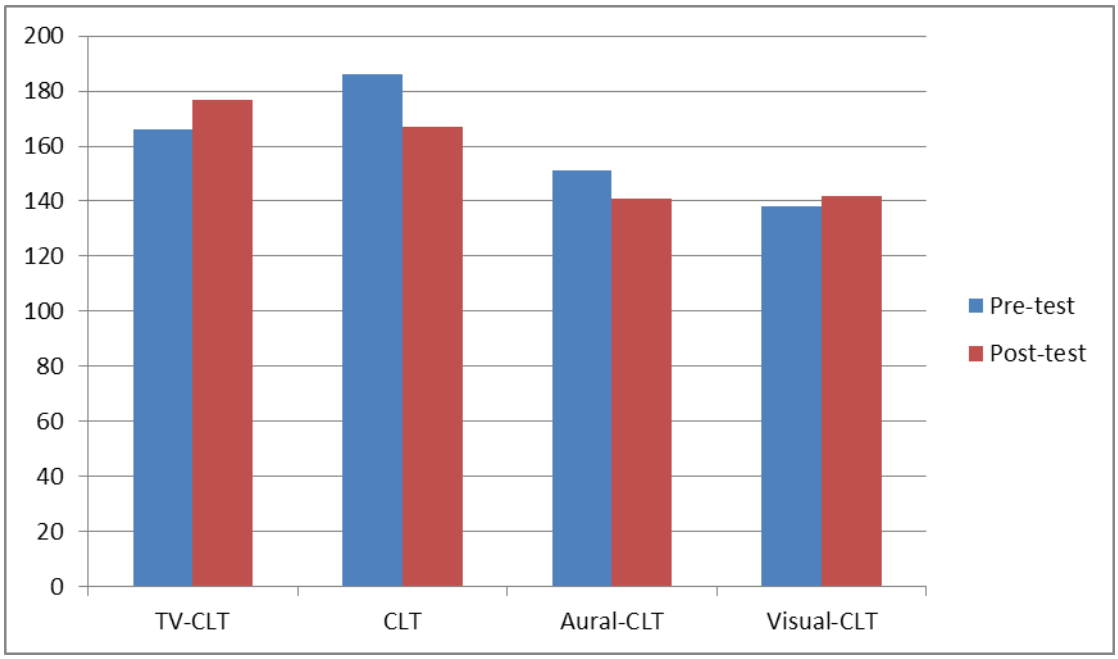

Figure 4-24. Performance in reading comprehension for the Visual-CLT group and the other three groups.

In summary, the aforementioned results display that students who were placed in the TV-CLT instructional group performed significantly higher in reading comprehension than the students who were placed in the Auditory-CLT group and the Visual-CLT group after one semester of instruction. Hence, the researcher can reject null hypothesis 8 which states that students in the TV-CLT group did not improve their listening comprehension more than CLT, Auditory-CLT, and Visual-CLT.

Summary

The following presents the findings for each of the research questions:

Question 1: Does CLT help EFL students improve their listening comprehension more than Auditory-CLT, Visual-CLT, and TV-CLT?

Findings: No, it does not. The CLT helped EFL students improve their listening comprehension more than the Auditory-CLT group only, not the Visual-CLT, and/or

the TV-CLT.

Question 2: Does Auditory-CLT help EFL students improve their listening comprehension more than Visual –CLT, TV-CLT, and CLT?

Findings: No, it does not. The Auditory-CLT group scored lower than the TV-CLT and the CLT group in listening comprehension.

Question 3: Does Visual-CLT help EFL students improve their listening comprehension more than Auditory-CLT, TV-CLT, and CLT?

Findings: No, it does not. Visual-CLT performed the same as CLT, Auditory-CLT, and TV-CLT in listening comprehension

Question 4: Does TV-CLT help EFL students improve their listening comprehension more than Auditory-CLT, Visual-CLT and CLT?

Findings: No, it does not. TV-CLT helps EFL students improve their listening comprehension more than Auditory-CLT only.

Question 5: Does CLT help EFL students improve their reading comprehension more than Auditory-CLT, Visual-CLT, and TV-CLT?

Findings: It does not. CLT helped EFL students improve their reading comprehension more than Auditory-CLT and Visual-CLT, but not TV-CLT.

Question 6: Does Auditory-CLT help EFL students improve their reading comprehension more than Visual –CLT, TV-CLT, and CLT?

Findings: It does not. Auditory-CLT performed lower than the CLT group and the TV-CLT group in reading comprehension.

Question 7: Does Visual-CLT help EFL students improve their reading comprehension more than Auditory-CLT, TV-CLT, and CLT?

Findings: No, it does not. The Visual-CLT instructional group performed lower than those in the CLT group and the TV-CLT group in reading comprehension.

Question 8: Does TV-CLT help EFL students improve their reading comprehension more than Auditory-CLT, Visual-CLT and CLT?

Findings: No, it does not. The TV-CLT group performed better than the Auditory-CLT and the Visual-CLT in reading comprehension, not CLT.

CHAPTER V

Discussion

Overview

This research study intended to examine the effects of different types of instruction on listening and reading comprehension for Taiwanese EFL learners. After the introduction to the problem in Chapter I, Chapter II reviewed the related literature in detail on complementary auditory, visual, and TV program studies; Chapter III described the methodology used for data collection and data analysis, and Chapter IV reported the results and findings of the present study. This final chapter will discuss the interpretation of the results, addressing each research question, present both theoretical and pedagogical implications, provide recommendations for future research, and make final conclusions.

Interpretation of Results

This section, the interpretation of results, will present each of the research questions based on the results and findings reported in Chapter IV, make reference to the literature, and explain possible reasons for the obtained results. All of the participants in the current study were placed into four different levels: from Level 1 (lower-proficiency) to Level 4 (higher-proficiency). These levels were determined based on their English language performances on the College Entrance Examination given by the individual colleges. The results of the pre-test showed that students performed differently and the groups were significantly different (F (3, 249) = 7.823, $p < .001$).

Therefore, the author further investigated the listening comprehension and reading comprehension sections respectively to figure out if there were significant differences which emerged, as their overall performance showed. On the listening

comprehension section, a significant difference was found in the pre-test (F (3, 249) = 4.216, $p < .05$). Therefore, the author divided all participants into two groups, the higher-skilled learners and less-skilled ones, to gain more detailed information for the following sections. The cutting point for differentiating participants into higher- and lower-proficiency learners were the average mean scores that all subjects obtained on the listening comprehension on the pre-test.

According to the average performance in listening comprehension on the pre-test, participants who were placed in the CLT group (m = 225, sd = 57.3) and TV-CLT group (m = 214, sd = 64.67) were categorized into the higher-proficiency listeners while their counterparts who were placed in the Aural-CLT (m = 188, sd = 51.42) and Visual-CLT (m = 205, sd = 64.74) were grouped into the lower-proficiency listeners (see Table 4-20). The cutting point was the average mean scores that all participants earned in listening comprehension (m = 209, sd = 61.01).

