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語速對聽力理解的影響

**The Effects of Speech Rate on Listening
Comprehension**

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CHINESE ABSTRACT

本研究旨在檢視慢速語速和逐漸加快語速對於台灣大學生聽力理解的影響。此研究實行兩個階段的實驗，分別為第一階段的慢速語速實驗和第二階段的逐漸加快語速實驗。

在第一階段的實驗中，研究對象是 60 名國立師範大學的學生。所有研究對象依照其前測的成績分成 A 組、B 組和 C 組接受聽力測驗；此三組的聽力測驗以不同的語速播放，語速分別為：A 組的「過慢語速」（每分鐘 130 字以下）、B 組的「慢語速」（每分鐘 130 到 150 字）、和 C 組的「正常語速」（每分鐘 150 到 170 字）。而參加第二階段的實驗是 23 名國立師範大學的學生，所有研究對象分成 D 組和 E 組兩個訓練組別。此兩組聆聽一樣的聽力文本，但文本由不同的語速模式播放。D 組聆聽「逐漸加快」語速，而 E 組聆聽「正常語速」。兩組的訓練皆為期四個禮拜，受試者一天聽一則新聞，一個禮拜聽五天。每一組一個禮拜會做一次集體的聽力練習。此練習中，受訓的同學需要在聽完一則新聞之後做自由回想。訓練結束後，每一位受訓者接受同樣正常語速的聽力測驗。整個實驗在半結構式訪談後結束。

研究結果摘要如下：

- 一. 和正常語速相較，每分鐘 130 字以下的過慢語速對英語聽力理解的幫助顯著。
- 二. 以內容主旨的聽力表現而言，逐漸加快語速對學生的幫助比正常語速的幫助顯著；但對於細節內容的聽力表現而言，逐漸加快語速和正常語速並無顯差異。
- 三. 在接受逐漸加快語速訓練的四個受試者中，只有一位有察覺語速的變化，此顯示語言學習者對於語速變化的感知能力是不足的。

根據研究的結果，英語老師可以將語速放慢至過慢語速以有效增進學生對真實新聞的聽力理解。而在增進學生聽力能力的訓練上，老師可以藉由逐漸加快的語速來幫助學生理解主旨的聽力能力。最後，由於結果顯示語言學習者對於語速變化的感知能力不足，語速實驗的研究者藉用語言學習者的感官來判別語速的快慢證明是不恰當的研究方法。

ENGLISH ABSTRACT

This study aims to investigate the effects of the slowed-down speech rate and the gradually-increasing speech rate on Taiwanese college students' listening comprehension. Experiments were conducted in two phases; the effects of the slowed-down speech rate were examined in the first phase of the experiments, whereas the effects of the gradually-increasing speech rate were explored in the second phase of the experiments.

Sixty college students in National Taiwan Normal University took part in the first phase of the experiments. These participants, based on their pretest scores, were divided into three groups (Group A, B, and C) and took the same listening comprehension test delivered at different speech rates. Group A listened to the passages with a slower-than-normal speech rate (below 130 wpm), Group B listened to the passages with a moderately slow speech rate (130 to 150 wpm), and Group C listened to the passages with an average speech rate (150 to 170 wpm). Concerning the second phase of the experiments, 23 college students in National Taiwan Normal University were recruited. The participants were divided into two training groups, Group D and Group E, and listened to the same passages delivered at different speech rate conditions. Group D listened to the passage with a gradually-increasing speech rate while Group E listened to the passages with a consistent average speech rate. During the four week training, participants listened to one entry of news uploaded on a Web log five days a week and met once a week to conduct in-class listening on a group basis. During the in-class listening, participants were required to do free recall after listening to one news entry. A listening comprehension test delivered at the

average speech rate was administered at the end of the training. A semi-structured interview concluded the entire training program. Major findings of the study are summarized as below.

First, a slower-than-normal speech rate (below 130 WPM) resulted in the greatest enhancement of listening comprehension compared to the average speech rate. Second, the gradually-increasing speech rate, compared to steady average speech rate, has a stronger facilitative effect on improving participants' listening ability of listening for the gist. Regarding listening for detail, no significant difference was revealed between the gradually-increasing speech rate and the average speech rate. Third, three of the four participants under the gradually-increasing speech rate were not aware of the change of the speech rate, suggesting that language learners' perceptions of speech rate are not reliable.

Results of this study showed that English teachers could slow down the speech rate of authentic news to slower-than-normal speech rate to effectively enhance listeners' listening comprehension levels. With regard to the training intended to improve students' listening performances, the gradually-increasing speech rate could be adopted to improve listeners' ability to listen for the gist. Finally, researchers of rate studies were informed that it is a problematic, illegitimate approach to categorize the speech rate based on listeners' perceptions.

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CHAPTER ONE INTRODUCTION

1.1. Background and Motivation

Listening comprehension has become a central issue in the field of second and foreign language learning; however, it is still the least understood skill compared to other language skills (Feyten, 1991; Nunan, 1999; Vandergrift, 2004, 2007). A growing number of researchers have been exploring the nature of listening by examining the effect of specific factors on listening comprehension. In terms of unidirectional listening, the factors consist of listener factors and text factors. For the listener factors, grammatical knowledge (Mecartty, 2000), vocabulary knowledge (Kelly, 1991; Mecartty, 2000; Lin, 2005), background knowledge (Chang & Read, 2006; Chiang & Dunkel, 1992; Dunkel, 1986; Hu, 2000; Jensen & Hansen, 1995; Lai, 2004; Long, 1990; Markham & Latham, 1987; Schmidt, 1994; Yang, 2002) and anxiety level (Vogely, 1998; Cheng, 2005; Lin, 2005; Elkhafaifi, 2005) have been studied. As for the text factors, syntactical complexity (Blau, 1988; Cervantes & Gainer, 1992; Teng, 2001b), repetition (Chang, 1999; Chang & Read, 2007; Chaudron, 1983; Chiang & Dunkel, 1992; Cervantes & Gainer, 1992; Jensen & Vinther, 2003; Parker & Chaudron, 1987), pauses (Blau, 1990) have been given a good deal of attention. While studies on these factors have reached a rather satisfactory conclusion since there were consistent results across studies, the speech rate factor, one of the temporal variables, has yielded contradictory outcomes. In other words, the effect of speech rate on listening comprehension has not yet arrived at a satisfactory conclusion, thus demanding a closer examination.

It is commonly assumed that the slowed-down speech rate would facilitate

listening comprehension; nevertheless, a comparison of the empirical research has shown that it is a highly-debated and unsettled issue. Whereas some researchers advocated that the slowed-down speech rate would facilitate listening comprehension (Conrad, 1989; Griffiths, 1990b; 1991a; Zhao, 1997; Teng, 2002), other researchers stated that the speech rate would only become a facilitator in listening comprehension when it interacted with other variables (Blau, 1990; King & Behnke, 1989; Anderson & Koehler, 1988; Rader, 1991). This diverted outcome was attributed from two critical, and yet overlooked elements in the previous rate studies.

The first overlooked element was that the speech rate categorization, used as a standard to categorize speech rate as fast or slow, varied from study to study, impeding the comparison between rate studies. Although some rate studies (Dunkel, 1988; Teng, 2002) did adopt the same speech rate categorization mapped out by Pimsleur's (1977), it was a questionable adoption (Allison and Tauroza, 1990) because Pimsleur's speech rate categorization, measured on the basis of both English and French speakers, was applied in the listening materials that were delivered by English speakers. Building on the fact that speech rate would vary from language to language, the adoption was apparently inadequate. In addition, the standard speech rate categorization might vary with text types. However, as found in Dunkel's study (1988), the speech rate of lectures was categorized based on the speech rate categorization measured by Pimsleur et al. (1977) using broadcast news. This application was therefore illegitimate.

The second neglected element was the instrument used to alter the speech rate in the previous rate studies. A "live-voice" was often used to change the speech rate of the same listening text, but this method cannot guarantee a high precision of the adjusted speech rate, which is a prerequisite for obtaining a valid outcome that would withstand the test of time.

A speech rate categorization used as a standard to categorize the speech rate and a rate adjustment instrument employed as a tool to alter the speech rate were carefully treated in this study, which allows closer examination and fuller exploration of the effect of the speech rate on listening comprehension.

Among all modes of speech rates, the effect of slowed-down speech rate on increasing language learners' listening comprehension is believed by many. However, when it came to the use of it in authentic material, the viewpoints differed. According to Vandergrift (2007), the speech rate in authentic material should not be modified for the purpose of keeping the authentic quality. This study, though, proposed that the increased listening comprehension resulting from slowing down the speech rate is more important than simply keeping the authentic quality. It is definite that the authentic quality should not be dismissed; nevertheless, it might be more essential to increase language learners' listening comprehension of authentic materials. The significance of authentic material that equips learners' real-life language proficiency (Richards, 2006; Vandergrift, 2007) has received strong supports from teachers and researchers. Additionally, language learners often comments on the authentic material as the most difficult material. By slowing down the speech rate of authentic material, language learners' might find the authentic material less intimidating.

The major challenge among all kinds of authentic materials faced by the language learners was the news genre (Kim, 2002; Robin, 2007; Shohamy&Inbar 1991; Weissenrieder, 1987) due to the fact that news is a specialized register with heavy cultural reference, rich vocabulary, and, the most evident of all, the rather fast speech flow. Based on the studies done by Kim (2002), Su (2007), and Vogely (1998), the delivery speed is one of the main factors that raised the students' anxiety, thus debilitating listening comprehension, which is especially true for low proficiency learners as demonstrated by Buck's (2001) analysis on the listening parts in TOEIC

(Test of English as an International Communication) that the ability to process faster input represents higher proficiency. This suggests that the authentic news with slowed-down speech rate could be easier to follow, especially for language learners with lower proficiency levels.

In summary, the authentic material is a great challenge, and yet an important input for language learning. The enhanced listening comprehension attributed from slowing down the speech rate of authentic material is thus probably more fundamental than simply keeping the authentic quality, which is even more true to the low proficiency learners, who might fail to keep up with the speech rate of the authentic material.

The sped-up speech, compared to the slowed-down speech rate, has not received due attention because of the prevailing focus on the comprehensible input proposed by Krashen (1982) in the field of language teaching and learning. However, in order to improve the language learners' listening comprehension ability of authentic texts delivered at the average speech rate, the idea of sped-up speech transformed to the gradually-increasing speech rate as a training technique is not a novel idea. Friedman and Johnson (1971), and Huberman and Medish (1974) already reported the use of the gradually-increasing speech rate in the rate-controlled training intended to improve the trainees' listening comprehension performance of broadcast news at the average speech rate. Nevertheless, of these two studies that utilized this special rate-controlled technique to improve language learners' listening comprehension ability, both yielded unsatisfactory results.

In Friedman and Johnson's (1971) study, they asserted that their measurements of listening comprehension in the study were too broad to get possible differences in listening comprehension between the group with rate-controlled training and the group without. As for the study done by Huberman and Medish (1974), the results

could not validate the individual effect of slowed-down speech rate on listening comprehension (Griffiths, 1990a). Apart from the unsatisfactory outcome, these two studies date back to three decades ago. An update is necessarily needed. Moreover, even though the conclusion made in these studies was based on experiment results, the experiments were completely descriptive in nature, as shown by the absence of the speech rate categorization for slow and average speech rate. Friedman and Johnson (1971) themselves stated in the beginning of their paper: “It is my intention to inform you this and to suggest some possible uses [...] in the hope that some will indeed prove [the rate-controlled technique] useful to second language learning” (p.157). In light of this gap in research, this study attempts to gain a better understanding of the effect of the gradually-increasing speech rate on listening comprehension.

1.2. The Purpose of the Study

This study aims to explore the effect of the slowed-down speech rate and the gradually-increasing speech rate on listening comprehension by controlling the variables that were not carefully treated in the previous rate studies. These two modes of speech rate were examined respectively by two phases. In the first phase, this study attempts to establish if the slowed-down speech rate, compared to the average speech rate, is a technique that is capable of increasing listening comprehension. The “slowed-down” speech rate was further divided into “moderately slow” and “slower-than-normal” speech rate to examine the subtle differences within the slowed-down speech rate itself. After discerning which slowed-down speech rate is more conducive to listening comprehension enhancement, this study progressed to the second phase of the experiments.

In the second phase, the slowed-down speech rate leading to the higher level of listening comprehension found in the first phase of the experiments was gradually

increased to the average speech rate in a rate-controlled training, which was compared to the training without adjusting the speech rate of the listening input. This second phase is constructed to determine whether a rate-controlled training in which the speech rate is gradually increased is an effective approach for improving listening comprehension performance.

The results in this study would shed light on the effect of the speech rate on listening comprehension in an EFL context, thus providing a more in-depth understanding about speech rate, which has been recognized as a main variable in listening comprehension.

1.3. Research Question and Hypotheses

In keeping with the goal to tap the effect of the slowed-down speech rate and the gradually-increasing speech rate on listening comprehension, two research questions and four hypotheses were formulated.

RQ1: Is there a difference in listening comprehension performance when the text is delivered at the average speech rate (150-170 wpm), the moderately slow speech rate, (130-150 wpm) and the slower-than-normal speech rate (below 130 wpm) respectively?

Hypothesis 1: The moderately slow speech rate (130-150 wpm) leads to better listening comprehension performance compared to slower than normal speech rate (below 130 wpm).

Hypothesis 2: The moderately slow speech rate (130-150 wpm) leads to better listening comprehension performance compared to the average speech rate (150-170

wpm).

Hypothesis 3: There is no difference in listening comprehension performance when the speech rate is the slower-than-normal speech rate (below 130 wpm) and the average speech rate (150-170 wpm).

RQ2: Which rate-controlled training condition—the gradually-increasing speech rate from the moderately slow to the average speech rate (130-170 wpm) or steady average speech rate (150-170 wpm)—has a stronger facilitative effect on listening comprehension?

Hypothesis 4: The training with the gradually-increasing speech rate from the moderately slow to the average speech rate has a stronger facilitative effect on listening comprehension than the training with steady average speech rate.

1.4. The Value of the Study

This study is valuable pedagogically and academically. The pedagogical value refers to the pedagogical implications for EFL teachers and independent EFL learners. Academically, the researchers would be informed of the textual perspective serving as the most legitimate approach to categorizing the speech rate in rate studies.

For EFL teachers, this study illustrates whether slowing down the speech rate and gradually increasing the speech rate, leaving aside their intuitive attractiveness, are significantly effective to increase students' listening comprehension. There is a general consensus among listening teachers about the effect of these two modes that increases listening comprehension: By slowing down the speech rate of the listening texts, a higher level of listening comprehension level could be immediately attained.

By adjusting the speech rate of each listening text used in class and by presenting them with the gradually-increasing speech rate sequence, the listening comprehension performance can be improved. However, these effects outlined above are simply based on intuition, which results in the fact that most teachers are willing to adopt these two techniques without being fully confident in and definitely positive about the degree to which these two speech rate techniques could contribute to listening comprehension enhancement. Therefore, the value of this study is to report to teachers the extent to which the slowed-down and the gradually-increasing speech rate is effective in increasing listening comprehension of authentic broadcast news.