On the other hand, there was also a significant difference which emerged on the reading comprehension section of the pre-test (F (26,624) = 8.892, p<.001). Accordingly, based on the reading comprehension performance on the pre-test, the CLT group (m = 186, sd = 61.36) and the TV-CLT group (m = 166, sd = 61.86) were divided into the higher-proficiency readers and the Auditory-CLT group (m = 151, sd = 43.88) and the Visual-CLT group (m = 138, sd = 46.89) into lower-proficiency readers (see Table 4-21). The cutting point for grouping participants into higher- and lower-proficiency learners was the average mean scores that all participants performed on the reading comprehension on the pre-test (m = 162, sd = 57.23).

Effects of Instruction Type on Listening Comprehension

The effects of CLT on listening comprehension. The first research question examined the effectiveness of the CLT instruction mode compared with the

other three complementary interventions: Auditory-CLT, Visual-CLT, and TV-CLT groups on listening comprehension. The ANOVA results for the current study showed that, participants in the CLT groups performed significantly better than the Auditory-CLT group (F (3, 249) = 6.566, $p < .001$) after one semester of intervention (see Table 4-20 and Figure 4-3). However, no significant difference was found among the CLT group and the other two groups, Visual-CLT and TV-CLT. The hypothesis expected that students in the CLT group would not improve their listening comprehension more than those receiving the Auditory-CLT, Visual-CLT, and TV-CLT in listening comprehension.

On the pre-test, participants in the CLT group (m = 225, sd = 57.3) outperformed the other three groups, the Auditory-CLT (m = 188, sd = 51.42), the Visual-CLT (m = 205, sd = 64.74), and the TV-CLT (m = 214, sd = 64.67) in Table 4-20 and Figure 4-1. The results confirmed the effectiveness of language strategies used by L2 high-proficiency listeners in facilitating L2 listening comprehension (e.g. Chamot, 2005; Goh, 2002b; Vandergrift, 2003a). Studies have indicated that higher-skilled listeners are better able to employ listening processes strategies than their less-skilled counterparts on listening comprehension. In addition, in a study of teenage learners of French (Vandergrift, 2003b), significant statistical differences were found in strategy use between high-proficiency and low-proficiency learners. Other statistically significant differences in the use of specific strategies were also found (Goh, 2002a). Higher-proficiency learners reported greater use of strategies, such as comprehension monitoring and questioning elaboration, whereas, lower-proficiency learners preferred online translation.

Furthermore, these differences between higher-proficiency and lower-proficiency listening comprehension learners were confirmed by a research

study by Salahshour , Sharifi, and Salahshour (2012), which looked at the relationship between language learning strategy use and language proficiency level. In this study, they further indicated that higher-proficiency learners used effective combinations of social and meta-cognitive strategies. Among others, Goh (2002a) reported similar findings, in which higher-proficiency listening comprehension learners involved a skillful combination of cognitive and meta-cognitive strategies to constitute their own learning processes and achieve higher listening comprehension scores.

The effects of Auditory-CLT on listening comprehension. The second research question focused on the effectiveness of complementary authentic materials on listening comprehension. The Auditory-CLT instruction type was compared with the CLT group, Visual-CLT group, and TV-CLT group. The ANOVA results (F (3, 249) = 6.566, $p < .001$) showed a significantly lower performance on listening comprehension obtained by the Auditory-CLT group than the CLT and TV-CLT group after receiving the individual interventions for one semester (see Table 4-20 and Figure 4-6).

First of all, the results failed to confirm the effectiveness of using authentic and natural materials with the Auditory-CLT group in facilitating the development of listening comprehension as was found with the Blanco, 2002; Gallien, 1998; Mareschal, 2007; and Vandergrift, 2002, 2003b studies. Their studies reported the superiority of using authentic and natural materials when teaching L2 learners in the area of listening comprehension. Vandergrift (2002, 2003b) and Mareschal (2007) found that the exposure to authentic-type texts and natural speech rate is preferred by L2 language learners and can be beneficial for their listening development. The results shown in the current study were not comparable to previous listening comprehension studies.

However, the results gained from the current study that failed to confirm the effectiveness of authentic materials could be tentatively explained by the perspective of difficulties, such as insufficient English vocabulary, that the L2 low-proficiency listeners encountered (e.g., Chang & Feng, 2012; Culter, 2001; Goh, 2000; Graham, 2006; Liu, 2003). Chang and Feng (2012) argued that there was a strong correlation coefficient which exists between English vocabulary capacity and performance on listening and reading comprehension on standardized English language tests such as the TOEIC tests. They concluded that the more vocabulary capacity test-takers have acquired, the higher scores they could obtain on listening and reading comprehension from the TOEIC tests.

Also, Constantinescu (2016) indicated that English vocabulary capacity plays an important role in Second Language Acquisition (SLA) and academic achievement. Other research indicates that vocabulary plays an essential role in L2 reading proficiency (Schmitt, Schmitt, & Clapham, 2001) and is considered the most important aspect of foreign-language learning (Knight, 1994). Thus, L2 learners' vocabulary knowledge is a key predictor of L2 reading comprehension proficiency.

Other studies further investigated the difficulties that L2 learners have faced in English vocabulary acquisition. For example, Liu (2003) found that word segmentation is a major problem encountered by L2 listeners; since it is different from L2 readers; they do not have the privilege of regular spaces that signal where words begin and end. The sound streams heard by L2 listeners needs to be parsed by them into meaningful units, and word meanings are often hard to determine. Even if they know the word, L2 listeners may not recognize the word in a stream of speech such as questions on the TOEIC tests. In Cutler's (2001) study, L2 listeners tended to segment on the basis of their L1 language segmentation procedures, and this problem

is especially true for less-skilled listeners (Goh, 2000; Graham, 2006).

Furthermore, what makes L2 listening particularly difficult, according to Cutler (2001), is that the new language is not rhythmically similar to their L1. Hence, participants in the low-proficiency listening group (as discussed and defined in the previous section), the Auditory-CLT in the current study, results in lower listening comprehension scores than their counterparts in the high-proficiency listening groups, the CLT and TV-CLT (see Table 4-20) can be blamed for the weaker vocabulary capacity.

Secondly, when re-examining the data results, as summarized in Table 4-20, the TV-CLT group resulted in a significantly better performance in listening comprehension than their counterparts in the Aural-CLT group. These results support the perspective of learning style. All the participants were from Asian countries (Hong Kong, Macau, Mainland China, Taiwan, etc). Previous studies have shown there to be a preference for visual (including Video and TV programs) learning styles over auditory learning styles among Asian L2 learners (Ye & Wang, 2003). However, participants in the Visual-CLT group in the current study were categorized into the lower-proficiency group of listeners based on their performances on the pre-test.

The effects of Visual-CLT on listening comprehension. The third research question deals with the effects of the Visual-CLT instruction mode on listening comprehension. In particular, listening comprehension scores that participants earned in four different groups from two tests were compared. As shown in Table 4-20 and Figure 4-9, the ANOVA results did not show any significant effect on listening comprehension in these groups. Thus, the Visual-CLT instruction group performed the same as the CLT group, Auditory-CLT group, and TV-CLT group in listening comprehension after one semester of instruction.