In addition, regarding the investigation on the effect of the gradually-increasing speech rate on listening comprehension, a possible effect could be implied concerning the students' listening comprehension influenced by the teachers who control their talk in a gradually-increasing speech rate condition. While it is for sure that teachers could not measure their speech rate accurately in each class, it is common that some teachers have an overall control for their speech rate throughout the classes. Different teachers control their speech flow differently. Some teachers would intentionally slow down the speech rate in the beginning of the class and gradually increase their speech rate to natural speech flow toward the end of the classes. Other teachers may stay with the same average speech rate throughout the classes. Still others may ask the students to keep up with a rather fast speech rate, so the students would finally get used to the delivery speed.

In fact, demonstrated by the checklist designed by Dobbs (1995), teachers should make an effort to control their overall speech flow. According to Dobbs (1995), the teachers should examine their own pedagogical discourse. One of the questions listed was “what is the rate at which you spoke—too fast/slow?” In view of the fact that the overall control of the speech rate is crucial for the teachers in class, it is valuable that

the results of the effect of the gradually-increasing speech on listening comprehension could suggest that this speech rate condition could be a basic guideline for English teachers to adopt for improving students' listening comprehension ability.

The findings in this study are also beneficial for independent EFL learners, who could improve their own listening comprehension by adopting the techniques used in this study, including the downloadable MP3 files from *Voice of America* (VOA) and the easily-accessible instrument, *CoolEdit*, for adjusting speech rate. A self-training can thus be conducted. This information is particularly valuable for the independent, autonomous learners who are craving to improve their listening ability, but are often frustrated while trying to keep up with the speech flow of authentic materials.

Finally, the textual perspective proposed in this study provides insights for future rate studies. The textual perspective considers the application of a legitimate speech rate categorization as a vital, fundamental element in rate studies, and the only legitimate application of the speech rate categorization is on the condition that the speech rate of the listening text defined as fast or slow is based on the speech rate categorization measured from the same text type of the listening text. As in this study, the speech rate categorization used as the reference to define certain speech rate as fast or slow was measured from a corpus-based study on the speech rate of English radio news announcers. Therefore, the listening texts used in this study ought to be English broadcast news in order to fairly define the speech rate based on the standard speech rate categorization adopted.

This textual perspective is a much more legitimate approach for defining speech rate compared to those that defined the speech rate by intuition (Blau, 1990; Griffiths, 1990b; 1991b), by adopting Pimseleur's categorization (Dunkel, 1988; Teng, 2002), or by learners' perception (Dewing & Munro, 2001; Zhao, 1997). The adoption of these less legitimate approaches is likely to dampen the validity of rate studies, which

will be discussed in detail in the literature review chapter (p.12).

1.5. Definition of Terms

Speech rate:

According to Griffiths (1990a), the temporal variables consisted of pause phenomena and speech rate, and it was better to control several key factors to discern the individual effect of the one with most interest to produce a possible pedagogical theory (Pimsleur et al., 1977). Considering the primacy of speech rate in research, this study disregarded the pause time and narrowed down the focus to the articulation rate, which is termed speech rate in this study.

The unit of measurement of speech rate, based on Griffiths' (1990a, p316) review, comprised words per second, syllables per second, phonemes per second, and syllables per minute. In the studies of L1, the most widely, if not exclusively, used measurement was words per minute (WPM). Consequently, it appears reasonable for L2 research to use the same measurement. It is true, though, that some rate studies reported the speech rate by the measurement of syllables per second, which was not specified in this study since WPM is a sufficient measurement unit considering the fact that broadcast news was used as the listening texts. This was supported by Pimsleur et al. (1977, p.29), who affirmed that the news report "maintain[s] a constant word-length [,and] the rate of 1.7 syllables per word varies little from one broadcast to another". Therefore, the only indicated unit of measurement for speech rate is WPM in this study.

To sum up, this study focused on the speech rate, and utilized WPM as the unit of measurement to indicate the rate of the speech.

Authentic material:

According to Rost (2002), authenticity could have various definitions. In this study, the authentic material represents the languages used by native speakers for a real purpose that reflects real language use (Bacon, 1992). The authentic material used in this study is the broadcast news intended for native English speakers to gain updated information by a one-way listening process. Since the focus of this study is on listening, the authentic material, to be more specific, refers to the authentic listening material.

CHAPTER TWO LITERATURE REVIEW

There are six sections in the literature review. Section 2.1 describes the listening comprehension process. Section 2.2 reviews the empirical studies of the effect of speech rate on listening comprehension, including the slowed-down speech rate and the time-compressed speech. Section 2.3 addresses the empirical studies on the rate controlled training. Section 2.4 illustrates the two perspectives, learners' perspective and textual perspective on categorizing speech rate. Section 2.5 explains the use of broadcast news as the listening input in this study. Finally, section 2.6 validates the measurement of listening comprehension.

2.1. Listening Comprehension

Listening comprehension is an implicit, covert, and unobservable process, which is generally illustrated by three processing models, the bottom-up, the top-down and the interactive processing. The three processing models are the household terms in the field of listening comprehension research that have been re-introduced and thoroughly-explained by numerous researchers (Brown, 2001; Buck, 2001; Field, 2007; Flowerdew & Miller, 2006 ; Hulstijn, 2003; Lynch & Mendelsohn, 2002; Rubin, 1994; Rost, 2002; Vandergrift, 2007). To put it simply, these widely-known processing models represent different interpretations to the way a hearer processes the incoming speech signals.

Regarding the bottom-up processing, it refers to a linear fashion that the listeners process sequentially from the smallest unit to the meaningful sentences. In contrast, the top-down processing represents a reconstruction of meaning, which is built up by

applying listeners' prior knowledge or global understanding. Involving the bottom-up and top-down processing models, the interactive processing delineates a parallel process from linguistic level and gist level.

Although the interactive processing could be more efficient and effective than merely either top-down or bottom-up processing, a number of researchers have paid more attention to the bottom-up processing because the rapid word recognition capability is one of the bottom-up skills that learners should develop and acquire (Field, 2003; Rost, 2002; Vandergrift, 2006). This rapid word recognition capability, or automatic processing device, was a primary goal, yet extremely difficult for language learners to obtain (Segalowitz & Segalowitz & Wood, 1998), particularly in the case of low proficiency learners (Flowerdew & Miller, 2006; Goh, 2000; Graham, 2006).

It is sensible to infer that the operation of the automatic processing device could be seriously affected by the speech rate since the faster the speech rate is the less time listeners are left with to process the speech signals for comprehension. Therefore, an appropriate adjustment of speech rate is likely to be an integral contributor to developing listeners' automatic processing device that improves listening comprehension. The adjusted speech rate could be the slowed-down speech rate, which offers more time for language learners with weak automatic processing device to digest the speech signals. The slowed-down speech rate, hypothesized by this study, could play a useful role in developing listening ability by gradually increasing the speech rate that starts from the most beneficial slowed-down speech rate. This potential training device of the gradually-increasing speech rate may be a sensible attempt to assist language learners to progressively develop their automatic processing device and perhaps finally acquire the ability to process the incoming signals automatically, thus increasing their listening comprehension, or improving their

listening comprehension ability in general.

2.2. Speech Rate

A few researchers have summarized the main factors affecting the language learners' listening comprehension (Boyle, 1984; Parker and Chaudron, 1987; Rubin, 1994). In their taxonomies summarizing the main factors, speech rate is one of the vital causes that influence the listening comprehension. Numerous researchers have also concluded from the participants' feedbacks and reports that the fast speech rate was a serious factor debilitating the listening comprehension (Boyle, 1984; Friedman and Johnson, 1971; Flowerdew & Miller, 1996; Graham, 2006; Goh, 1999; Hasan, 2000; Su, 2006; Teng, 2002; Vogely, 1995; Yau, 1996). This showed that, recognized by both researchers and language learners, speech rate was one of the major variables that affected listening comprehension. It was therefore plausible that some researchers and teachers would expand, or slow down, the speech rate for the purpose of increasing language learners' listening comprehension. Due to this promising pedagogical implication, slowed-down speech rate has always been one of the major interests in rate studies.

On the other hand, some researchers did not pay much attention to the slowed-down speech rate. Conversely, they focused on the time-compressed speech, which referred to a speech compressed from the normal speech rate to a faster delivery speed. The listeners therefore had to process more words within the same amount of time as the words processed at the normal or slowed-down speech rate. Those researchers investigating the time-compressed speech intended to observe the way the hearers reacted to the speech signals delivered at a much faster speech rate.

Both of the researches on slowed-down speech rate and on time-compressed speech are important in providing a more complete understanding of the effect of

speech rate on listening comprehension. The following reviews the studies examining these two modes of speech rate. Section 2.2.1 reviews the studies investigating the effect of slowed-down speech rate. Section 2.2.2 reviews the studies exploring the effect of time-compressed speech on listening comprehension. Section 2.2.3 provides a brief summary.

2.2.1. *Studies on the Effect of Slowed-down Speech Rate on Listening Comprehension*

The empirical research has yielded inclusive results regarding the effect of slowed-down speech rate on listening comprehension. While some researchers stated that the slowed-down speech rate would facilitate listening comprehension (Kelch, 1985; Griffiths, 1990a, 1990b, 1991a, 1991b), other researchers refuted the assertion that slowed-down speech rate could result in an absolute effect of increased listening comprehension and contented that the effect of the slowed-down speech rate was greatly influenced by the variables with which it interacted (Anderson-hsieh & Koehler, 1988; Blau, 1990; Teng, 2002). These two conflicting conclusions were addressed in this study as the absolute effect and the relative effect of the slowed-down speech rate. These two contentions are illustrated respectively as follows.

The Absolute Effect of Slowed-down Speech Rate on Listening Comprehension:

Some previous rate studies have shown that the slowed-down speech rate is the most important facilitator in listening comprehension.

Kelch (1985) attempted to examine the possible effect on listening comprehension from foreigner talk characterized as slower speech, exaggerated pronunciation, simpler vocabulary and grammar and so forth. Only two characteristics

of foreigner talk, speech rate and grammatical modification, were investigated in Kelch's study and whether either of these two features was more effective than the other also underwent examination. According to the hypothesis in his study, while the combination of these two modifications would result in the greatest facilitative effect on listening comprehension, the slowed-down speech rate was more credited for the increased listening comprehension compared to the grammatical modification. Also, the slowed-down speech rate could be easily identified as a major variable in listening comprehension.

The results in Kelch's study were in line with his hypothesis. He therefore concluded that "[o]ther global, syntactic modifications, however, do not necessarily qualify as absolute features of simplification, especially when unaccompanied by slower speech" (p.88) suggesting an absolute effect of speech rate on enhanced listening comprehension. This conclusion confirms the intuitive belief that the slowed-down speech rate is a definite facilitator in listening comprehension.

The study conducted by Kelch showed that the slowed-down speech rate was a significant and absolute facilitator for listening comprehension. However, some methodological problems might dampen its credibility. First, the measurements of listening comprehension designed by the researcher, including the material, test format and scoring method, did not undergo pilot studies before the administration. The devastation from these unreliable instruments was revealed when the scores obtained in verbatim recall showed significant differences between the slower speech rate and the average speech rate, while the scores in gist recall did not. This unexpected outcome, criticized by Griffith (1990a), was not well-treated or discussed by the author.

Second, the adjusted speech rate in Kelch's study which included another 45-second pause between the sentences invalidated the original rates (Griffiths,

1990a), and the intention to discern the individual effect that produces a possible pedagogical theory (Pimsleur et al., 1977). As a consequence, regarding the fact that the pauses were added in addition to the slowed-down speech rate, the study done by Kelch (1985) merely revealed a mixed and also a rather vague effect of the temporal variables on listening comprehension.

Another series of rate studies focusing on the effect of slowed-down speech rate on listening comprehension were reported and conducted by Griffiths (1990a, 1990b, 1991a, 1991b), who borrowed the economic term “cost-effect benefit” to describe the relationship between speech rate and listening comprehension (1990a, p. 311), which could be interpreted as a time-benefit concept. This concept entails that the slowed-down speech rate provides the listeners with more processing time for the incoming signals. Due to the belief in “cost-effect benefit” or time-benefit concept, Griffiths had conducted experiments (1990a, 1991a) to validate the facilitative effect of slow speech rate, compared to the average and fast speech rate, on listening comprehension.

The study done in 1990a evidenced that the spoken text delivered at the slower speech rate, 100 WPM, was not more comprehensible than the spoken text delivered at the normal speech rate, 159 WPM. However, the study conducted in 1991a revealed a significant difference in listening comprehension between these two modes of speech rate when the slower speech rate was adjusted to 127 WPM and the normal speech rate was adjusted to 188 WPM.

In these two studies by Griffiths showing diverse outcome, it was revealed that the change of the speech rate categorization could in fact manipulate the results, highlighting the central role of speech rate categorization in affecting the outcomes in rate studies. A legitimate speech rate categorization is therefore an essential, indispensable element in rate studies with regard to its role in dictating a certain

speech rate as slow or fast speech rate, which at the same time determines whether this certain speech rate has facilitative effect or not on listening comprehension. Thus, from which perspective the researchers adopt a speech rate categorization is extremely important. Researchers hold a different perspective on speech rate categorization would differ in adopting speech rate categorization, thus arriving at a diverse conclusion.

Another important implication from Griffiths' studies was that the slowed-down speech rate, when it was too slow, i.e. slower-than-normal speech rate, may have zero or negative effect on listening comprehension. This assumption was derived from his studies where the spoken text delivered at the slower speech rate, 100 WPM, was not more comprehensible than the spoken text delivered at the normal speech rate, 159 WPM. In other words, the 100 WPM speech rate, the "too slow" speech rate, might have zero or negative effect on listening comprehension.

Apart from the discrepancy of speech rate categorization for slow and average speech rate in Griffith's studies, the instrument utilized to change the speech rate of the listening texts was not considered carefully by the researcher. The listening texts were recorded by a female native speaker with a British English accent through "live voice", which makes the reach of target rates in all instances difficult, if not impossible. This shortcoming could be mended easily by using computer-edited software, a more reliable tool, for it could compress or expand speech rate systematically and show the exact figures for the amount of percentage a text was compressed or expanded along with the indication of WPM. The use of this tool is not only advantageous to language teachers and learners for its simplicity and practicality, but also to future studies when comparing the results with the reference to the stretched percentage displayed by the computer-edited software.

It was clearly shown in Griffiths' studies and reports (1990a, 1990b, 1991a,

1991b) that he had a strong belief in and a promising expectation from the slowed-down speech rate operating as a significant and absolute facilitator for listening comprehension, which in fact became the shortcoming in his studies. As discussed earlier, the change of the speech rate categorization to meet his expectation undermined the validity of the results and led the results in the studies to be more of a manipulation than a resolution.

To conclude, though the afore-mentioned researchers intended to validate the slowed-down speech rate as the main facilitator in listening comprehension, its absolute effect on enhanced listening comprehension was still in question.

The Relative Effect of Slowed-down Speech Rate on Listening Comprehension:

Instead of embracing the belief in the absolute effect of increased listening comprehension by slowing down the speech rate of the listening texts, some researchers asserted that the slowed-down speech rate would only become a factor in listening comprehension when it interacted with other variables, such as proficiency level (Blau, 1990; Teng, 2002), accent (Anderson-hsieh & Koehler, 1988) and syntax (Teng, 2002). In other words, they argued against the absolute effect of speech rate on listening comprehension.