Studies have reported the superiority of the combination of audio-visual materials on L2 learning and teaching (e.g., BavaHarji, Alavi, & Letchumanan, 2014; Hayati & Mohmedi, 2011; Richards & Burns, 2012). In their study, Hayati and Mohmedi (2011) claim that teachers have found more opportunities to use audio-visual materials at all levels of second language teaching and foreign-language teaching. Therefore, with the incorporation of multimedia technology in language teaching and learning, learners are exposed to different stimuli such as verbal, visual, auditory, and physical ones simultaneously (BavaHarji, Alavi, & Letchumanan, 2014).

Furthermore, Richards and Burns (2012) advocate that video, as a medium, enables learners to use visual information to enhance comprehension. It allows learners to observe the gestures, facial expressions and other aspects of body language that accompany speech. It also presents authentic language as well as cultural information about speakers of English. Moreover, video clips can be used to prepare L2 language learners for listening successfully (Wilberschied & Berman, 2004).

Seo (2002) compared L2 language learners who view and listen simultaneously with those who only listen, and found that L2 language learners in the former group seem to use more top-down processing strategies to compensate for inadequate linguistic knowledge than those in the latter group. The results from the current study did not find the superiority of visual materials over auditory ones. This could be explained by the different levels of listening proficiency participants had at the beginning of the study. After the administration of the pre-test, subjects in the Visual-CLT intervention were placed into the lower-proficiency listeners group.

However, the results confirm the differences of language strategy use between higher-proficiency listeners and their lower-proficiency counterparts (e.g., Chamot, 2005; Goh, 2002b; Vandergrift, 2003a). Their studies revealed that lower-proficiency

listeners constitute less listening processes than their higher-skilled counterparts on listening comprehension. Meanwhile, the results support the effectiveness of vocabulary capacity on listening comprehension (Chang & Feng, 2012). Lower-proficiency listeners encounter more difficulties in vocabulary acquisition than their higher-skilled counterparts.

Moreover, the results of the current study support the perspectives of similar efficacy on audio and video contexts on vocabulary acquisition. In a study, Lise and Gisele (1996) compared vocabulary acquisition in audio and video contexts. Subjects were English-speaking university students enrolled in a French L2 course. In order to determine whether the vocabulary gains of the two experimental groups (video and audio) were similar, an analysis of variance (ANOVA) with a repeated measures on vocabulary was performed. Also, a separate analysis was used for familiar words and unfamiliar words. Results indicated that there were no statistically-significant differences between scores for the two experimental groups on either familiar words or unfamiliar words. The learners obtained comparable scores on the vocabulary tests under both listening conditions, video and audio. In other words, based on their findings, the two experimental groups made progress between the pre-test, post-test 1 and post-test 2 and the results do not indicate any statistically-significant overall benefit for video over audio treatment.

The effects of TV-CLT on listening comprehension. The fourth research question meant to compare TV-CLT with the other three interventions in their effects on L2 listening comprehension. In the current study, the mixed-design ANOVA results indicated that students who were placed in the TV-CLT instruction group performed significantly higher on listening comprehension than the Auditory-CLT group after one semester of instruction (F (3, 249) = 6.566, $p < .001$). The results

confirm the effects of dual-channel theory on listening comprehension. This dual channel approach derives from the fact that many educators believe that more learning will occur if instruction is presented through two sensory channels as opposed to one. Several studies demonstrated that by using two channels of instruction, audiovisual, rather than one channel increased learner achievement (Barron, 2004).

In addition, Vandergrift (2007b) argues that the visual modality can activate L2 language learners' top-down processing in L2 learning since it provides contexts and non-linguistic inputs. Moreover, video clips can be used to prepare L2 language learners for listening successfully (Wilberschied & Berman, 2004). Also, Seo (2002) compared L2 language learners who view and listen simultaneously with those who only listen, and found that L2 language learners in the former group seem to use more top-down processing strategies to compensate for inadequate linguistic knowledge than those in the latter group.

Notwithstanding, studies have also claimed that there were no significant differences shown by auditory and video treatments (Lise & Gisele, 1996), the results of the current study obtained by these higher-proficiency listeners in TV-CLT group differ from the results gained by their lower-proficiency listeners in the Aural-CLT group, and these differences were statistically significant. The findings confirm the perspectives of difficulties lower-proficiency listeners face when using different listening processing strategies. For example, Liu (2003) noted that, when processing linguistic inputs, it prevents lower-proficiency learners from accessing contextual information which facilitates the comprehension process via the utilization of a cognitive strategy, such as inferencing, to compensate for unknown words. Lower vocabulary capacity led to a poor performance on listening comprehension (Chang & Feng, 2012).

On the other hand, higher-proficiency listeners reported that they used effective combinations of social and meta-cognitive strategies (Salahshour, Sharifi, & Salahshour, 2012) and involved a skillful combination of cognitive and meta-cognitive strategies to constitute their own learning processes (Goh, 2002a) which help L2 learners achieve higher listening comprehension than their less-skilled counterparts.

Effects of Instruction Types on Reading Comprehension

On the reading comprehension section of the pre-test, participants in the CLT group (m = 186, sd = 61.36) did better than their counterparts in TV-CLT group (m = 166, sd = 61.86), Auditory-CLT group (m = 151, sd = 43.88), and Visual-CLT group (m = 138, sd = 46.89) with an average score of 209 points (see Table 4-21 and Figure 4-15). Accordingly, participants who were placed in the CLT group and TV-CLT group were categorized into the higher-proficiency group of readers while their counterparts who were placed in the Aural-CLT and Visual-CLT interventions were grouped into the lower-proficiency reader group. The cutting point for differentiating participants into higher- and lower-proficiency readers was the average reading scores that all subjects obtained on the pre-test (m = 209, sd = 61.01).

The effects of CLT on reading comprehension. The fifth research question intended to investigate the efficacy of CLT compared with the other complementary interventions: auditory and visual interventions on reading comprehension scores. It was expected that there would be no significant difference among these groups. However, the mixed-design ANOVA results indicated that the CLT instruction type resulted in significantly better performance in reading comprehension than the Auditory-CLT group and Visual-CLT group after one semester of instruction (F (3, 249) = 11.561, $p < .001$) (see Table 4-21 and Figure

4-15).

The results confirmed the theory that higher-proficiency readers acquire more vocabulary, which plays an essential role in L2 reading proficiency, than for their lower-proficiency counterparts (e.g., Grabe, 1991; Nation & Meara, 2002); as well as the effectiveness of language strategy use by L2 high-proficiency readers in facilitating L2 reading comprehension (e.g., Carrell, 1991; Song, 1998). In the current study, participants assigned to the CLT group were regarded as the higher-proficiency readers while subjects in the Auditory-CLT and Visual-CLT were grouped into the lower-proficiency reader group according to their reading comprehension performance on the pre-test.