In a study devoted to investigating the interaction effect of speech rate and syntactic complexity on listening comprehension, Blau (1990) designed three versions of treatments: Version 1 was simple sentences at slow and normal speed; Version2 was complex sentences with clues to underlying structure left intact at slow and normal speed; Version 3 was complex sentences without optimal surface clues to underlying structure. The comprehension level was determined by the scores participants obtained in a multiple-choice comprehension test. The results of the study showed that the only significant variable in listening comprehension was the

participants' proficiency level and only the low proficiency participants could receive the beneficial effect on enhanced listening comprehension by the slowed-down speech rate. She later concluded that teachers should not be overly concerned with sentence structure and speech rate.

Teng (2002) conducted a similar study to Blau's (1990) in terms of the variables examined in the study, which are speech rate and syntactic complexity. The context, however, shifted from a mix of EFL and ESL to an EFL only context. The speeds for normal and slow speech rate were slower (160 WPM for normal and 110 WPM for slow), which was based on the speech rate categorized by Pimsleur et al. (1991). The listening test format was True and False (T/F) questions. The results showed that both the syntactic modification and slower speech rate facilitated listening comprehension. Nevertheless, listening proficiency had the closest relationship with listening comprehension regardless of other variables.

Anderson-hsieh and Koehler (1988) examined the effect of two variables, speech rate and foreign accent, on the listening comprehension of native speakers. The foreign accent referred to the native speakers of Chinese speaking English, and the listening comprehension level of native speakers of American English toward those English speakers with Chinese accent was measured. They concluded that the delivery at the regular rate, compared to fast rate, increased listening comprehension for all speakers. More importantly, a great decrease in listening comprehension was resulted from a heavily accented speaker. Therefore, the study claimed that speech rate would only become an essential variable when the speech was heavily accented.

Blau (1990), Teng (2002), and Anderson-hsieh and Koehler (1988) have shown the effect of other variables interfering with the effect of the slowed-down speech rate on listening comprehension. This point of view provided great insights into the effect of speech rate on listening comprehension. However, the validity of instruments in the

afore-mentioned studies was questionable.

Regarding the speech rate categorization, Blau (1990) criticized in the beginning of her study that different rates were adopted as the norm by different researchers; however, she defined the speech rate without specifying the rationale (170 WPM for normal speech rate and 145 WPM for slow speech rate). As in Teng's study (2002), the speech rate categorization was adopted from Pimsleur's (1977) speech rate categorization that the norm of speech rate was analyzed and defined based on the speech rate of 15 American and 15 French radio news announcers. The application of Pimsleur's speech rate categorization in Teng's study thus seemed unsound considering the fact that Pimsleur's speech rate categorization including French speakers would not be applicable to categorize the speech rate of American English speakers.

As for the test format, multiple-choice comprehension questions were utilized in Blau's study, which may induce problems since this format required of the test-takers a certain amount of reading that favored high proficiency participants. The proficiency level, however, was the variable that the study intended to examine. Moreover, an English institute entrance exam that shares more resemblance with an in-house test was used to determine the participants' proficiency level. This type of measurement of listening comprehension, criticized by Berne (2004), would be less reliable, thus limiting its generalizability.

Studies for the effect of slowed-down speech rate on listening comprehension reflected a lack of agreement. This dispute is worth exploring particularly when it comes to the use of authentic material, whose speech rate, based on Vandergrift's (2007) reports, should not be sacrificed for comprehension since "slowing down the rate of speech is not necessarily helpful for comprehension purpose" (p.200). This study treated this statement with diffidence due to the fact that Vandergrift made this

conclusion based on some unspecified studies and a study conducted by Dewing and Munro (2001) on the effect of the “preferred” speech rate from L2 learners on listening comprehension. The preferred speech rate involves learner’s perception on speech rate, which according to Hasan, (2000), might not be reliable. Therefore, whether slowing down the speech rate could increase listening comprehension of authentic material merits further investigation.

In order to accurately examine whether the slowed-down speech rate was a facilitator or a debilitator in listening comprehension, this study holds the view that it is necessary to further categorize the slowed-down speech rates as the moderately slow speech rate and the slower-than-normal speech rate. These two terms were coined by Tauroza and Allison (1990) in their speech rate categorization where the moderately slow speech rate ranged from 130 to 150 WPM, and the slower-than-normal speech rate ranged below 130 WPM. These two slowed-down speech rates were respectively compared to the average speech rate which ranged from 150 to 170 WPM. By further categorizing the slowed-down speech rate, this study intended to reveal the possible zero or negative effect of the slower-than-normal speech rate on listening comprehension, thus providing a compelling answer to the effect of slowed-down speech rate on listening comprehension.

2.2.2. Studies on the Effect of Time-compressed Speech on Listening Comprehension

The studies investigating the effect of time-compressed speech on listening comprehension (Conrad, 1989; King and Behnke, 1989) have shown consistent results that the faster speech rate caused burdens on listeners for processing the incoming signals, hence decreasing their listening comprehension level. In addition to the decrease of listening comprehension, additional effects of compressed speech rate on

listening comprehension were also observed. The following discusses briefly these studies examining the effect of time-compressed speech on listening comprehension.

Conrad (1989) pointed out that the time-compressed speech would seriously deteriorate the listening comprehension of low proficiency language learners. Additionally, students with different proficiency levels would use different strategies to grapple with time-compressed speech.

In Conrad's study, the participants were 29 native speakers and 28 non-native speakers, who were asked to listen to 16 sentences of nine to eleven words. Each of the sentences, used as a signal for participants to do immediate recall, was repeated five times with the delivery speed compressed to 450, 320, 253, 216, and 190 WPM, representing a progressively slowed-down, or gradually-decreasing, speech rate. The analysis of the recalled message showed that the native speakers depended more on the key content words compared to the non-native speakers. Also, the results showed that native speakers, faced with the speech not being able to be fully comprehended due to the accelerated speech rate, applied their knowledge toward sentence structure to get the maximum amount of information, while the non-native speakers were hindered in their syntactic processing, thus resorting to short-term verbatim memory processing, which resulted in only initial or final elements of the sentences being recalled. In summary, the study done by Conrad demonstrated that, when the delivery speed was fast, the listeners with different proficiency levels would utilize different strategies to cope with the much faster speech rate, and the time-compressed speech rate would seriously deteriorate the listening comprehension of language learners with low proficiency levels.

In King and Behnke's study (1989), they explored the relationship between the time-compressed speech and three listening types, including comprehensive, interpretive, and short-term listening. The results indicated that the increased speech

rate significantly dampened the comprehensive listening performance. The interpretative and short-term listening performances, though, were left unaffected until an extremely high degree of time compression was obtained.

According to King and Behnke, the comprehensive listening, the primary focus in the rate studies, might confuse retention and comprehension since it is more associated with long-term memory. In contrast, the short-term listening is more associated with short-term memory, which compared to long-term memory has a closer relationship with compressed speech due to the fact that the faster speech rate prohibited the listeners from processing the message such as elaborated association and inferential meanings. The interpretive listening underscores inference, the nonverbal message and involves “reading between the lines” during listening. The researcher hypothesized that the time-compressed speech has a greater impact on comprehensive listening performance than on short-term and interpretive listening performances, which was supported by the final results.

2.2.3. *Summary*

By synthesizing the studies examining the slowed-down and the time-compressed speech, a deeper understanding of the effect of speech rate on listening comprehension would be provided. However, due to the divergent outcomes obtained from investigating the effect of slowed-down speech rate on listening comprehension, a further exploration is needed in this respect.

2.3. Rate-controlled training

The previous section shows that of those studies examining the effect of the slowed-down speech rate on listening comprehension, the compressed speech, or the fast speech rate, was often utilized as a foil to reveal the possible significant effect of

the slowed-down speech rate on enhanced listening comprehension. The rate-controlled training, though, approached the role of compressed speech from a different angle by transforming the faster speech rate into a gradually-increasing speech rate condition and employed it as a training device intended to improve the language learners' listening comprehension ability.

The target trainees of the rate-controlled training are language learners with poor processing device to digest the spoken text at normal speech rate and are expected to subtly develop rapid automatic processing device to reach a higher level of listening comprehension compared to their listening comprehension level before the training. This rate-controlled training would last for a certain period of time in which the progress of listening comprehension made by the trainees would be observed. Only a few attempts have been made to support the effectiveness of the rate-controlled training (Friedman and Johnson, 1971; Huberman and Medish, 1974; Orr and Friedman and Williams, 1963; Pimsleur, 1977), which will be reviewed in detail below.

In the study involving a program implemented in a high school near Albany, New York, Pimsleur (1977, p.32) reported a temporal spacing research training where the gradually diminishing pauses was utilized to hopefully assist students to comprehend the authentic Spanish news. The report confirmed that those American students were able to comprehend the Spanish news broadcasters at normal speed with ease several years later.

In Friedman and Johnson's (1971) study, the participants in the study were Russian and Vietnamese students studying in America. After eight weeks of training, to the researchers' disappointment, no differences were found between the performance of students listening to the gradually-increasing speech rate and of those listening to the same material at the non-adjusted speech rate. The researchers

attributed the vain attempt to two possible reasons. First, the training, which lasts for eight weeks, four days a week and an hour a day, was too short of duration, which limited its effect on improving the learners' listening comprehension performance. Second, the instruments used to measure their listening comprehension were too broad to discern possible comprehension changes. Even though the results did not show significant differences in performance between these two groups of students, most students and instructors commented subjectively that the training of the gradually-increasing speech rate had been of some value.

This subjective feedback suggested a psychological effect of gradually-increasing speech rate on listening comprehension. In other words, by knowing the fact that the input was adjusted to a slower speech rate rather than the original speech rate, the participants would be affected mentally with the perception that their listening comprehension increases, but not realistically improve. This implies that the researchers should not announce the design to participants in the training program of gradually-increasing speech rate.

Another part worth mentioning in Friedman and Johnson's (1971) study was that the researchers stated at the beginning of the paper that their study was a rather loosely-designed experiment and the main intention of the study was to suggest some possible uses of rate-control. They hoped that "some will indeed prove [its] useful [ness] to second language learning" (p157). The paper was descriptive in nature as shown by the lack of measurement units and the speech rate categorization, which was very likely to be the cause for the disappointing outcome. With some methodological improvement and modification, the use of gradually-increasing speech rate for increasing listening comprehension proposed by Friedman and Johnson could be validated.

In 1963, Orr, Friedman and Williams began the research on training students to

process speech at rates beyond those which they could accomplish at initial exposure. They corroborated from their several studies (Orr, Friedman, and Williams, 1965; Orr and Friedman 1967, 1968; Orr, Friedman, and Graae, 1969) that the listening comprehension of time-compressed speech was trainable to native speakers. They concluded from their studies that, in terms of the comprehension test scores, the participants who received the listening texts under gradually-increasing speech rate condition performed better compared to the participants without this practice. However, based on the design of the study, we wonder if the increase of listening comprehension was attributed to the training of gradually-increasing speech rate, but not from the extra listening practice.

Huberman and Medish (1974) reported the results of a rate-controlled training conducted by the researchers in the American Institute for Research that included the added-parts, the time-compressed speech, and temporal spacing as the temporal variables. These three devices were used jointly on 23 students learning Spanish, who received periodic listening comprehension tests and three other sections of Elementary Spanish classes. The results indicated that the controlled listening could improve listening comprehension up to 28%. Additionally, the controlled listening compared to normal listening resulted in a 35% increase in the amount of information absorbed during each minute of listening.

This seemed to be a promising outcome for the effect of controlled listening on language learners' listening comprehension improvement. However, since the three techniques were used jointly, it was hard to discern which of these three techniques was more essential than the other. The results also showed that the added-part technique contributed to most of the increased efficiency in listening, and the compressed speech and the temporal spacing might have played a minor role. In other words, the individual effect of speech rate was not found (Griffiths, 1990b).

These studies provided some preliminary evidence that the gradually-increasing speech rate was an amenable training device that can be validly conducted and tested. More importantly, these studies render significant mythological implications, including the importance of the time span of the training and the design of the study.

In terms of the time span, the rate controlled training lasted for eight weeks in Friedman and Johnson's study, for several years in Pimselur's report and for one school semester by Huberman and Medish (1974). Though a rather long exposure, as shown in afore-mentioned studies, may result in a seemingly more valid outcome, it is also more likely to include other unwanted variables which interacted with the training itself. All the other variables may take the credit for the listening comprehension improvement, but not the training itself. Consequently, the intensity probably overrides the longitude.

Concerning the design of the rate-controlled training, the studies reviewed previously were predominately descriptive in nature and lacked a tightly-controlled experiment procedure. This gap indicates a need for future research employing clear experiment design and valid measurements in order to explore the effect of the gradually-increasing speech rate on listening comprehension.

By a careful treatment of the time span and the design of the training, this long-neglected area of rate-controlled training could receive some updates, giving a deeper understanding of the effect of the gradually-increasing speech rate on listening comprehension.

2.4. Speech Rate Categorized by Different Perspective

As Zhao (1997) and Blau (1990) noted, the inconsistent and incomparable results shown in the previous rate studies were led by the varying speech rate categorization adopted by different researchers. Two perspectives on categorizing speech rate can be

identified. The following will first address the learners' perspective that categorizes speech rate based on learners' perceived speech rate. Afterwards, the textual perspective focusing on the text types from which the standard speech rate categorization was measured will be elucidated. Finally, a summary regarding these two perspectives is presented

2.4.1. *Speech Rate Categorized by Learners' Perspective*

In response to the growing attention to the student-centered concept in the field of language teaching and learning, this approach proposed that there is an absence of the optimal speech rate that could be generalized to all learners as fast, slow, or normal due to individual differences, thus defining speech rate via learners' perspective (Zhao, 1997; Chaudron, 1983). Nevertheless, empirical evidence has indicated a discrepancy between learners' perceived speech rate and the actual condition of the listening input (Drewing & Munro, 1997, 2001; Hasan, 2000). In other words, the speech rate perceived as fast or slow by language learners might not correspond to what actually happened.

To solve the inconsistent, incomparable results among the previous rate studies that resulted from the wide discrepancy predefined by researchers for speech rate, Zhao (1997) suggested that the issue be approached from learners' perspective since the fast and slow speech rate would differ from learner to learner. Chaudron (1983) also advocated this contention and added that the categorization of speech rate could be quite different across language learners due to different proficiency level. Although these statements may sound logical, there is a great possibility that the speech rate could be perceived as slow or fast due to many other unknown factors as reported by two anonymous reviewers in Flowerdew's book (1994) that "the speed of delivery is an effect of difficulty in comprehension, not a cause, i.e. non-native speakers have

problems understanding and, therefore, perceive speech as fast, even though objectively it is not” (p.36). Drawing and Munro (1997, 2001), and Hasan (2000) also indicated that language learners may think the speaker spoke too fast as the reason for their difficulty in comprehending the text, while in fact the speech rate was not the main cause but some other features such as pronunciation, hesitation, pauses, and varied accents. Whether it was the speech rate, or any other variables that made language learners interpret the delivery speed as fast or slow become unknown, resulting in the speech rate exploited as the single, main variable in rate studies impossible to attain.

Additionally, the non-existence of generalized speech rate implied by the learners’ approach presents a great obstacle for researchers in categorizing, or defining, the speech rate objectively, that in turn hinders the exploration of the physical phenomena and the conceptualization of feasible theory that implements practical pedagogical approaches.

In short, in order to investigate speech rate as the main variable in listening comprehension and to construct a feasible pedagogical practice, the learners’ perspective for speech rate might be problematic.

2.4.2. *Speech Rate Categorized by Textual Perspective*

The researchers embracing speech rate categorization based on the textual perspective pay careful attention to the source one utilizes for determining certain speech rate as fast or slow. To justify the adoption of the speech rate categorization, the same text type between the texts used to map out a standard speech rate categorization and the texts used to be categorized by the standard speech rate categorization is emphasized, e.g. if the standard speech rate categorization was measured from news, the listening texts have also to be news in order to use the

standard speech rate categorization to categorize the speech rate of the listening text.

From the textual perspective, speech rate varies in different text types. Therefore, the validity of the results in Dunkel's (1988) study might be in question since the texts used are lectures, and yet the speech rate categorization applied was Pimsleur's (1977) categorization, based on a corpus data collected from the radio announcers. This adoption is illegitimate from the textual perspective because the news and lecture are different text types, and the standard speech rate is likely to differ among various circumstances (Tauroza and Allison, 1990).

Besides from criticizing the illegitimate adoption of speech rate categorization, Tauroza and Allison (1990) also pointed out that Pimsleur's (1977) speech rate categorization could not suffice for defining English speech rate because it was based on a speech rate analysis of 15 American and 15 French radio news announcers. Tauroza and Allison (1990) thus conducted a speech rate analysis on the news announcer of English speakers to provide a standard speech rate categorization for English. Mismatch was found between the categorization illustrated by Tauroza and Allison (1990), and Pimsleur et al. (1977). The fastest speech rate in the categorization mapped out by Tauroza and Allison was much slower than that mapped out by Pimsleur et al. (1977). The terms used for the fastest and the slowest speech rate were also different. The "fast" and "slow" in Pimsleur's (1977) categorization were termed "faster than normal" and "slower than normal" in Tauroza and Allison's categorization. (Pimsleur's speech rate categorization is delineated in Table 1; Tauroza and Allison's speech rate categorization is illustrated in Table 2). Considering the fact that Tauroza and Allison's speech rate categorization was mapped out based on the speakers of English, the target language in this study, it is employed in this study as the standard speech rate categorization.

Table 1: Standard speech rate in Pimsleur et al. (1977)

Fast	=	above 220 w.p.m.
Moderately fast	=	190 to 220 w.p.m.
Average	=	160 to 190 w.p.m.
Moderately slow	=	130 to 160 w.p.m.
Slow	=	below 130 w.p.m.

Table 2: The range of speech rate in Tauroza and Allison (1990)

Faster than normal (above)	=	190
Moderately fast	=	170-190
Average	=	150-170
Moderately slow	=	130-150
Slower than normal (below)	=	130

2.4.3. Summary

Building upon previous review of the learners' perspective and the textual perspective on categorizing speech rate, it is apparent that the reliability and the validity of rate studies hinges on their perspective on speech rate categorization. With regard to the learner's perspective, it could be too subjective and is not reliable due to its dependence on the learners' perception. An objective, legitimate outcome could only be obtained by adopting the textual perspective that validly categorizes the speech rate as fast or slow for research purpose.

2.5. Broadcast News

This study employed broadcast news as the listening input to measure listening

comprehension. Broadcast news instead of other text types was adopted for the following three reasons.

First and foremost, news was used to be in harmony with the textual perspective, the most legitimate approach to fairly categorizing the speech rate. With the textual perspective adopted, the identical text type between the texts collected to measure a standard speech rate categorization and the texts chosen to be categorized by the standard speech rate categorization is crucial. Given the fact that Tauroza and Allison's speech rate categorization was employed and news was used in their study to measure the standard speech rate, the texts used in this study should be news to validate the application of Tauroza and Allison's speech rate categorization, which is the core concept lying at the heart of the textual perspective proposed by this study.

The second reason was for the pedagogical implications. The effect of speech rate on listening comprehension for other listening text types rather than broadcast news could be amplified since news is one of the most difficult listening materials for language learners. The broadcast news perceived as a more difficult text type results from its several distinguishing features. For one thing, the broadcast news is one type of oral language with certain features resembling written language, namely the "written language read aloud" (Morrison, 1989), which was also indicated in Brown's (2001) taxonomy adapted from Nunan (1991) as planned monologue comprising "spokenness" and "writtenness". The planned monologue, as put by Brown, has several unique characteristics that could cause numerous challenges to language learners. The planned speech featured a non-spontaneous speech, hence manifesting little redundancy such as hesitation, repetition, or pauses that could offer more time for hearers to process the stretching out of utterances and prevent the listeners from suffering information overload. Without the redundancy, the utterances could be harder to comprehend (Flowerdew & Tauroza, 1998). Concerning monologue: it

represents a one-way, nonreciprocal listening process that requires the listeners to “process long stretches of speech without interruption – the stream of speech will go on whether or not the hearer comprehends” (Brown, 2001, p.251). This could be a difficult task, especially for the low-proficiency language learner (Robin, 2007).

In addition to these inherent characteristics, the broadcast news primarily targets native speakers as the audience; the anchors often report as much information as possible in relatively short spans of time (Weissenrieder, 1982), resulting in informational density that could be challenging to language learners. Finally, broadcast news was a specialized register with heavy cultural reference rarely exposed to typical students (Weissenrieder, 1987) that added to the difficulty level of the broadcast news.

As mentioned earlier, the broadcast news can be a real challenge for language learners. The use of broadcast news as the material in this study is therefore likely to increase the applicability of the techniques to other listening materials and possibly with a minimum effect suggested.

The third reason for using broadcast news is authenticity, which meets the ultimate goal of the listening instruction that, according to Vandergrift (2006), was to equip the language learners with the skills reflecting real-life listening. Broadcast news, as one type of authentic material, was used by native speakers for the purpose of receiving new information and is more representative of how a natural connected speech would be in a real-life situation. The language learners could thus be equipped with the listening skills required for real-life situations. This feature is especially important for EFL students compared to ESL learners due to the limited authentic input confined by the geographical limitation. In other words, most EFL learners have limited exposure to the target language outside the formal language classroom, making the use of authentic material, the broadcast news, more pedagogically sound.

Based on the foregoing reasons, broadcast news is selected as the major listening input in this study.

2.6. Listening Comprehension Tests

The listening comprehension tests used in the study were intended to elicit participants' listening comprehension level of broadcast news. Three testing formats were employed in this study, including True and False (T/F) questions, short-answer questions, and the free recall protocols. The following, based on the literature reviewed, will briefly illustrate the construction and administration of the listening comprehension tests. The validation of these measurements is also demonstrated.

Concerning the T/F and short-answer questions, they were designed by the researcher to avoid a possible weakness: As discussed in Friedman and Johnson's study (1971), they found that the failure to detect the significant change from the adjusted speech rate was due to the measurements of listening comprehension, which were too broad to detect a change in listening comprehension ability. In order to avoid this weakness, the researcher designed those questions that were closely related to the purpose of this study.

T/F questions was not only the primary measurement of listening comprehension in rate studies (Griffiths, 1990; Griffiths, 1991; Teng, 2002), it was also regarded as a comfortable format by test-takers (Joohae, 2002). On the other hand, it only assesses receptive listening ability. Therefore, the short answer questions and the free recall protocols were intended to evaluate test-takers' productive listening ability.

Regarding the free recall protocol assessing the productive listening ability, it serves to measure "purer" comprehension (Bernhardt, 1991). This "pure" listening comprehension test instrument, however, has received criticism for its great reliance on writing ability. To compensate for this flaw, Chinese was allowed in the free recall

protocol tests to avoid favoring participants with higher proficiency level in this study. The use of the native language for recall is advocated by Lee (1986), who discovered in his study that the use of the native language could lead to statistically more reporting than the use of the target language, particularly for participants with low proficiency levels.

A widely-used test format, multiple-choice questions, was not utilized as one of the test instruments in this study for three reasons. First, Griffiths (1990) noted that the multiple-choice questions relied heavily on reading, thus “involve(ing) the subjects in an undesirable amount of reading” and added that a nonreading-based format was crucial in listening tests. Second, the multiple-choice format, as it has been convincingly argued, could not recreate the non-testing context since the use of multiple-choice influenced test takers to select response strategies that deviate significantly from non-testing contexts (Rupp, et al., 2006). Third, it was pointed out by Wu (1998) that the multiple-choice questions resulted in uninformed guessing. In other words, the subjects would give the correct answers for the wrong reasons.

For the administration of the tests with T/F and short-answer questions, the participants were prohibited from previewing the questions before or while they were listening to the news. This restriction intended to recreate the real situation where the listeners listening to broadcast news stemmed from Bachman’s (1990) contention that the researcher should “be able to demonstrate that performance on language tests corresponds in specified ways to non-test language use” in order to justify the use of language tests (p.688). Besides, the previewed questions would become pre-listening activities (Brinton & Gaskill, 1978), namely advanced organizers, which was indicated as another major variable affecting listening comprehension.

While reading the questions was strictly forbidden before and while listening to the authentic news, the listeners were allowed to take notes while listening to the

news in order to compensate for possible memory effect, which often became a confounding variable when the test used aural prompts (Vandergrift, 2007). Griffith also stated a similar contention (1990a, p.314): “the theoretical issues and empirical findings on the capacity of memory storage ...should be considered both in preparing test material and interpreting research findings...the limited short-term memory is relevant to comprehension tests”. In other words, the participants might be able to comprehend the listening text, but failed to recall accordingly due to the limited short-memory capability. Therefore, when the participants took these listening comprehension tests, they were allowed to take notes while listening to the authentic news.

A complete elucidation on these listening comprehension tests will be presented in Chapter Three (p.38).

CHAPTER THREE METHODOLOGY

This chapter introduces the research design of the study. Section 3.1 describes the participants in this study. Section 3.2 provides a detailed report on the instruments utilized in the experiments, including the background questionnaire, adapted TOEIC, VOA broadcast news, CoolEdit software, listening comprehension tests, background knowledge questionnaire, free recall protocol, and semi-structured interview. Section 3.3 presents the data collection procedures.

3.1. Participants

A total of 94 college students at National Taiwan Normal University participated in the study. Those participants can be divided into two groups for two phases of experiment were conducted for the purpose of answering the two research questions respectively. In the first phase, 60 students took part in the experiments intended to investigate the effect of slowed-down speech rate on listening comprehension. Concerning the second phase of the experiments, 34 participants were recruited for examining the effect of the gradually-increasing speech rate on listening comprehension.

Of the 60 participants who took part in the first phase of the experiments, 50 were English majors. The other ten were non-English majors, but they were in an English honor program requiring the students to take courses that were similar to those in an English department. These 60 participants were composed of 26 freshmen, six sophomores, and 28 juniors. As for the 34 participants in the second phase of the experiments, they were all English majors, including thirteen freshmen, eight

sophomores, ten juniors, and three seniors.

According to the background questionnaire results, all 94 participants had been studying English for at least six years, and none of them had stayed in an English-speaking country for study. It was also indicated that they were highly motivated learners with strong desire to improve their English listening comprehension, considering the fact that they spent at least five hours a week listening to English with all kinds of listening materials.

3.2. Data Collection Instruments

Eight instruments were applied in this study and they were introduced as follows:

(1) Background questionnaire; (2) adapted TOEIC; (3) VOA broadcast news; (4) CoolEdit software (5) listening comprehension test; (6) background knowledge questionnaire; (7) free recall protocol; and (8) semi-structured interview.

3.2.1. *Background Questionnaire*

The background questionnaire was used to collect basic information on the participants' English learning experience in general and in specific (see Appendix A), which fulfilled the function of surveying whether the participants were active listeners to English news. This function was crucial and necessary since news, the main listening material in this study, with which the participants were familiar could become a potential interfering variable that dampened the intention of the study to single out the speech rate as the major variable in listening comprehension.

According to the background information provided by the participants, only three of the 94 participants adopted listening to news as a learning method, indicating that most of the participants were not familiar with the news text type.

3.2.2. *Adapted TOEIC*

Adapted TOEIC, consisting of eight news reports delivered with American accent, served as a pretest to check if the listening proficiency level was similar between groups prior to the treatments. Its construction will be illustrated below.

The eight entries of listening texts in adapted TOEIC were selected from the fourth part of listening comprehension section in TOEIC, titled short talk. In this part, the listening texts could be news reports, announcements, advertisements, radio programs, or voice mails, with each text containing three multiple-choice questions. Only news reports were selected to accord with the use of news as the main listening materials in this study.

Also in this listening comprehension section of TOEIC, the listening texts are delivered with a variety of accents, including American, British, Australian, and Canadian accents. It was already discussed in the literature review chapter (p.12) that the accent is one of the major variables affecting the listening comprehension. With this concern in mind and the fact that most students in Taiwan are more accustomed to American English accent, only the listening texts of American accent were considered.

As a result, the listening texts extracted to be used in adapted TOEIC were eight news reports delivered with American accent (Appendix B). Each text lasted from 36 seconds to 48 seconds, and 45 seconds was given to the participants to answer three questions of each listening text. The entire adapted TOEIC test lasted for ten minutes and 48 seconds (see Table 3 for the time limit of the adapted TOEIC).

Table 3: The time limit for the Adapted TOEIC

listening text	#1	#2	#3	#4	#5	#6	#7	#8
Duration (sec)	40	44	37	45	43	40	36	48
Test Time	0:00 -1:25	1:25 -2:54	2:54 -4:16	4:16 -5:46	5:46 -7:14	7:14 -8:39	8:39 -10:00	10:00 -10:48

3.2.3. VOA Broadcast News

VOA broadcast news downloaded from VOA Web site was the listening texts of the listening comprehension test as well as the listening material in the four-week training. The following illustrates the reasons that VOA broadcast news qualifies as the main source of listening input in this study.

First, to meet the conditions of textual perspective on categorizing speech rate, the text types between the texts utilized to map out the standard speech rate categorization and the text used to be defined as fast or slow based on the standard categorization should be identical. Considering the fact that the standard speech rate categorization employed as a reference to categorize speech rate in this study was mapped out from news, the listening texts should also be news. Second, since VOA is an official external radio and television broadcasting service of the United States federal government, the news from VOA is mostly delivered with American English accent, which decreased the chances that some other unfamiliar accents might become a mitigating variable affecting the participants' listening comprehension. Third, the Web site of VOA provides a wide topic selection, thus enabling the researcher to select the listening material from various choices. Fourth, VOA is credited for its

availability through the Internet in both streaming media and downloadable formats that resulted in optimal convenience for collecting the listening texts.

With all these advantages and benefits stated, VOA Web site qualifies as a good source of listening input for this study. Twenty two listening texts in total were downloaded to measure listening comprehension. The speech rate of these listening texts was around 150-160 WPM, categorized by Allison and Tauroza (1990) as the average speech rate. Of the 22 listening texts, two entries were used in the listening comprehension test (Appendix C), and the other 20 entries were used for the four-week training (Appendix D). Further detail of the 22 listening texts are presented in Table 4 and Table 5; Table 4 reports the detail of the two listening texts in the listening comprehension test, Table 5 delineates the detail of the 20 listening texts for the four-week training. Detail include the topic, title, time span (TS), length, Flesch-kincaid grade level (FK), and K1+K2 percentage (the most frequent one thousand words of English+ the second most frequent thousand words of English based on VocabProfile Web site developed by Batia Laufer and Paul Nation).