On the one hand, research indicates that L2 learner's vocabulary knowledge is a key predictor of L2 reading proficiency. Furthermore, previous research has found that higher-proficiency readers acquire more vocabulary knowledge and use a greater variety of reading strategies than their lower-proficiency reading counterparts. Among them, for example, Chang and Feng (2012) revealed a strong relationship between vocabulary capacity and reading comprehension performance. They found that the more vocabulary knowledge L2 learners have acquired, the higher the scores they obtained on reading comprehension.

On the other hand, research also suggests that effective use of reading strategies may also play a significant role in reading comprehension scores. For example, Sheorey and Mokhtari (2001) investigated the effectiveness of reading strategies used by 152 ESL students. Results showed that lower-proficiency readers used less variety of cognitive and meta-cognitive strategies than their higher-proficiency counterparts. Lau and Chan (2003) found a significant correlation between reading strategy usage and reading comprehension. Zhang and Seepo (2013) revealed that the more

meta-cognitive strategies L2 learners used, the higher the reading comprehension scores they achieved.

The effects of Auditory-CLT on reading comprehension. The sixth research question focused on the effectiveness of complementary authentic materials on reading comprehension. The Auditory-CLT instruction mode was compared to the CLT group, Visual-CLT group, and TV-CLT group. The ANOVA results (F (3, 249) = 11.561, $p < .001$) reported a significantly lower performance in reading comprehension obtained by the Auditory-CLT group than the CLT and TV-CLT group after receiving the different interventions for one semester (see Table 4-21 and Figure 4-18).

The ANOVA results supported the theory of lower-proficiency readers acquiring less vocabulary than their skilled-proficiency counterparts (e.g., Grabe, 1991; Nation & Meara, 2002); also the efficacy of language strategy that L2 readers used in facilitating L2 reading comprehension (e.g., Carrell, 1991; Song, 1998). In the current study, participants in the Auditory-CLT group were regarded as the lower-proficiency readers while participants in the CLT and TV-CLT were categorized into higher-proficiency readers based on their reading comprehension performance on the pre-test.

Research indicates that vocabulary plays an essential role in L2 reading proficiency (Schmitt, Schmitt, & Clapham, 2001) and is considered the most important factor for foreign-language learning (Knight, 1994). Thus, L2 learners' vocabulary knowledge is a key predictor of L2 reading comprehension proficiency. Researchers further found that lower-proficiency readers acquire less vocabulary knowledge and use less variety of reading strategies than their higher-proficiency reading counterparts. For example, Chanier and Selva (1998) argue that vocabulary

knowledge is the key to success in improving reading comprehension scores. Also, Groot (2000) stresses that a considerably large amount of vocabulary is required for functional L2 reading comprehension proficiency.

Other researchers suggest that reading strategy use plays an important role in developing reading comprehension. Among them, Lau and Chan (2003) found that the more reading strategies used by language learners, the better the gains in reading comprehension. Similarly, Sheorey and Mokhtari (2001) indicated that lower-proficiency readers use less variety of cognitive and meta-cognitive strategies than their higher-proficiency counterparts. Zhang and Seepo (2013) also revealed that the more meta-cognitive strategies L2 learners used, the higher the reading comprehension scores they achieved.

The effects of Visual-CLT on reading comprehension. The seventh research question deals with the effects of the Visual-CLT instruction mode on reading comprehension. In particular, the reading comprehension performance scores that participants in the four different groups achieved from the two tests were computed. As shown in Table 4-21 and Figure 4-21, a significant effect in reading comprehension was shown by the ANOVA results among these groups (F (3, 249) = 11.561, $p < .001$). Thus, the Visual-CLT intervention group performed significantly lower than the CLT group and the TV-CLT group in reading comprehension after one semester of instruction. The results did not support the efficacy of multimedia input on reading comprehension (e.g., Duquette & Painchaud, 1996; Whiting & Granoff, 2010) which was highly correlated with vocabulary knowledge.

In the past decades, numerous studies have examined the relationship between multimedia usage and second-language acquisition. For example, Duquette and Painchaud (1996) concluded that “learning vocabulary in context is facilitated when

the text contains contextual cues…and when…prior knowledge is activated" (p. 144) by reviewing previous research on the influence of visual media on L2 learning. Prior knowledge included both a relationship between L1 and L2 vocabulary and a familiarity with the subject matter. In their own study, they found that both additional video and audio materials were significant in complementing the learning of new vocabulary; however, video led to greater gains.

Furthermore, Whiting and Granoff (2010) investigated the effects of additional audio and video recordings on L2 learners' reading comprehension scores. Thirty seven ELLs were put into three groups: the control, additional audio input, and additional video input group. Each group read a short story then discussed it. Pre- and post-tests on reading comprehension were given. They concluded that additional video input which includes aural and visual components is more effective than additional audio input alone. Both additional audio and video input enhanced participants' emotions on engaging in English reading.

However, the findings in the current study support the theory that higher-proficiency readers tend to adopt more reading strategies than their lower-proficiency counterparts (e.g., Pressley & Afflerbach, 1995; Alexander & Jetton, 2000). Zare (2012) regards reading strategies as one of the cognitive features that are essential for successful reading comprehension. Baker and Boonkit (2004) define reading strategies as "techniques and methods readers use to make their reading successful" (p. 302). In another research study, Pressley and Afflerbach (1995) showed that successful reading comprehension depends on direct cognitive efforts, which refers to knowledge about cognitive processing. Also, during reading, the cognitive efforts are activated via successful strategy use by readers (Alexander & Jetton, 2000).

The effects of TV-CLT on reading comprehension. The last research question was meant to compare the TV-CLT intervention with the other three interventions in their effects on L2 reading comprehension. In the current study, the mixed-design ANOVA results indicated that students who were placed in the TV-CLT instruction group performed significantly higher on reading comprehension than the Auditory-CLT and Visual-CLT groups after one semester of instruction (F (3, 249) = 11.561, $p < .001$) (see Table 4-21 and Figure 4-24). The results confirmed the effectiveness of multimedia technology use in L2 language teaching and learning.

BavaHarji, Alavi, and Letchumanan (2014) indicated that, in the past decades, with the combination of overwhelming multimedia technology use in language teaching and learning, L2 learners are not exposed to auditory input only, but also to different stimuli such as verbal, visual, auditory, and physical ones simultaneously. Studies have shown evident advantages resulting from the incorporation of multimedia technology with L2 teaching and learning.

Based on the findings that multimedia technology enhances L2 learning, Hsia (1971) proposed a multiple-channel theory. The multiple-channel theory consists of at least two input information channels. Hsia argued that when L2 learners interact with any combination of the different available sensory channels, their comprehension increases accordingly. Also, Richards and Burns (2012) proposed that video/TV program is one of the most effective media that enables L2 learners to use visual information to enhance their comprehension. By doing so, it helps learners to observe the gestures, facial expressions and other aspects of body language that accompany speech. It also presents authentic language and cultural information about speakers of English for L2 learners.