Table 4: The two listening texts for the listening comprehension test

Topic	Title	TS	length	FK	K1+K2
Accidents	Search Continues for Brazil Plane Crash Victims	2:22	350	12	84
Politics	Opposition Rallies against Venezuela Reform Plan	2:13	323	12	86

Table 5: The 20 listening texts for the four-week training

Day	Topic	Title	TS	Length	FK	K1+K2
1.	Disaster	Hurricane Dean Intensifies to Category 5, Heads Toward Mexico	1:55	313	12	87
2.		Mexico Begins to Assess Damage From Hurricane Dean	2:17	360	12	88
3.		Red Cross Appeals for Victims of Hurricane Dean	1:15	195	12	88
4.		Hurricane Gustav Slams Into US Gulf Coast	1:15	203	12	82
5.	Science and technology	Weather is Concern for Tuesday Shuttle Launch	1:27	240	12	84
6.		US Space Shuttle Discovery Launches Two-Week Space Mission	1:35	241	12	81
7.		Shuttle Lands After Mission to Space Station	1:21	196	12	80
8.		Astronauts Review Spacewalks After Tool Bag Loss	1:29	244	12	84
9.	Politics	Cuban Elections to Determine Fidel Castro's Future	1:58	308	12	87

10.		Castro Hints at Retiring from Cuban Leadership	1:02	171	12	88
11.		Raul Castro Picked as Cuba's President	1:34	245	12	88
12.		Cuba to Expand TV Content in Latest Reform	1:59	294	12	83
13.	Religion	Pope Canonizes 18th-Century Brazilian Monk Said to Cure Thousands	2:39	386	11	85
14.		Pope Benedict Stresses New Solutions to Social, Economic Problems	2:27	365	12	84
15.	economy	Over 400 People Charged in US Mortgage Fraud Schemes	1:51	279	12	80
16.	environment	Florida Land Deal Will Boost Everglades Restoration	1:56	268	12	
17.	Politics	Republicans Campaign Hard For South Carolina Primary	2:03	332	12	85
18.		South Carolina Residents Vote in US Presidential Primary	1:46	286	12	87
19.		McCain Wins South Carolina Republican Primary	1:42	261	12	84

20.		McCain Picks Alaska Governor as Vice Presidential Candidate	1:41	287	12	80
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3.2.4. *CoolEdit Software*

CoolEdit, the commercial software from Syntrillium (1996), was utilized to alter the speech rate of the listening texts so as to examine the effect of speech rate on listening comprehension. This section first presents the validation of CoolEdit as the optimal speech rate adjustment tool. Then, its application on the listening texts is specified.

CoolEdit, instead of other speech rate adjustment tools, was used due to the fact that it was indicated in Kuo and Chiang's (2001) study as the only currently valid instrument to preserve the original voice quality. In Kuo and Chiang's study, they reviewed the approaches to editing the speech rate and discussed how the "inherent property", pitch and tone, could be tediously affected by the "live-voice" and "tape recorder" method. Consequently, they proposed a computer-manipulated method, which "guarantee[s] the adjusted speech rate is reproducible and also [to] ensure [ed] that learners listening comprehension will not be influenced by distortions introduced in the altered speech" (p.41). They further examined the extent to which the speech rate could be stretched by using CoolEdit without damaging the inherent property of the sound. Results in their study indicated that CoolEdit was a valid instrument to preserve the original voice quality when the altered speech rate was relatively faster and slower within 20% to normal speech rate.

CoolEdit was applied to adjust the speech rate of the authentic VOA broadcast news (150-160 WPM) to the speech rate proposed by the research design. Two listening texts used in the listening comprehension test were altered two times to meet

the criteria for Group B and Group C, for the speech rate should be moderately slow (130-150 WPM) and slower-than-normal (below 130 WPM) respectively. The listening texts for Group B were edited to a ratio of 90%, 10% slower than the original rate. The altered speech rate was then 140 to 145 WPM categorized as the moderately slow speech rate by Allison and Tauroza (1990). For Group C, the listening texts were edited to a ratio of 80%, 20% slower than the original rate. The altered speech rate was 125 to 130 WPM, categorized as the slower-than-normal speech rate by Allison and Tauroza (1990).

With respect to the 20 entries of VOA broadcast news employed as the listening material in the training, they were altered to be presented with the gradually-increasing speech rate sequence. The first four entries of news were adjusted to 125 WPM to 130 WPM, with a ratio of 80%. The fifth news was stretched by a ratio of 83%, as a bridge to the next speech rate range of 130WPM to 135WPM. The next four entries of news were adjusted to 135WPM to 140WPM. Then again, to bridge the speech rate of 140WPM-145WPM, the tenth news segment was stretched by a ratio of 90%. The fifteenth news segment as the bridging was stretched by a ratio of 95%. The last five entries of news were the authentic news, ranging from 150WPM to 160WPM, without any speech rate modification.

3.2.5. *The Listening Comprehension Test*

The listening comprehension test constructed by the researcher was administered to examine the effect of the slowed-down speech rate as well as the gradually-increasing speech rate on listening comprehension. This section first presents the question types and the testing format of the listening comprehension test. Following it, the listening comprehension test construed as product-based instrument is elucidated.

As mentioned previously, two entries of broadcast news were selected as the listening input in the listening comprehension test (see Table 4). This listening comprehension test was designed by the researcher, with each entry of news containing ten questions inclusive of nine T/F questions and one short answer question (Appendix E).

The ten questions for each entry of news comprised five question types, including main idea, important detail, inferred detail, key-word distracter, and irrelevant distracter (Table 6). The first two types of questions were composed based on Nunan's point of view (1999) that it was sufficient for listeners to get a general idea and certain detail of the news. Also, according to the generic worksheet for listening to news designed by Flowerdew and Lindsay (2006), the language learners needed not to "worry about understand [ing] everything [, but] focus on the main point of the news" (p.168). Therefore, the main idea questions dealt with the overall understanding of the news, and the important detail questions were designed to assess the test-takers' ability to grasp important detail in the news.

The third question type, inferred detail, was designed to reveal the test-takers' ability to infer information from the important detail in the news. This question type, as Nunan (1999) noted, is more difficult than the questions that extract information directly from the text. Consequently, a higher score was assigned for answering the inferred detail question correctly, as shown in Table 6.

The last two question types were the key-word distracter and the irrelevant distracter questions, which were constructed to evaluate the test-takers' ability to comprehend a longer message instead of catching scattered vocabulary.

Furthermore, unlike the traditional T/F questions with only two options, a third item "it is not stated" was also included, aiming to decrease the guessing effect often induced by the traditional T/F questions with only two options.

The results of the listening comprehension test would represent results from “product-based” instrument, a term borrowed from Vandergrift (2007), referring to a final test after certain treatment that established if the treatment is successful, which, also according to Vandergrift (2007), was not sufficient to show the genuine results of the training. Therefore, result from process-based instrument was needed to supplement the results obtained through product-based instrument. The product-based and process-based instrument will be given more in depth discussion in Section 3.3.7.

Table 6: True/False and Short Answer Questions Test

Test Format	True and False					Short Answer
Question Type	Main idea	Important Detail	Inferred detail	Key word distracter	Irrelevant distracter	detail
# of Subject	2	2	2	2	1	2
Total Score	20	20	30	20	10	20

3.2.6. Background Knowledge Questionnaire

Background knowledge questionnaires were distributed to the participants immediately after they took the listening comprehension test in order to check their prior knowledge toward the listening content (Appendix G). The listening comprehension scores were dropped from of those who acknowledged that they had listened to the news before taking the test, which assisted them to answer the questions in the test. This was to prevent the background knowledge from becoming

an interfering variable that affected the results of this study.

3.2.7. *Free Recall Protocol*

To investigate the effect of gradually-increasing speech rate on listening comprehension, there were four weekly free recall protocol tests in the four-week training. This section mainly explains the use of free recall protocol employed as the process-based instrument to measure participants' listening comprehension. The listening passages used for recall were also listed.

The results obtained from the free recall protocols represented process-based data since they implicated the weekly progress made by the participants who were required to recall one entry of news in class once a week during the training. This process-based data was intended to supplement the product-based data, referring to the results from the listening comprehension test already discussed in Section 3.3.5. By measuring the listening comprehension through the process-based instrument, i.e. free recall protocols, and the product-based instrument, i.e. the listening comprehension test, a more complete outcome from the training would be revealed.

Additionally, an arbitrary operational definition of listening comprehension could be avoided since the outcome of process-based and product-based instrument provided a versatile perspective on the interpretation on the listening comprehension performance. The triangulation of measurement, according to Issac & Michael (1995), contributes "far more powerful evidence supporting the proposition than any single criterion approach" (p.97). A more robust conclusion regarding the effect of the gradually-increasing speech rate on listening comprehension could therefore be withdrawn.

The listening passages used to conduct the free recall protocol test were four entries of news titled "Hurricane Dean Intensifies to Category 5, Heads Toward

Mexico” , “US Space Shuttle Discovery Launches Two-Week Space Mission”, “Raul Castro Picked as Cuba’s President”, and “Florida Land Deal Will Boost Everglades Restoration”(see Appendix D).

3.2.8. *Semi-structured Interview*

The semi-structured interview was formed to probe into participants’ perception of effects and affective responses from the training. The qualitative data would triangulate the quantitative data, thus deepening the understanding of the relationship between speech rate and listening comprehension. The overall interview procedure will be introduced first, followed by the questions posed in the interview.

The semi-structured interview lasting for around 15 minutes was held respectively for Group D and Group E of four participants after the four-week training. The four participants from each group were selected on the basis of their final listening comprehension scores. Two of the four participants scored the highest on the listening comprehension test, while the other two scored the lowest. This score-based selection was intended to retrieve a neutral feedback since the learners with different L2 proficiency level, according to Kellerman (cited in Scarcella and Perkins, 1987), might be affected differently by the listening input.

Five questions were posed for each of the participants in Chinese (Appendix K). The first question was about whether the participants read the listening scripts distributed during the training since the reading of the scripts might be an important factor influencing the final results. The following three questions were intended to elicit if the speech rate had induced anxiety or any other affective response that affected the listening comprehension. As found in Flaherty’s study (1975), learners reported that the rapid speech would distract listener’s concentration from content to rate. The fifth question was about whether the participants had any feedback or

suggestion for the training. Five interview questions are listed below.

The first question was: How do you deal with the listening scripts received during the training? Then, two questions were asked relating to their confidence in their listening comprehension ability after the training: Do you think your listening comprehension ability has improved by the end of the training? Do you think authentic news is in fact a lot easier than you had previously thought? The next question was about their willingness to use authentic news as the self-training listening material: Would you like to listen to authentic news for self-training? Why? The fifth question was: Do you have any feedback or suggestion for the training?

3.3. Data Collection Procedures

This section begins with reporting the results of the pilot study, followed by presenting the data collection procedure for answering the first and the second research question respectively.

3.3.1. *The Pilot Study*

Before the formal experiments, a pilot study was conducted to examine the validity of the listening comprehension test designed by the researcher. Eighteen students in the continuing education center of National Taiwan Normal University were asked to take adapted TOEIC, and then the listening comprehension test. With two sets of scores from each student, the researcher performed *Pearson Correlation* analysis between the adapted TOEIC and the researcher-designed listening comprehension test ($r = 0.463$). Although the correlation result was not satisfying, it was demonstrated that the researcher-designed listening comprehension test had a moderate correlation with the standard listening comprehension test. This outcome is essential since the listening comprehension test designed by the researcher shared

more characteristics with “in-house” tests, which decrease the generalizability of the results compared to a standardized measure (Berne, 2004). By verifying this researcher-designed listening comprehension test, the interpretation of the final outcome would be strengthened.

To sum up, the results of the pilot study showed that it was legitimate enough to use the researcher-designed listening comprehension test as a test instrument to assess the participants’ listening comprehension performance. This researcher-designed listening comprehension test is addressed as the listening comprehension test in this thesis.

3.3.2. *Phase one for first research question*

To investigate the effect of slowed-down speech rate on listening comprehension, the first phase of the experiments was conducted. The following provides detailed steps of the data collection procedure.

Sixty participants first filled out the background information questionnaire. Then, the participants took the adapted TOEIC. After taking the test, the researcher listed the participants starting with the highest scorer and ending with the lowest scorer. Based on this score-based name list, the participants were assigned from Group A, to Group B, to Group C, and then back to Group A and so forth. A closer listening proficiency level among these three groups could be resulted from this assignment. After the grouping, five participants did not attend the listening comprehension test due to personal reasons. Therefore, the formal experiment of speech rate treatment was conducted with 19 participants in Group A, 19 participants in Group B, and 17 participants in Group C

The participants in Group A took the test with the listening passages delivered at the slower-than-normal speech rate, ranging below 130 WPM. Group B received the

test at the moderately slow speech rate, ranging from 130 to 150 WPM. As for Group C, the test was delivered at the average speech rate, ranging from 150 to 170 wpm.

While administering the listening comprehension test, reading the questions before or during the listening was not permitted, but note-taking during the listening was allowed. Ten minutes were given for answering the 10 questions in the listening comprehension test. At the end of the test, the participants were asked to fill out the background knowledge questionnaire inquiring about their prior knowledge of the news. The scores from six participants were excluded due to their report of content familiarity. Finally, the data collected in the first phase of experiments was Group A of 15 participants, Group B of 17 participants, and Group C 17 of participants.

3.3.3. Phase two for the second research question

The effect of gradually-increasing speech rate on listening comprehension was explored in the second phase of the experiments. Each step of data collection procedure in this phase is described as below.

Thirty-four participants first filled out the background information questionnaire, and then took the adapted TOEIC. The researcher assigned the participants to two groups, which were Group D of 18 participants and Group E of 16. However, four of the participants in Group D had already taken part in the experiments for the first research question, and three of the participants in Group E quit in the middle of the training. Therefore, the final number of the participants was fourteen in Group D, and thirteen in Group E.

Both Group D and Group E received a four-week training in which Group D listened to the listening texts presented with the gradually-increasing speech rate, while Group E received the same listening input delivered with authentic average speech rate. In the four-week training, the participants were asked to listen to the news

on a Web log set up by the researcher. On the blog, the participants were asked to leave a message on the blog before and after they listened to the news, allowing the researcher to make sure of their participation in the training. Every day during the training, the researcher checked their messages on the blog and gave them a call if any names were missing on the blog.

Once a week during the four-week training, the participants in Group D and Group E were invited to class on a group basis to recall one entry of news, whose main idea and detail were recalled separately on the free recall protocol (Appendix F). The raters, accordingly, assigned two scores on the protocols. Therefore, at the end of the four-week training, there were four free recall protocols, eight scores, from each participant.

At the end of the training, the participants took the listening comprehension test. Based on the results of the listening comprehension test, four participants from each group were invited to attend the semi-structured interview, which concluded the data collection procedures for examining the effect of gradually-increasing speech rate on listening comprehension.

CHAPTER FOUR RESULTS

This chapter contains two sections, which respectively report findings to the two research questions posed previously in Chapter One (p.1). Section 4.1 presents the results concerning the first research question inquiring the effect of slowed-down speech rate on listening comprehension. Section 4.2 reports the results regarding the second research question constructed to investigate the effect of the gradually-increasing speech rate on listening comprehension.