Furthermore, Barron (2004) observes that studies that investigate the

effectiveness of multiple channel transmission have been ongoing for decades and continue in the present. However, these research studies typically focus on an auditory or visual channel and compare it with a combined audiovisual presentation. Furthermore, Baddeley (1998) incorporates the multiple-modality of working memory with dual coding theory (Paivio, 1991) and concluded that via a combination of verbal and nonverbal information, using both audio and visual modalities, can increase working memory of L2 learners to enhance their comprehension significantly.

However, the results of the Visual-CLT group in the current study failed to support the efficacy of multiple channel technology use by L2 learners in contrast to the findings of the TV-CLT group. This might be explained from the perspective of the discrepancy in reading comprehension proficiency among the participants. Participants in the TV-CLT group were categorized into the higher-proficiency readers group while subjects in Visual-CLT group were grouped into the lower-proficiency group of readers based on their performances on the pre-test. The pretest was administered by the individual college at the target university. Therefore, the Language Center at the target university was not responsible for the discrepancy of proficiency at the beginning of the Freshman English program.

Studies have shown that higher-proficiency readers, in addition to reading strategy use, report more language acquisition strategies used than their lower-proficiency counterparts. These language acquisition strategies, according to Oxford (1990), include guessing and skimming instead of direct reading. Based on Oxford's survey of Strategy Inventory for Language Learning (SILL), Griffiths (2003) found that more proficient L2 learners reported the agreement of language learning strategy use more often than their less-skilled partners.

Recommendations

Theoretical implications. This dissertation adds to the growing body of research in multimedia auditory and visual texts in second language acquisition. Previous studies have focused on the difference of multimedia visual and auditory materials on listening comprehension (BavaHarji, Alavi, & Letchumanan, 2014; Hayati & Mohmedi, 2011) or on the comparison of multimedia visual and auditory on reading comprehension (Richards & Burns, 2012; Whiting & Granoff, 2010). However, the current study, which included a daily English teaching TV program intervention, in addition to the similar sensory modality employed in the video intervention, has never been studied previously. The current study fills this gap in the literature.

This study provides much-needed information on the effect of a daily English teaching TV program on L2 listening and reading comprehension. By comparing TV-CLT to CLT, Auditory-CLT, and Visual-CLT, it shed light on the use of different dual channels for multimedia L2 learning and teaching. The current research has determined that daily English-teaching TV programs are superior to regular Auditory and Video inputs in facilitating L2 listening and reading comprehension. This contributes to the extension of the Cognitive Theory of Multimedia Learning to second language acquisition by modifying both the auditory and visual modality effect. In addition, the current study has established that in a multimedia environment, the higher-proficiency learners, yielded a better listening and reading performances than their lower-proficiency counterparts. This adds to the present literature of promoting daily English-teaching TV programs.

In terms of L2 listening comprehension, the TV-CLT instruction was found to be more facilitative of L2 listening comprehension, as reflected on the TOEIC tests. Also,

the reading comprehension of TV-CLT instruction was found to be significant on the reading comprehension section of the TOEIC tests. Although this dissertation has made important contributions to the research of multimedia usage in second language acquisition, some questions still remain unanswered such as the effects of different instruction types on overall performance on the TOEIC tests and the interactions between the different instruction modes and different sections (listening, reading, and overall performance) on the TOEIC tests.

Pedagogical implications. In addition to the contributions and implications on the field of Second Language Acquisition (SLA), especially in the area of multimedia-usage studies, this dissertation provides pedagogical implications. First of all, this dissertation offers some insights into Computer Assisted Language Learning (CALL) material designers in choosing the effective combination of modalities in facilitating L2 listening and reading comprehension. This study confirmed that the use of TV-CLT combinations facilitates L2 listening and reading in a more effective manner than Aural- and Visual-CLT. In designing multimedia materials, this finding could be taken into account when making decisions about teaching English with different complementary listening materials. This could also inform L2 teachers and administrators in making decisions about the most effective multimedia programs to enhance L2 learners' listening and reading comprehension in EFL contexts such as Taiwan.

Participants in the TV-CLT group outperformed their counterparts in Auditory-CLT in listening comprehension and both in Auditory- and Visual-CLT in reading comprehension. Different instructional modes stimulate different allocation of a subjects' attention depending on what is regarded as important as defined by the learning objectives. With respect to listening and reading comprehension proficiency,

daily English teaching TV programs should be encouraged if the final learning goal is vocabulary acquisition, listening comprehension, and reading comprehension. This implies that drawing attention to a specific learning objective when subjects are engaged in a task can have a positive impact on their L2 learning performance.

In terms of measuring L2 listening and reading comprehension, this study shows that the TOEIC tests might be a reliable and accurate testing means to gauge L2 learners' overall comprehension on both listening and reading comprehension. This informs L2 teachers in choosing the most appropriate tasks based on the purpose of testing, the nature of materials, and proficiency of the learners. In addition, it seems that TV-CLT results in better listening and reading comprehension because it provides students with comprehensible, auditory, and visual inputs simultaneously.

Limitations

There were several limitations to the current study which are important to discuss. Due to the nature of this study, all participants were selected from the same level, Level 2 in the current study. However, since the participants were from different colleges, their performance on the pre-test was significantly different. Future research should confine participants to those chosen from the same college. Or, if participants are to be selected from many different colleges, the researcher should try to ensure that scores are in the same range prior to conducting the interventions. In addition, instead of conducting comparative studies, the research should focus on a particular dual channel such as the Visual-TV program to examine its effects on listening and reading comprehension as well as overall performance.

In order to coordinate with the college calendar, it was necessary to limit the study to one semester of intervention. Perhaps in the future, it might be possible to support the intervention over a longer period of time. Furthermore, there were

different faculty members who participated in the research. It is not possible to ascertain if there was interference on the findings based on the instructor and the assigned intervention.

Participants assigned to the TV-CLT group were considered to be at the beginning stage of the TV program, *Let's Talk in English*. However, the teachers felt the content at the beginning level seemed insufficient to serve as the complementary material at their present level. Since the beginner level was designed for beginning L2 learners, it was clear that perhaps it might be more appropriate to transition to the more advanced intermediate level. After discussing the situation with the instructors, the researcher made the modification based on feedback from participants and the teachers that the TV program level presented should change from the basic level to the intermediate stage, *Studio Classroom*, to strengthen the research design and ultimately to really meet the Taiwanese undergraduates' needs.

Lastly, it is important to note that the final test was part of the official exam administered by ETS Taiwan. The researcher was able to attain permission to receive the post scores; however, the researcher was not part of the administration process.

Directions for Further Research

This study tracked the performance of multimedia use on listening and reading comprehension on the TOEIC tests. Although the Auditory-CLT and Visual-CLT were not found to be significant to the post-test measures, it's worthwhile for future research to divide participants into two different levels, higher-proficiency and lower-proficiency, then compare its effects with different instructional modes on the different sections, listening and reading comprehension on the TOEIC tests.