4.1. The effect of the slowed-down speech rate on listening comprehension

In this section, the statistical results of data analysis concerning the effect of slowed-down speech rate on listening comprehension computed by SPSS 12.0 (Statistical Package for the Social Sciences) software will be presented, including the results of pretest and listening comprehension test.

One way analysis of variance (ANOVA) was conducted to analyze the pretest scores, namely the scores each group, Group A, B, and C, obtained in the adapted TOEIC. As shown in Table 7, no significant difference was indicated ($p=.391$), showing that the English listening proficiency level among the three groups were homogeneous.

Table 7: Results of one-way ANOVA measuring the pre-test scores of Group A, B, and C

	SS	DF	MS	F	P
Between Groups	207.608	2	103.804	.958	.391
Within Groups	5092.892	47	108.359		
Total	5300.500	49			

With regard to the results of the listening comprehension test, the descriptive statistics are presented in Table 8. As seen above, Group A under the slower-than-normal speech rate acquired a higher mean score ($M=160.3$) than Group B ($M=151.3$) under the moderately slow speech rate. Group C under the average speech rate obtained the lowest mean score ($M= 137.7$).

Table 8: Means and standard deviations of Group A, B, and C

Group	n	M	SD
A	15	160.33	25.246
B	17	151.39	24.959
C	17	137.65	32.745

Note. Group A=Slower-than-normal speech rate (Below 130 wpm); Group B=Moderately slow speech rate (130-150 wpm); Group C =Average speech rate (150-170 wpm)

Analyses of the scores via one-way ANOVA exhibited in Table 9 show that there was no significant difference among two of the three groups ($p=0.82$). This outcome supports the third hypothesis that there was no significant difference in listening comprehension performance between the slower-than-normal speech rate (below 130

wpm) and the average speech rate (150-170 wpm). On the other hand, the results are in conflict with the first and the second hypothesis that the moderately slow speech rate (130-150 wpm) would lead to better listening comprehension performance compared to the slower-than-normal speech rate (below 130 wpm), and that the moderately slow speech rate would lead to better listening comprehension compared to the average speech rate.

Table 9: Results of one-way ANOVA measuring listening comprehension scores of Group A, B, and C

	SS	DF	MS	F	P
Between Groups	4214.182	2	2107.091	2.643	.082
Within Groups	36667.451	46	797.118		
Total	40881.633	48			

Therefore, regarding the first research question inquiring the effect of the slowed-down speech rate on listening comprehension, the results show that neither the moderately slow speech rate nor the slower-than-normal speech rate could enhance the listening comprehension level compared to the average speech rate. In other words, no facilitative effect of the slowed-down speech rate on listening comprehension is revealed. However, as Table 10 indicates, the p value between Group B and Group A is quite different from the p value between Group C and Group A. Although it was also indicated that there was no significant difference between Group B and Group C, Group C performed better than Group B, when compared to Group A. A further examination on the raw scores in the three groups was therefore considered

appropriate, which will be discussed in Chapter Five (p.73).

Table 10: Results of Multiple Comparison measuring listening comprehension scores for Group A, B, and C

Comparison	sig
Group A vs. Group B	.652
Group A vs. Group C	.071
Group B vs. Group C	.335

Note. Group A=Slower-than-normal speech rate (Below 130 wpm); Group B=Moderately slow speech rate (130-150 wpm); Group C =Average speech rate (150-170 wpm)

4.2. The effect of the gradually-increasing speech rate on listening comprehension

Section 4.2 can be divided into four sections. Section 4.2.1 addresses the restated second research question and the fourth hypothesis. Section 4.2.2 presents the data analysis procedure of free recall protocol. Section 4.2.3 deals with the statistical results regarding the temporal and conditional differences of Group D (the training of gradually-increasing speech rate) and Group E (the training of steady average speech rate). The temporal difference refers to the listening comprehension performance of Group D and Group E separately during the four-week training. The conditional difference refers to the comparison of listening comprehension performance between the two groups of different speech rate treatment. Finally, Section 4.2.4 exhibits the qualitative results obtained in the semi-structured interview.

4.2.1. The Second Research Question

The second research question and the fourth hypothesis were restated due to the

fact that the results of the first research question indicate that the most beneficial slowed-down speech rate is the slower-than-normal speech rate rather than the moderately slow speech rate originally hypothesized by this study. The gradually-increasing speech rate set to start from the moderately slow speech rate was therefore reset to be started from the slower-than-normal speech rate. This modified second research question and fourth hypothesis are presented as below:

RQ2: Which rate-controlled training condition—the gradually-increasing speech rate from the slower-than-normal to the average speech rate (below 130 wpm -170 wpm) or steady average speech rate (150-170 wpm)—has a stronger facilitative effect on listening comprehension?

Hypothesis 4: The training with the gradually-increasing speech rate from the slower-than-normal to the average speech rate has a stronger facilitative effect on listening comprehension than the training with steady average speech rate.

4.2.2. Data Analysis Procedure of Free Recall Protocol

As mentioned in Chapter Three (p. 38), free recall protocol was used during the training to elicit the listening comprehension behavior. Results obtained through analyzing the score of the free recall protocol reveal the conditional and temporal differences of Group D and Group E under different speech rate conditions. Therefore, the data analysis procedure of free recall protocol is crucial to provide a valid examination on the results. This section is devoted to elaborate the data analysis procedure of free recall protocol, including the scoring criteria and the scoring method.

Two sets of scoring criteria were established respectively for assigning scores on detail and main idea recall. The scoring criteria for detail recall were mapped out by two raters who first used the news titled “Opposition Rallies against Venezuela

Reform Plan” as the training material to reach consensus on coding the idea units in the text. Then, the raters marked independently the idea units of the four entries of news adopted as the listening input to conduct free recall (Appendix H). After sorting out the different markings, the raters established the criteria for assigning score of detail recall. The inter-rater reliability was .985. The number of idea units in the four entries of news employed for conducting free recall protocols is presented in (Appendix I).

Another set of scoring criteria was for assigning score of main idea recall, which were a simple scoring scheme also constructed by the two raters discussing the main idea of the news based on certain words and key phrases (Appendix J).

Regarding the scoring method, the scores of main idea and detail were calculated separately. For the detail scores, two raters gave the scores with the reference to the scoring criteria mentioned previously. A complete idea unit is given ten points, a partial idea units is given five points, the relevant yet scattered phrases is given one point, and no points for the irrelevant ones. This score was further divided by the number of the idea units in the listening text to make a sound comparison between the four entries of news. In other words, the same raw score gained for different entries of news was weighted differently, for different entries of news have different number of idea units in total. For example, a participant given 100 points in detail section of the news “Hurricane Dean Intensifies to Category 5, Heads toward Mexico” would actually obtain 3.7 points since the news contained 27 idea unites, and the same 100 points would become 4.3 points in the news “Raul Castro Picked as Cuba’s President” with 23 idea units.

As for the main idea score, two raters, referring to the simple scoring scheme

introduced earlier, assigned the scores independently. A complete message was ten points; a partial one was five points, and an irrelevant message was given zero point. The inter-rater reliability was .933.

4.2.3. Results of the Temporal and Conditional Differences of Group D and Group E

This section is composed of four parts. First, the pretest results of Group D and Group E are reported. Second, the temporal difference between Group D and Group E is presented utilizing Independent-Sample *t*-test regarding their listening performance on main idea and detail respectively. Third, the temporal difference within Group D and Group E is illustrated separately via one-way repeated measure ANOVA, including both the listening performance on main idea recall and detail recall. Finally, the conditional difference between Group D and Group E is demonstrated through Independent-Sample *t*-test based on the results of listening comprehension test.

Pretest Results:

The descriptive statistics and *t*-test results of pretest are given in Table 12. The results show no significant difference between Group D and Group E ($p=.398$). Those two groups were therefore homogeneous considering their English listening proficiency level.

Table 11: Results of Independent-Sample t-test measuring pretest scores for Group D and Group E

	<u>Group D</u>		<u>Group E</u>		Mean Difference	t-value	P
	M	SD	M	SD			
Pretest	90.35	12	94.23	11.33	-.387	-.862	.398

Note. Group D= Slower-than-normal to the average speech rate (below 130 wpm -170 wpm) (150-170 wpm); Group E= Steady average speech rate

The Temporal Difference between Group D and Group E:

In this part, the results regarding the listening performance on main idea recall are presented first, followed by the listening performance on detail recall.

Concerning the listening performance on main idea recall between Group D and Group E, the descriptive statistics given in Table 13 show that the mean scores of Group D were higher than Group E in week 1 (Group D, $M= 7.777$; Group E, $M= 7.115$), week 2 (Group D, $M= 8.888$; Group E, $M= 3.461$), and week 4 (Group D, $M= 6.111$; Group E, $M= 2.884$), but was lower than Group E in week 3 (Group D, $M= 4.444$; Group E, $M= 6.92$). Table 12 also reveals a significant difference through Independent-Sample t -test in week 4 ($p= .035$), showing that Group D outperformed Group E regarding main idea recall in the fourth week of the training.

As for the listening performance on detail recall between Group D and Group E, the descriptive statistics and t -tests results in Table 14 show that throughout the four-week training, Group D (W1, $M= .563$; W2, $M= .681$; W3, $M= 1.508$; W4, $M= .627$) recalled more detail of the listening input than Group E (W1, $M= .344$; W2, $M= .502$; W3, $M= 1.025$; W4, $M= .486$). Nevertheless, as indicated by the results of the Independent-Sample t -tests, no significant difference is found between these two

groups ($F = .532, p > .05$).

Table 12 :Results of Independent-Sample t-test measuring main idea scores of Group D and Group E

	<u>Group D</u>		<u>Group E</u>		Mean	<i>t</i> -value	<i>P</i>
	M	SD	M	SD	Difference		
Week1 Article 1	7.777	3.078	7.115	3.797	.662	.539	.596
Week 2 Article 2	8.888	16.873	3.461	4.150	5.427	1.130	.268
Week 3 Article 3	4.444	4.501	6.92	3.97	-2.478	-1.587	.123
Week 4 Article 4	6.111	4.042	2.884	3.932	3.226	2.218	.035*

Note. Group D= Gradually-increasing speech rate from the slower-than-normal to the average speech rate (below 130 wpm -170 wpm); Group E= Steady average speech rate (150-170 wpm)

Table 13: Results of Independent-Sample t-test measuring detail scores of Group D and Group E

	<u>Group D</u>		<u>Group E</u>		Mean	t-value	P
	M	SD	M	SD	Difference		
Week1 Article 1	.563	.431	.344	.260	.218	1.622	.116
Week 2 Article 2	.681	.389	.502	.365	.178	1.293	.206
Week 3 Article 3	1.508	.911	1.025	.823	.482	1.514	.141
Week 4 Article 4	.627	.427	.487	.272	.139	1.033	.310

Note. Group D=Gradually-increasing speech rate from the slower-than-normal to the average speech rate (below 130 wpm -170 wpm); Group E= Steady average speech rate (150-170 wpm)

Based on the above results, the training of gradually-increasing speech rate enhanced participants' ability of listening for the gist compared to the training of steady average speech rate.

The Temporal Difference within Group D and Group E:

This part first shows the results with regard to the temporal difference within Group D. Next, the results of the temporal difference within Group E are addressed. While showing the temporal difference within each group, the performance on listening for main idea and detail are both reported.

For the main idea recall within Group D during the training, the results of

one-way repeated measure ANOVA indicated in Table 15 showed no significant difference ($F= .532$).

Table 14: Results of one-way repeated measure ANOVA analyzing main idea scores of Group D

	SS	DF	MS	F
Between Subjects	946.53	17	55.68	
Within Subjects	4881.25	54		
A Difference	204.17	3	68.06	.532
Residuals	4677.08	51	91.71	

Note. A=Time Differences

Examination on the distribution of the main idea scores across the four weeks revealed that the main idea score of Group D increased from the first week ($M= 7.777$) to the second week ($M= 8.888$) and from the third week ($M= 4.444$) to the fourth week ($M= 6.111$). Nevertheless, a decrease of main idea score was found from the second week ($M= 8.888$) to the third week ($M= 4.444$). This decrease of main idea score from the second week to the third week, followed by an increase of main idea score from the third week to the fourth week merits further discussion, which will be discussed in the Chapter Five (p. 73).

For the detail recall within Group D during the training, a significant difference was found in Table 16 ($p= .00$) measured by one-way repeated measure ANOVA. A post hoc analysis of multivariate analysis of variance (MAVOVA) was therefore conducted. As given in Table 17, the significant differences were from the comparisons between the third week and the first week ($p= .000$), the third week and the second week ($p= .000$), and between the third week and fourth week ($p= .000$). By referring back to Table 16, the detail scores of Group D in the third week ($M=1.508$)

were much higher than those in the first week ($M=.563$) and the second week ($M=.681$), which revealed a significant increase of listening comprehension in the third week compared to the first two weeks of the training. However, a noteworthy decrease of detail scores in the third week ($M=1.508$) to the fourth week ($M=.627$) was observed. In other words, the listening comprehension level of listening for main idea increased gradually for the first three weeks of the training, and yet was followed by a drastic drop in the last week of the training.

Table 15: Results of one-way repeated measure ANOVA analyzing the detail scores of Group D

	SS	DF	MS	F
Between Subjects	12.13	17	.71	
Within Subjects	21.55	54		
A	10.69	3	3.56	.000
Residuals	10.86	51	.21	

Note. A=Time Differences

Table 16: Results of MANOVA analyzing detail scores of Group D

dependent variables	parameter	B	Std. Error	t	Sig
W4-W2	Intercept	.073	6.108	-.630	.657
W4-W1	Intercept	.073	6.108	-3.832	.657
W4-W3	Intercept	13.974	11.276	-4.312	.000*
W3-W2	Intercept	12.317	9.336	2.252	.000*
W3-W1	Intercept	16.074	8.862	.586	.000*
W1-W2	Intercept	.250	4.154	2.082	.326

Concerning the main idea recall within Group E during the training, the results of one-way repeated measure ANOVA given in Table 18 show a significant difference, leading to a post hoc analysis via MAVOVA. As Table 19 delineates, the significant differences are from the comparisons between the fourth week and the first week ($p = .002$), the fourth week and the third week ($p = .004$), the third week and the second week ($p = .013$), and between the first week and the second week ($p = .003$). By referring back to Table 13, it shows that the mean score of Group E in the fourth week ($M = 2.884$) was not only considerably lower than the first week ($M = 7.115$), and the third week ($M = 6.92$), but also the lowest mean compared to the group itself and to Group D.

Table 17: Results of one-way repeated measure ANOVA analyzing the main idea scores of Group E

	SS	DF	MS	F
Between Subjects	493.27	12	41.11	
Within Subjects	456.25	39		
A	194.71	3	64.90	.000
Residuals	261.54	36	7.26	

Note. A=Time Differences

This outcome demonstrates a significant decrease in listening comprehension from the first week to the second week of the training, followed by a significant increase to the third week. In the last week of the training, though, the score suddenly dropped greatly.