Future studies should be carried out to investigate the effects of different sensory channels, such as single and dual channels, on their performances on reading

comprehension on the TOEIC tests. Since this study did not find any significant difference between the Auditory-CLT and Visual-CLT on reading comprehension, it might be a better approach to exclusively examine their effects on reading comprehension scores.

Participants in this dissertation were from different EFL countries. Because different countries have different English language teaching/learning styles, future research could engage more linguistically homogeneous participants in order to alleviate these shortcomings. Furthermore, this study had different results in the area of reading comprehension from the different instructional modes. Other holistic comprehension measures such as summary or think-aloud protocols could be used as complementary methods to measure comprehension.

This study involved Level 2 EFL students as participants. More cross-level research should be carried out to examine the effects of multimedia auditory, visual, and TV programs on listening, reading, and overall performance on the TOEIC tests. As well, instead of using the listening and reading comprehension on the TOEIC tests as the instruments to examine participants' English language proficiency, the speaking and writing sections could be employed to examine participants' overall English language proficiency in the future.

Conclusion

Previous studies have examined the effects of multimedia auditory and visual inputs on listening and reading comprehension. These studies have supported the effectiveness of multimedia auditory and visual stimuli in facilitating second language acquisition. However, no study in second language acquisition has examined the daily English TV programs in combination with CLT as a dual multimedia instruction type. This study focused on this issue by comparing CLT, Auditory-CLT, Visual-CLT, and

TV-CLT interventions on their effects on L2 listening and reading comprehension.

The results of this dissertation demonstrate that TV-CLT is not only more effective than Auditory-CLT on listening comprehension, but also more significant than Auditory-CLT and Visual-CLT on reading comprehension on the TOEIC tests. Furthermore, higher-proficiency listeners in the TV-CLT group outperformed their lower-proficiency counterparts from the Auditory-CLT group in listening comprehension. In addition, higher-proficiency readers from the TV-CLT group did better than their lower-proficiency counterparts in the Auditory-CLT and Visual-CLT groups in reading comprehension on the TOEIC tests.

Finally, based on the findings in this study, the author would like to suggest to the MOE of Taiwan that elementary and high schools in Taiwan should move away from GTM and move more toward CLT with some supplements that are technology enhanced. As shown with the positive findings from this Dissertation research, the CLT method when paired with an intervention such as the TV program can impact reading and listening comprehension. To teach Taiwanese students contextual vocabulary, instead of using a non-contextual method (GTM) will increase their listening skills since it will impact the oral skills needed to be successful globally. Taiwan is a small island without any natural resources and the economic development has long relied on international business and trade. English language proficiency plays an essential role for keeping Taiwan globally competitive.

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Appendix A
Barry University
Recruitment Letter / Informed Consent Form

Your participation in a research project is requested. The title of the study is: *Complementary Aural and Visual English Language Instruction in Taiwanese Higher Education*. The quantitative research is being conducted by Hsu-Chi Chang, a doctoral student in the Curriculum and Instruction program at Barry University within the Adrian Dominican School of Education, and is seeking information that will be useful in the field of curriculum and instruction and English language teaching in higher education settings in Taiwan. The aim of the research is to investigate whether complementary authentic aural, visual, and TV-program texts have any effect on English standardized test performance for Taiwanese undergraduate students. In accordance with this aim, the following procedures will be used: (1) As typically required by the MOE in Taiwan, students enrolled in an English course at a private university in central Taiwan will take an MOE designed TOEIC mock pre-test on the first day of class; (2) Students will be enrolled in either the control group receiving the traditional CLT English program or in addition, they will receive one of the three interventions to complement CLT: Aural, Video or TV-Program listening comprehension for the duration of the 18 week course and (3) The Students will take the MOE required TOEIC post-test which takes approximately 120 minutes. The researcher anticipates the number of participants to be approximately 280 undergraduate students enrolled at a private institution of higher education in central Taiwan.

If you decide to participate in this research, you can expect to spend approximately 15 minutes per week on the listening comprehension intervention if you are in one of the experimental groups.

There are no known risks to you. Your consent to be a research participant is strictly voluntary and should you decline to participate or should you choose to drop out at any time during the study, there will be no adverse effects. Any and all data associated with your past participation will be immediately destroyed. Although there are no direct benefits to you, your participation in this study may contribute to the scholarship in the area of curriculum and instruction for ELLs and English language teaching in Taiwan.

As a research participant, information you provide will be held in confidence to the extent permitted by law. Data files will be destroyed at the completion of the study, and all data associated with the study will be destroyed within five years following the completion of the study

If you have any questions or concerns regarding the study or your participation in the study, you may contact me, Hsu-Chi Chang, at 0932-647772 or by e-mail at mikechang66@gmail.com. You may also contact my Dissertation Chair, Dr. Ruth Ban, at (305) 899-3710 or the Institutional Review Board point of contact, Barbara Cook, at (305) 899-3020 or by e-mail at bcook@barry.edu. If you are satisfied with the information provided and are willing to participate in this research, please signify your consent by signing this consent form.

Voluntary Consent

I acknowledge that I have been informed of the nature and purposes of this study by Hsu-Chi Chang and that I have read and understand the information presented above, and that I have received a copy of this form for my records. I give my voluntary consent to participate in this experiment.

_____ _____

Signature of Participant *Date*

_____ _____

Researcher *Date*

Appendix B
Barry University
Recruitment Letter / Informed Consent Form

研究同意書

本人張旭琪，係外語中心教師暨美國 Barry University 英語教學博士候選人，目前正在學校進行「英語的聽覺與視覺內容對台灣大學生在多益測驗上的幫助」之研究，本研究目的在於了解台灣大學生，在大一英文課程當中，施以聽覺或者視覺輔助的班級，對於多益考試成績方面，是否能有所幫助，以期在大一英文的教學過程當中，找出可以幫助本校學生提升多益考試成績的教學方式。

本研究所蒐集之資料，僅用於學術研究分析與報告之用，所有數據僅用於整體班級成績的分析，不會做個人的資料分析，因此絕對不會影響到您上大一英文課程時的任何權益。

若在研究期間，您有任何疑義的話，歡迎連絡外語中心張旭琪老師: mikechang66@gmial.com 或者: 0932647772。

同意書

本人已閱讀並充分了解上述之研究說明，並且願意接受「英語的聽覺與視覺內容對台灣大學生在多益測驗上的幫助」之研究。

_____ 2015 /____ /____

研究參與者簽名 日期

_____ 2015 /____ /____

研究者簽名 日期

Appendix C – syllabus of the CLT group

Week / Unit		Conversation	Vocabulary	Grammar	Reading & speaking	Your story	Learning outcomes
1	Pre-test	Online TOEIC test					
2 & 3	On the job	Asking about people's jobs Everyday expressions: *Making appointments*	Jobs: *a dentist, a plumber*, etc. Language notes: Word building	Present simple	Reading and writing: *Woman puzzled by boyfriend's behavior*	Talk about names	Ask what people do. Name and describe different jobs. Make and change an appointment.
4 & 5	My daily life	Reading and writing: *A good life*	Ask about someone's day	Past simple – statements Adverb clauses	Reading and writing: *A good life* Language note: *because* and *so*	Ask about someone's day	Talk about everyday activities Talk about events in the past Understand and retell a story
6 & 7	Getting around	Asking about what people are doing Everyday expressions: *Offering and asking for help*	At the bus station: *round trip, discount fare*, etc. Pronunciation: word stress	Present continuous and present simple	Reading and writing: *"Commute another way" day* Language note: *want, like, need*	Talk about traveling to school or work	Talk and ask about vacations Use the present continuous and present simple tenses/Offer and ask for help
8	Review	Review for the midterm					
9	Midterm	Midterm					
10	Review	Review of the midterm					
11 & 12	What a good day	Talking about something that happened *Giving directions*	Directions and locations: *through the park, over the bridge*, etc. Pronunciation: of	Past continuous	Reading and writing: *The Gardener*	Ask about a strange fear	Understand directions and locations Talk about activities in progress in the past Understand and write a short story
13 & 14	Seeing the world	Talking about plans Everyday expressions: *Expressing doubt*	The world: *North America, The Amazon*, etc. Articles with geographic names	*going to*	Reading and writing: *The Global Yacht Race* Language note: Large numbers	Talk about travelling to a different country	Talk about plans and trips Name different parts of the world Use *going to* to talk about future intentions
15 & 16	What's she like?	Explaining who things are for Everyday expressions: *Greeting a visitor*	Describing people: *short, attractive*, etc. Language notes: Descriptions	Adjectives and adverbs	Reading and speaking: *What kind of person are you?* Expressing likes and dislikes	Find someone who looks like you	Describe a person's appearance Talk about personalities, likes, and dislikes Greet a visitor
17	Review	Review for the final					
18	Post-test	The official TOEIC test administered by ETS Taiwan					

Appendix D – syllabus of the Aural-CLT group

Week / Unit		Conversation	Vocabulary	Grammar	Reading & speaking	Your story	Audio listening
1	Pre-test	Online TOEIC test					
2 & 3	On the job	Asking about people's jobs Everyday expressions: *Making appointments*	Jobs: *a dentist, a plumber*, etc. Language notes: Word building	Present simple	Reading and writing: *Woman puzzled by boyfriend's behavior*	Talk about names	Documentary: *Time Square* BBC Motion Gallery: *The macheros of Chile*
4 & 5	My daily life	Reading and writing: *A good life*	Ask about someone's day	Past simple – statements Adverb clauses	Reading and writing: *A good life* Language note: *because* and *so*	Ask about someone's day	BBC Motion Gallery: *A day in Ha Long Bay* Documentary: *Phyllis and Milton's story*
6 & 7	Getting around	Asking about what people are doing Everyday expressions: *Offering and asking for help*	At the bus station: *round trip, discount fare*, etc. Pronunciation: word stress	Present continuous and present simple	Reading and writing: *"Commute another way" day* Language note: *want, like, need*	Talk about traveling to school or work	BBC Motion Gallery: *Commuting in Tokyo* BBC Motion Gallery: *I was there!*
8	Review	Review for the midterm					*Around the world – the Canadian Rockies*
9	Midterm	Midterm					
10	Review	Review of the midterm					Documentary: *Inside a hair salon*
11 & 12	What a good day	Talking about something that happened *Giving directions*	Directions and locations: *through the park, over the bridge*, etc. Pronunciation: of	Past continuous	Reading and writing: *The Gardener*	Ask about a strange fear	Documentary: *My neighborhood* BBC Motion Gallery: *everyday appliances*
13 & 14	Seeing the world	Talking about plans Everyday expressions: *Expressing doubt*	The world: *North America, The Amazon*, etc. Articles with geographic names	*going to*	Reading and writing: *The Global Yacht Race* Language note: Large numbers	Talk about travelling to a different country	Documentary: *Working in TV* BBC Motion Gallery: *The amazing Asimo*
15 & 16	What's she like?	Explaining who things are for Everyday expressions: *Greeting a visitor*	Describing people: *short, attractive*, etc. Language notes: Descriptions	Adjectives and adverbs	Reading and speaking: *What kind of person are you?* Expressing likes and dislikes	Find someone who looks like you	Documentary: *The life of a chef* BBC Motion Gallery: *Tulum, Mexico*
17	Review	Review for the final					Documentary: *Working from home*
18	Post-test	The official TOEIC test administered by ETS Taiwan					

Appendix E – syllabus of the Visual-CLT group

Week / Unit		Conversation	Vocabulary	Grammar	Reading & speaking	Your story	Video watching
1	Pre-test	Online TOEIC test					
2 & 3	On the job	Asking about people's jobs Everyday expressions: *Making appointments*	Jobs: *a dentist, a plumber*, etc. Language notes: Word building	Present simple	Reading and writing: *Woman puzzled by boyfriend's behavior*	Talk about names	Documentary: *Time Square* BBC Motion Gallery: *The macheros of Chile*
4 & 5	My daily life	Reading and writing: *A good life*	Ask about someone's day	Past simple – statements Adverb clauses	Reading and writing: *A good life* Language note: *because* and *so*	Ask about someone's day	BBC Motion Gallery: *A day in Ha Long Bay* Documentary: *Phyllis and Milton's story*
6 & 7	Getting around	Asking about what people are doing Everyday expressions: *Offering and asking for help*	At the bus station: *round trip, discount fare*, etc. Pronunciation: word stress	Present continuous and present simple	Reading and writing: *"Commute another way" day* Language note: *want, like, need*	Talk about traveling to school or work	BBC Motion Gallery: *Commuting in Tokyo* BBC Motion Gallery: *I was there!*
8	Review	Review for the midterm					*Around the world – the Canadian Rockies*
9	Midterm	Midterm					
10	Review	Review of the midterm					Documentary: *Inside a hair salon*
11 & 12	What a good day	Talking about something that happened *Giving directions*	Directions and locations: *through the park, over the bridge*, etc. Pronunciation: of	Past continuous	Reading and writing: *The Gardener*	Ask about a strange fear	Documentary: *My neighborhood* BBC Motion Gallery: *everyday appliances*
13 & 14	Seeing the world	Talking about plans Everyday expressions: *Expressing doubt*	The world: *North America, The Amazon*, etc. Articles with geographic names	*going to*	Reading and writing: *The Global Yacht Race* Language note: Large numbers	Talk about travelling to a different country	Documentary: *Working in TV* BBC Motion Gallery: *The amazing Asimo*
15 & 16	What's she like?	Explaining who things are for Everyday expressions: *Greeting a visitor*	Describing people: *short, attractive*, etc. Language notes: Descriptions	Adjectives and adverbs	Reading and speaking: *What kind of person are you?* Expressing likes and dislikes	Find someone who looks like you	Documentary: *The life of a chef* BBC Motion Gallery: *Tulum, Mexico*
17	Review	Review for the final					Documentary: *Working from home*
18	Post-test	The official TOEIC test administered by ETS Taiwan					