Table 18: Results of MANOVA analyzing the main idea scores of Group E

dependent variables	parameter	B	Std. Error	F	Sig
W4-W2	Intercept	4.327	151.923	.342	.570
W4-W1	Intercept	232.692	167.308	16.690	.002*
W4-W3	Intercept	212.019	6.187	7.290	.004*
W3-W2	Intercept	155.769	219.231	8.526	.013*
W3-W1	Intercept	.481	168.269	.034	.856
W1-W2	Intercept	173.558	145.192	14.344	.003*

Table 20 shows a significant difference ($p = .001$) of the detail scores within Group E during the training utilizing one-way repeated measure ANOVA. A post analysis of MANOVA was then conducted. As shown in Table 21, the significant differences were from the comparisons between the third week and the first week ($p = .004$), the third week and the second week ($p = .027$), and between the fourth week and the third week ($p = .019$). As can be seen in Table 14, the mean score from Group D in the third week ($M = 1.025$) was much higher than the second week ($M = .502$) and the first week ($M = .344$), illustrating a significant increase in listening comprehension compared to the first two weeks of the training. Another significant difference was a striking decrease of listening comprehension from the fourth week ($M = .272$) to the third week ($M = 1.025$), showing a decrease of mean score. This outcome reveals a similar detail scores distribution in Group D showing a gradual increase of detail recall for the first three weeks of the training, followed by a decrease of score in the last week of the training.

Table 19: One-way repeated measure ANOVA of detail scores for Group E

	SS	DF	MS	F
Between Subjects	5.55	12	.46	
Within Subjects	9.37	39		
A	3.48	3	1.16	.001
Residuals	5.89	36	.16	

Note. A=Time Differences

Table 20: Results of MANOVA analyzing detail scores of Group E

dependent variables	parameter	B	Std. Error	F	Sig
W4-W2	Intercept	.003	1.692	.020	.891
W4-W1	Intercept	.266	1.887	1.692	.218
W4-W3	Intercept	3.758	6.187	7.290	.019*
W3-W2	Intercept	3.557	6.700	6.371	.027*
W3-W1	Intercept	6.025	5.947	12.158	.004*
W1-W2	Intercept	.323	1.165	3.330	.093

According to the analysis of temporal difference of Group D and Group E illustrated above, neither the training of gradually-increasing speech rate nor the training of steady average speech rate facilitated participants' listening comprehension.

The Conditional Difference within Group D and Group E:

The scores of listening comprehension test were analyzed through

Independent-Sample t-test to examine the conditional difference between Group D and Group E. As Table 22 indicates, the mean score of Group D ($M= 153.18$) was higher compared to Group E ($M=140.41$). However, no significant difference was found between the two groups ($p= .21$).

Table 21: Results of Independent-Sample t-test measuring listening comprehension scores of Group D and Group E

	<u>Group D</u>		<u>Group E</u>		Mean Difference	t-value	P
	M	SD	M	SD			
Pretest	153.18	26.57	140.41	20.61	12.76	1.29	.21

In summary, as could be inferred from the results inclusive of the temporal difference and the conditional difference of Group D and Group E, the gradually-increasing speech rate, compared with the steady average speech rate, could merely enhance the listening comprehension of listening for the gist.

4.2.4. Results of the Semi-structured Interview

One important question posed in the beginning of the interview was that whether the participants spent time on reading the transcription of the news given during the training. According to their feedbacks, instead of memorizing the vocabulary intentionally by a line-by-line approach, they merely glanced over the transcription, which suggested that the reading of the transcription would not become an interfering variable affecting the outcomes of the training.

To summarize the overall results of the interview, all participants responded positively toward their training and reported enhanced listening comprehension ability

after the training, though this enhancement could be a psychological, self-promising effect rather than a solid evidence-proven outcome. Also, seven of the eight participants stated that they would like to use news as a training device in the future for self-training. Only one participant reported a lack of interest in using the news as the training material due to the fact that some topics of the news were dry to her, such as politics and finances news, thus affecting her concentration on the incoming cues of the listening input.

Some other interesting feedbacks from the interview are presented below. First, only one of the four participants who attended the interview in Group D was aware of the gradually-increasing speech rate during the training. This was a rather unexpected outcome since the change of increased speech rate was of quite a wide range, from 130 WPM to 160 WPM. Second, all participants agreed that news could be more difficult compared to other types of listening materials, but five of the eight participants mentioned that the content, or the topic, of the news held the most crucial key to its difficulty, which in turn influenced their willingness to pay attention to the detail of the news. Third, two contradictory opinions were commented from two participants; while one participant contended that the daily two- to three-minute news could be too short for improvement to occur, the other participant stated that she enjoyed the short-length news in the training because in this way the news would not be intimidating. They agreed with each other, though, that it would be a beneficial approach if the news had been prolonged for the later stage of the training. Fourth, the strategy knowledge about listening for the gist of the news without knowing every word was reported by one of the participants. Fifth, one of the participants reflected that due to her experience in English listening classes allowing the students to listen to the same listening texts for three times, the listening-to-it-once restriction during the training required by the researcher was quite frustrating. At last, all of the

interviewees mentioned that one of the greatest strengths of this four-week training was its compelling procedure implemented by the researcher, who reminded them to do the listening by text messages or phone calls. Therefore, they had indeed developed an everyday routine of listening to the news.

CHAPTER FIVE DISCUSSION

This chapter provides discussions for the results of this study. The results obtained from examining the effect of slowed-down speech rate on listening comprehension were discussed in section 5.1. The results regarding the effect of gradually-increasing speech rate on listening comprehension were explicated in section 5.2. Finally, interpretations for the learners' perception toward speech rate are addressed in section 5.3

5.1. The Effect of Slowed-down Speech Rate on Listening

Comprehension

This section first illustrates the treatment of a confounding score. Then, the final outcomes of the effect of slowed-down speech rate on listening comprehension are reported.

The Confounding Score:

Closely examining the raw scores of the listening comprehension test, the researcher found that there was one score greatly influencing the overall results. This score was conspicuously higher than the other scores so that it prompted the researcher to conduct an interview with the participant who received the score.

The interview was about four weeks after the formal test. Before the interview, the researcher invited the participant to take the listening comprehension test again. The researcher then examined each answer given by the participant while the

participant explained in retrospection how she got the answers and what she was thinking. The discussion demonstrated that she was not guessing in the listening comprehension test. The researcher inquired about her English learning method, and found that she listened to BBC an hour per day. This practice, according to the participant, having been on-going for almost seven years, gave a reasonable explanation for her particularly high score. Her outstanding English proficiency was later confirmed by her English listening teacher, who once mistook her as someone who had studied, or at least spent some time, in an English-speaking country.

Table 22: Results of Multiple Comparison measuring listening comprehension test scores without confounding data of Group A, B, and C

Comparison	sig
Group A vs. Group B	.611
Group A vs. Group C	.016*
Group B vs. Group C	.123

Note. Group A= Slower-than-normal speech rate; Group B= Moderately slow speech rate; Group C=Average speech rate

This participant's English proficiency is clearly superior to that of the other participants in this study. As a result, it is necessary to exclude her score for the purpose of obtaining a valid outcome. After omitting her score, it is not surprisingly that, as Table 23 displays, a significant difference was found between Group A listening to the slower-than-normal speech rate and Group C listening to the average speech rate ($p = .016$). The third hypothesis of no difference in listening comprehension performance between the slower-than-normal speech rate and the average speech rate was therefore not supported.

The Final Outcome:

As suggested by the hypotheses concerning the effect of the slowed-down speech rate on listening comprehension, the principal prediction from this study is that the listening comprehension would not increase if the speech rate is too slow and that a suitable slow speech rate, represented by the moderately slow speech rate in this study, could increase listening comprehension effectively. When a slowed-down speech rate is overstretched, as represented by the slower-than-normal speech rate in the study, the listening comprehension would not be improved when compared to results for the average speech rate.

This motivation of examining the possible invalid effect from overstretched slowed-down speech rate, as noted earlier in Chapter One (p.1), grew out of Griffiths' studies done in 1990a and 1991a. A comparison of the results in these two studies showed that attempting to increase listening comprehension by slowing down the speech rate from the average speech rate was ineffective when the slowed-down speech rate was too slow. In Griffiths' study done in 1990a, the results showed that the text delivered at a slower speech rate, 100 WPM, was not more comprehensible than the same text delivered at a normal speech rate, 159 WPM. Nonetheless, in 1991a, a significant difference in listening comprehension was obtained between the slower speech rate and the normal speech rate when the slower speech rate was adjusted to 127 WPM and the normal speech rate was adjusted to 188 WPM. It was then hypothesized that when compared to the average speech rate, a slower-than-normal speech rate would not lead to an increase in listening comprehension, but a moderately slow speech rate would.

The results in this study, though, failed to support the hypotheses. For the first hypothesis, it was predicted that the moderately slow speech rate would lead to better listening comprehension performance compared to the slower-than-normal speech

rate. However, no significant result was obtained to support a difference in comprehension. The second hypothesis was that the moderately slow speech rate would lead to better listening comprehension compared to the average speech rate, but the results established no significant difference in the level of comprehension between these two speech rates. The moderately slow speech rate was therefore not effective in increasing increase listening comprehension compared to the slower-than-normal or the average speech rate. The third hypothesis was also not supported, as illustrated in the previous section.

While it was predicted that there was no difference in listening comprehension between the slower-than-normal speech rate and the average speech rate, a significant difference between these two speech rates in listening comprehension was revealed. The slower-than-normal speech rate led to a significant increase of listening comprehension compared to the average speech rate, demonstrating that the most adequate slowed-down speech rate for increasing listening comprehension is the slower-than-normal speech rate. In other words, the results indicated that between the two slowed-down speech rates, the slower-than-normal speech rate, and not the moderately slow speech rate, is the most beneficial slowed-down speech rate to increase listening comprehension.

Although running counter to the hypotheses, this finding is plausible for the following reasons. First, the slower-than-normal speech rate in this study, literally around 125-130 WPM, was not as slow as the slow speech rate in Griffiths' study, 100 WPM. It is, therefore, the researcher's contention that a slower speech rate of around 130 WPM will result in improved listening comprehension, whereas a rate of 100 WPM will have a negligible effect. 100 WPM was not adopted as the slower-than-normal speech rate because the speech rate adjustment instrument employed in this study, CoolEdit, can only slow the original speech rate by 20%

without distorting the original pitch. The inherent disadvantage of the instrument was not given sufficient consideration because it is the only validated speech rate adjustment tool available for rate studies. In summary, the limitation of CoolEdit left a rate of around 130 WPM rate as the slowest usable speech rate. This is strongly believed to be a major factor in failing to achieve the anticipated results.

Another possible cause for the contradictory results is the genre type of the listening text: the news. News, which is comprised of specialized text full of technical or specialized vocabulary and filled with information, can be daunting for language learners, especially in the case of EFL students. The slower-than-normal speech rate when applied to other text types might not be facilitative; however, when it is applied to the news, the slower-than-normal speech rate is more likely to effectively enhance listening comprehension for language learners.

To conclude, the students listening to the slower-than-normal speech rate attained a significantly higher level of listening comprehension compared to the students listening to the average speech rate. However, the students listening to the moderately slow speech rate did not outperform the students listening to the average speech rate. This shows that the slowed-down speech rate intended to increase the listening comprehension level must be stretched to around 130 WPM to effectively and significantly increase listening comprehension. In short, the slower-than-normal speech rate was proved to effectively slowed-down speech rate that effectively increases listening comprehension of authentic news with the average speech rate.

5.2. The Effect of Gradually-increasing Speech Rate on Listening Comprehension

This section is divided into six parts. The findings obtained from the main idea recall are discussed first, followed by the discussion on detail recall. Then, a

comparison of scores distribution between the main idea recall and detail recall are addressed. Following the comparison, the result of the listening comprehension test is examined. Afterwards, the results from the semi-structured interview are discussed. Finally, a short summary of the results is presented

Main Idea recall:

As displayed in Table 13, the mean scores of main idea in Group D were higher than Group E in the first two weeks of the training. In the third week, however, Group D dropped from a mean score of 8.888 in the second week to a mean score of 4.444 whereas Group E surged from a mean score of 3.461 in the second week to a mean score of 6.92. This contrast continued to the fourth week when Group D climbed to a mean score of 6.111, which was closer to the score obtained in the first week of the training, while Group E plummeted to a mean score of 2.884, the lowest score in the training.

The improved listening comprehension level of Group E from the second week to the third week was probably due to the fact that Group E had constantly listened to the listening texts with average speech rate, which fostered their ability to ignore the unfamiliar or unknown words, thus contributing to the listening comprehension improvement. This jump of score was then followed by a huge decline of score at the end of the training. One possible explanation for the sudden drop postulated by the researcher is the fatigue effect of the four-week training where the participants listened to the texts with authentic average speech rate five days a week.

As for Group D, the drop of listening scores in the third week might suggest a speech rate threshold period when the language learners still relied on word-by-word processing due to the previous slower speech rate, and plunged due to the comprehension breakdown attributed to increased speech rate. In fact, the sacrificed

listening comprehension is part of the process of adjusting to the faster speech rate. This is necessary for the listeners to begin to comprehend the yet-to-be digested speech rate, and finally to proceed to the later stage of comprehending texts delivered at a faster speech rate at ease. In this study, the participants in Group D entered the threshold period when the speech rate reached around 150WMP, as evidenced by the decrease of listening comprehension. Eventually, the relatively higher mean score of Group D in the last week of the training shows the end of the threshold period. This result suggests that, for the use of the gradually-increasing speech rate as a training device, a decrease in listening comprehension is indispensable to attain a higher level of listening comprehension for the gist.

As previously discussed, the group with the training of steady average speech rate could receive high mean scores during the four-week training, but it also experienced a tremendous drop in the last week of the training. As for the group with the training of the gradually-increasing speech rate, a decreased listening comprehension on main idea would be observed, and yet was followed by a rather satisfying listening comprehension performance. In addition, considering the significant difference between Group D and Group E in the last week of the four-week training ($p = .035$), the training group with the gradually-increasing speech rate experienced a stronger facilitative effect on listening comprehension than the training group with steady average speech rate. This result is aligned with the fourth hypothesis.

Detail recall:

There was no significant difference of detail recall between Group D and Group E throughout the four-week training. The fourth hypothesis that, regarding listening for detail, the training with the gradually-increasing speech rate does not have a

stronger facilitative effect on listening comprehension than the training with steady average speech rate is therefore not supported.

In fact, all the mean scores of Group D were higher than those for Group E throughout the four-week training. It is plausible that the participants in Group D could catch more detail than Group E at the beginning of the training since Group D started with a slower speech rate compared to Group E. It is worth noting that when the speech rate was gradually increased to the average speech rate, the participants in Group D could still maintain their ability to process faster input and recall relatively more detail compared to Group E. This shows that the gradually-increasing speech rate could be used as a training device to develop listeners' rapid word recognition, or automatic processing device, already discussed in the literature review chapter (p. 12) and described as one of the important traits a competent second language speaker should acquire.

Comparison of Score Distribution between Main Idea Recall and Detail Recall:

A diverse score distribution between main idea recall and detail recall of Group D and Group E was observed. Considering the detail scores, Group D and Group E showed a similar detail score distribution throughout the four-week training, whether the score was rising or dropping. This was in contrast to the score distribution of main idea recall where a high score in Group D was always accompanied by a low score in Group E throughout the training, and vice versa.