Appendix F – syllabus of the TV-CLT group

Week / Unit		Conversation	Vocabulary	Grammar	Reading & speaking	Your story	TV program watching
1	Pre-test	Online TOEIC test					
2 & 3	On the job	Asking about people's jobs Everyday expressions: *Making appointments*	Jobs: *a dentist, a plumber*, etc. Language notes: Word building	Present simple	Reading and writing: *Woman puzzled by boyfriend's behavior*	Talk about names	Episode 1 Episode 2
4 & 5	My daily life	Reading and writing: *A good life*	Ask about someone's day	Past simple – statements Adverb clauses	Reading and writing: *A good life* Language note: *because* and *so*	Ask about someone's day	Episode 3 Episode 4
6 & 7	Getting around	Asking about what people are doing Everyday expressions: *Offering and asking for help*	At the bus station: *round trip, discount fare*, etc. Pronunciation: word stress	Present continuous and present simple	Reading and writing: *"Commute another way" day* Language note: *want, like, need*	Talk about traveling to school or work	Episode 5 Episode 6
8	Review	Review for the midterm					Episode 7
9	Midterm	Midterm					
10	Review	Review of the midterm					Episode 8
11 & 12	What a good day	Talking about something that happened *Giving directions*	Directions and locations: *through the park, over the bridge*, etc. Pronunciation: of	Past continuous	Reading and writing: *The Gardener*	Ask about a strange fear	Episode 9 Episode 10
13 & 14	Seeing the world	Talking about plans Everyday expressions: *Expressing doubt*	The world: *North America, The Amazon*, etc. Articles with geographic names	*going to*	Reading and writing: *The Global Yacht Race* Language note: Large numbers	Talk about travelling to a different country	Episode 11 Episode 12
15 & 16	What's she like?	Explaining who things are for Everyday expressions: *Greeting a visitor*	Describing people: *short, attractive*, etc. Language notes: Descriptions	Adjectives and adverbs	Reading and speaking: *What kind of person are you?* Expressing likes and dislikes	Find someone who looks like you	Episode 13 Episode 14
17	Review	Review for the final					Episode 15
18	Post-test	The official TOEIC test administered by ETS Taiwan					

Appendix G
TOEIC Pre-test

LISTENING TEST
Part 1
Directions: For each question in this part, you will hear four statements about a picture in your test book. When you hear the statements, you must select the one statement that best describes what you see in the picture. Then find the number of the question on your answer sheet and mark your answer. The statements will not be printed in your test book and will be spoken only one time.

1.

2.

3.

Appendix H
Demographic questionnaire

「英語的聽覺與視覺內容對台灣大學生在多益測驗上的幫助」問卷

親愛的同學:

本問卷旨在了解您的英語學習過程以及相關的資訊。本問卷採匿名方式進行，並且，您的寶貴資料僅供本研究之用，因此，您所提供的資料絕對不會對外公開，請您放心並耐心填答，感謝您的協助與配合。

逢甲大學 外語教學中心　張旭琪老師

學習背景:

_____ 1、 性別:　(1)男　(2)女

_____ 2、 國籍: (1) 本國生

(2) 僑生 (國別: _____)

(3) 陸生 (省份: _____)

(4) 港澳生 (地區: _____)

(5) 外籍生 (英語系國家: _____)

(6) 外籍生 (非英語系國家: _____)

_____ 3、 畢業高中職學制: (1) 公立學校　　(2) 私立學校

_____ 4、 學習英文時間?　(1) 九年

(2) 十年

(3) 十一年

(4) 十二年

(5) 十三年

(6) 十四年

(7) 十五年

(8) 十六年

(9) 十七年

(10) 十八年

_____ 5、 是否在學校以外的地方學習過英語文? (1) 是 (2) 否

_____ 6、 是否曾經待過英語系國家? (1) 是 ____ 年 (2) 否

_____ 7、 是否曾經玩過英文版線上遊戲或電玩? (1) 是 (2) 否

_____ 8、 是否聽過英文歌曲? (1) 是 (2) 否

Appendix I
Teacher orientation for the Network series

會議流程
Orientation agenda
註冊教師帳號

散會

The end of the orientation

Appendix J

2015 Academic calendar

逢甲大學104 學年度第1 學期行事曆

年　　月	星　　期							週次
	日	一	二	三	四	五	六	
104 年 8 月							1	
	2	3	4	5	6	7	8	
	9	10	11	12	13	14	15	
	16	17	18	19	20	21	22	
	23	24	25	26	27	28	29	
	30	31						
104 年 9 月			1	2	3	4	5	
	6	7	8	9	10	**11**	12	
	13	**14**	15	16	17	18	19	1
	20	21	22	23	24	25	26	2
	27	**28**	29	30				3
104 年 10 月					1	2	3	3
	4	5	6	7	8	**9**	**10**	4
	11	12	13	14	15	16	17	5
	18	19	20	21	22	23	24	6
	25	26	27	28	29	30	31	7
104 年 11 月	1	**2**	**3**	**4**	**5**	**6**	7	8
	8	9	10	11	12	13	14	9
	15	**16**	17	18	19	20	21	10
	22	23	24	25	26	27	28	11
	29	30						12
104 年 12 月			1	2	3	4	5	12
	6	7	8	9	10	11	12	13
	13	14	15	16	17	18	19	14
	20	21	22	23	24	25	26	15
	27	28	29	30	31			16
105 年 01 月						**1**	2	16
	3	4	5	6	**7**	**8**	9	17
	10	**11**	**12**	**13**	**14**	15	16	18
	17	18	19	20	21	22	23	19
	24	25	26	27	28	29	30	
	31							

註：颱風天是否上班上課依台中市政府公告辦理。

* **105** 年**2** 月 **8** 日**(**一**)**農曆春節初一。**106** 年**1** 月**28** 日**(**六**)**農曆春節初一。

Appendix K

Permission letter from of the target school

13 July 2015

Institutional Review Board for the Protection of Human Subjects
Barry University
11300 NE 2nd Avenue
Miami Shores, FL 33161

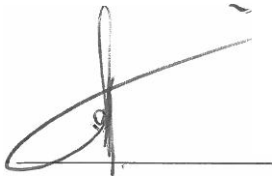
Dear members of committee:

On behalf of Feng Cha University, I am writing this letter to formally indicate our awareness of the research proposed by Mr. Hsu-Chi Chang, an ABD at Barry University. We are aware that Mr. Chang intends to conduct his research by administering complementary aural and visual English language instruction to our students.

I am responsible for English language teaching and am an acting chair of the Foreign Language Center. Since there is Institutional Review Board in this school, I give Mr. Chang permission to conduct his research in our school.

If you have any questions or concerns, please feel free to contact my office at (886) 4-2451-7250 # 5881, or fcukenneth@gmail.com.

Sincerely,



Kenneth Chua
Acting chair, Foreign Language Center
Feng Cha University, Taichung, Taiwan