One possible explanation for this diverse difference between the score distribution is that the recall of detail is less affected by the change of the speech rate, which, nonetheless, seriously influences the main idea recall. Listeners could score high on the detail section regardless of the speech rate for two reasons. First, note-taking is allowed during the listening. Good note-takers could jot down

everything they hear to get a fairly high score. Second, the jotting down of information only takes one-way processing, bottom-up processing, which merely requires the listeners to pay attention to the smallest units. On the contrary, grasping the main idea of the listening takes more effort since the note-taking doesn't guarantee the incoming signals can be reconstructed as a whole. To listen for the gist, the listeners have to take in the incoming spoken signals while making sense of the signals as related information, and finally building up the elements into a complete message. This two-way processing, being more mentally challenging, is probably more controlled by the change of the speech rate. The diverse degree of effect of speech rate on retrieving detail and main idea was clearly revealed by comparing the main idea scores and detail scores of Group D and Group E in the beginning of the training. In terms of the main idea scores, Group D starting with a slowed-down speech rate could score higher than Group E beginning with the average speech rate. The detail scores, though, were approximately the same between these two groups. In summary, the effect of the speech rate on listening comprehension might vary depending on what kind of listening comprehension performances were observed.

Listening Comprehension Test:

As presented in the results section, there was no significant difference between the mean scores of Group D and Group E on the listening comprehension test. This suggests that the training with the gradually-increasing speech rate does not have a stronger facilitative effect on listening comprehension than the training with steady average speech rate.

Semi-structured Interview:

The results from the semi-structured interview showed that the listening training, whether with or without the gradually-increasing speech rate, has a confidence-building effect on the participants' listening comprehension ability, supported by the fact that the participants from both groups respond positively to the training, including the improvement of listening comprehension performance and the willingness to do listening self-training using news as their listening material.

Summary:

As discussed above, in terms of the listening comprehension performance, only the results from listening for main idea demonstrate a stronger facilitative effect from the training with the gradually-increasing speech rate than the training with steady speech rate. No difference between these two training conditions was found, though, regarding the other two measurements of listening comprehension, including the free recall test of listening for detail and the final listening comprehension test.

Concerning the participants' feedback from the semi-structured interview, both uses of the rate-controlled training led to a positive perception from the participants that their listening comprehension performance was improved after the training.

Given these results from both quantitative and qualitative measurements of listening comprehension, the only significant strength of the gradually-increasing speech rate training is the enhanced listening comprehension level of listening for main idea.

5.3. Learners' Perception on Speech Rate

This section elucidates that learners' perception on speech rate is not reliable based on the finding in this study, which in turn validates the fact that speech rate

categorization based on learners' perception may be problematic.

According to the semi-structured interview result, only one of the four participants under the gradually-increasing training was aware of the change of the speech rate. This shows that the learners' perception on speech rate is not reliable, which corroborates Hasan's (2000) point of view that learners would fail to perceive the factors that interact and influence their perception. In other words, the listening problems that the language learners seem to experience may not reflect what actually happens. "The listener, however, might identify one factor, among others, which he thinks can be behind some of his listening problems" (Hasan, 2000 p.137).

As many researchers of rate studies asserted a discrepancy between learners' perceived speech rate and the actual condition of the listening input (Drewing & Munro, 1997, 2001; Hasan, 2000), this study also found the learners' perception on speech rate is not reliable, suggesting the rate studies depending on the listeners' perception to categorize the speech rate as slow or fast, i.e. the learner's perspective for speech rate categorization, would fail to explore the true effect of speech rate on listening comprehension as a frustrating and unfeasible approach was adopted

CHAPTER SIX CONCLUSION

This chapter begins with a summary of major findings of this study, followed by pedagogical implications for EFL listening instruction. Limitation of the study and suggestions for future research are also provided.

6.1. Summary of Major Findings

First, among the two slowed-down speech rates, the slower-than-normal speech rate (around 130 wpm) results in the greatest enhancement of listening comprehension compared to the average speech rate (130-150 wpm). This finding indirectly validates the use of the slowed-down speech rate in increasing language learners' listening comprehension for the authentic material. Hence, Vandergrift's (2007) claim on the unnecessarily facilitative effect from the slowed-down speech rate on listening comprehension might be viewed with skepticism.

Second, the training of listening to the gradually-increasing speech rate has a stronger facilitative effect on retrieving main idea than the training of listening to the steady average speech rate. Regarding listening for detail, no significant difference between the gradually-increasing speech rate and steady average speech rate was revealed.

All in all, this study confirms the efficiency and practicality of the slower-than-normal speech rate and the gradually-increasing speech rate on increasing listening comprehension, their intuitional attractiveness notwithstanding.

Lastly, this study strongly suggests that the language learner's perception of speech rate is not reliable since the participants listening to the gradually-increasing

speech rate were not aware of the change of the speech rate. This suggests that in rate studies the use of the learners' perception to categorizing speech rate is probably not as legitimate as the textual perspective proposed in this study.

6.2. Pedagogical Implications

Some pedagogical implications are derived from the results and findings in this study. First of all, the listening teachers are informed that, instead of spending time on explaining vocabulary or reading the transcription, they could slow down the speech rate to just under 130 WPM to effectively enhance listening comprehension of authentic broadcast news when the EFL students are faced with a listening comprehension breakdown. The vocabulary explanation and the reading of the transcription could skew the goal of the listening class, which is to enhance students' listening comprehension. Given the fact that one of the primary goals in listening classes is to make listening texts more understandable for the students when their comprehension is blocked, slowing the speech rate to below 130 WPM could have pragmatic value for listening teachers aiming to enhance students' listening comprehension without sacrificing the time for the listening itself.

For listening teachers intending to use the gradually-increasing speech rate to improve students' listening comprehension performance, the results in this study demonstrated that the training of gradually-increasing speech rate facilitates the language learners' ability to listen for the main idea of a listening text with the average speech rate, which is difficult to comprehend before the training. In other words, by presenting listening texts starting with the slower-than-normal speech rate and gradually increasing to the average speech rate, language learners would adjust themselves to the faster speech rate, which might be initially impossible for them to comprehend. Teachers using this technique in a listening training should be reminded

that, as shown in this study, a decrease of listening comprehension for the gist might occur when the speech rate reaches around 150 WPM. However, language learners would manage to adjust themselves to the faster speech flow and finally arrive at a satisfying listening comprehension level.

In light of the finding that the students' listening comprehension is benefited if the input follows a gradually-increasing speech rate sequence, the gradually-increasing speech rate could be the basic guideline for in-class teacher talk: teachers could slow down the speech rate at the beginning of the class and gradually increase the rate to natural speech flow toward the end of the class. Despite the fact that the teachers could not measure the speech rate as accurately in each class as the instrument could produce, teachers should put effort into their overall control of speech flow. This is advocated by Dobbs (1995), who believed that an important quality of a competent language teacher is the ability to self-examine the speech rate in class. In view of the fact that the language teachers should highlight the significance of their overall control of speech rate, the gradually-increasing speech approach could be a basic guideline for English teachers to control their speech flow in class.

Some other pedagogical implications for listening teachers to consider are derived from the semi-structured interview, including the importance of topics in news, the role of vocabulary in news, and the dependence on listening input repetition in classes. These pedagogical implications are presented as follows.

It was reported by most of the interviewees that the topic is one of the crucial factors affecting their concentration on the news. The topic selection of news, therefore, might take on a more crucial role than other features of news, such as the vocabulary density, accent, speech flow, and culture references. In other words, the teachers using news as the listening material may have to take the topic into serious

consideration rather than merely considering the vocabulary load or other features mentioned previously.

Additionally, one of the participants commented, he thought the training helped him ignore the vocabulary he didn't understand in the listening text and still manage to grasp the gist of the news. This shows that the listening input with difficult vocabulary might not be the reason for the teachers to drop the text, rather it might be a chance to train the students to catch the gist of the news without understanding every word. This skill is integral to building up students' listening ability in real situations.

Moreover, one participant reported that the restriction of listening to the materials one time only was frustrating due to her previous experience in English listening class where students were allowed to listen to the same listening text for three times. This highlights the great influence of in-class practice on the students. It is therefore recommended that the listening teachers restrain the students from repeating the same listening input for too many times in order to prepare them for the real-world listening situation.

6.3. Limitation of the Study

The interpretation of the results in this study might be viewed with care due to the limitations of the sample size, the instrument used, and the result requiring further illumination.

The sample size:

This study was conducted with a rather small sample size of 49 participants in the first phase of experiments and 23 participants in the second phase of experiments. This constraint of small sample size might affect to some extent the generalizability of

the results from the study.

The instruments:

The limitation of the instruments refers to the speech rate adjustment tool, CoolEdit, and the listening comprehension test designed by the researcher.

CoolEdit is the only currently validated speech rate adjustment tool among rate studies; however, it can only slow the original speech rate by 20% without distorting the original pitch. Therefore, due to the 20% s limitation of CoolEdit, the slower-than-normal speech rate was around 125-130 WPM in this study as opposed to the 100 WPM rate used in Griffith's studies. In other words, by adopting CoolEdit as the speech rate adjustment tool, this study failed to use the slower-than-normal speech rate that was originally intended to be used. This instrument limitation could be a possible flaw for the counter-prediction results.

Another instrument limitation comes from the listening comprehension test designed by the researchers. It has to be admitted by this study that the reliability of the listening comprehension test with a moderate correlation with the standard TOEIC listening test is not satisfactory ($r = .463$). A higher correlation could have strengthened the validity of the listening comprehension test and could have resulted in a more confident interpretation of the test results.

The result requiring further illumination:

The result that requires further illumination is the one obtained from Group E listening to the steady average speech rate indicating unusual distribution of main idea scores from the third week of a rather high score to the fourth week of a huge decline of score. It appears that a three-week training program could be beneficial to this training group, and yet could result in a fall when the training continued to the fourth

week due to the fatigue effect. A further explanation is needed to explain this anomalous score distribution.

6.4. Suggestion for Future Research

First, future research could overcome the limitations mentioned earlier by conducting a research with a bigger sample size, a validated computer-manipulated method that stretches the speech rate to a greater extent, and a higher correlation between the in-house listening comprehension test and the standardized listening comprehension test.

Second, instead of using broadcast news as the listening input, future studies may consider other types of listening text, such as stories or lectures to explore the interaction between text types and speech rate in listening comprehension. The interplay of text types and speech rate is worth examining since the effect of speech rate on listening comprehension might vary with the genre types. It is possible that the great enhancement in listening comprehension attributed from the slower-than-normal speech rate reported in this study is only limited to news. A further investigation is therefore needed to explore the potential interacted effect of speech rate and genre types on listening comprehension.

Third, in future efforts to examine the effect of gradually-increasing speech rate on listening comprehension, researchers could lengthen the duration of the training. As evidenced in the results of this study, the four-week training of listening to the gradually-increasing speech rate only has a stronger facilitative effect than the training of listening to the steady average speech rate concerning listening for the gist. Although there is no research basis for the optimal training duration, more favorable results might be given for the gradually-increasing speech rate training with a longer training duration.

Fourth, this study could only indirectly implicate a possible outcome of the control of teacher talk based on the results obtained from examining the effect of the gradually-increasing speech rate on listening comprehension. It is recommended that an empirical study be conducted to explore the effect of the control of teacher talk on students' listening comprehension improvement and affective responses.

Finally, instead of gradually-increasing speech rate, future studies could investigate the effect of gradually-decreasing speech rate on listening comprehension, wherein the language learners listen to the gradually slowed down speech rate starting with a much faster speech rate that they could hardly comprehend and gradually slowing to the average speech rate. This approach is touted by some textbooks on the market, such as a series of textbooks published by K-shop (2008) titled “*Sped-up listening*”. In order to validate this approach, the effect of gradually-decreasing speech rate on listening comprehension merits exploration.

APPENDICES

Appendix A

您好! 首先非常感謝您參加本測驗, 在測驗開始前, 煩請填寫此問卷。此問券主要目的是讓研究者更了解您學習英語的經驗, 所得到的資料純粹用於學術研究, 個人資料絕對保密, 請放心作答!

Background Questionnaire (背景問卷)

1. 姓名(中文): _____
2. 性別: ☐男 ☐女
3. 到目前為止, 你總共學了多久英文
☐一年以下 ☐一到三年 ☐三到六年 ☐六到九年 ☐九年以上
4. 您是否任何英語考試的認證
☐ 多益 (分數:) ☐ 全名英檢 (級數:) ☐ 托福 (分數:) ☐ 其他
5. 你是否曾在國外居住過
☐否 ☐是 (約____ 年)
6. 您目前約花多少時間自學英語: 一個禮拜約____小時
7. 您平常使用何種方式增強自己的英語聽力
☐看英語電影 ☐聽英語廣播 (請寫出頻道:)
☐購買市面英語學習雜誌或是書籍 (請寫出刊名或書名:)
8. 您是否想增強自己的英語聽力能力
☐非常想 ☐想 ☐普通 ☐不想 ☐非常不想

Appendix B

News 1 transcription

The Central Water Authority advised all resident to use less water. There is very little water in the reservoir, and rain is not expected for weeks. For more information, please visit the city government web site. There you will find a list of ways to reduce water consumption, including watering indoor plants with dishwater, and taking showers instead of baths. If you have an important question regarding the water advisory, please type it in the text box provided on the web site. The city government asks that residents not call the offices regarding this matter.

1. with what does the city have a problem
 - (A) Schools.
 - (B) Crime.
 - (C) Electricity.
 - (D) Water.
2. When is rain expected?
 - (A) In less than a week.
 - (B) In a week.
 - (C) Next week.
 - (D) Not for several weeks.
3. How can residents get more information?
 - (A) By visiting the web site of the Central Water Authority..
 - (B) By calling the city government.

(C) By visiting the city government web site.

(D) By calling the radio station.

News 2 transcription

Patients at City Hospital received holiday gifts today. Children from a local school distributed presents to many of the patients. Keeping in the spirit of the holiday season, the doctors and nurses were given presents as well. A holiday party for hospital patients will take place on Sunday. If you did not have a chance to donate a gift yet, please bring an unwrapped item to floor 7 of the children's ward by Saturday at the latest. Indicate the age and gender appropriateness of your gift. gifts for adult patients will also be accepted.

4. What word was used to describe the gifts?

(A) Beautiful.

(B) Expensive.

(C) Useful.

(D) Holiday.

5. Who distributed presents?

(A) Children.

(B) Doctors.

(C) Nurses.

(D) Patients.

6. When will there be a party for hospital patients?

(A) Sunday..

(B) Monday.

(C) Tuesday.

(D) Wednesday.

News 3 transcription

Malaysia and Canada signed a cultural exchange agreement today. The cultural ministers of both countries attended a concert after the signing. The countries will exchange artists, orchestras, and dance groups. Drama groups are not included in the cultural agreement. It is hoped that a new trade agreement will follow. Relations between Canada and Malaysia have always been strong, and in a recent press conference, both cultural ministers stated that this relationship can only continue to grow.

7. What kind of agreement was signed?
 - (A) Political.
 - (B) Cultural.
 - (C) Economic.
 - (D) Trade.
8. What took place after the signing?
 - (A) A concert.
 - (B) A dinner.
 - (C) A play.
 - (D) A dance.
9. Which of the following groups is NOT part of the agreement?
 - (A) Artists.
 - (B) Drama.
 - (C) Orchestras.
 - (D) Ballet.

News 4 transcription

In financial news, an increase in the sales tax was announced yesterday. The tax will go up from 5 percent to 7 percent, the biggest jump we have seen in years. Some local store owners fear this will cause people to buy fewer things. Local mechanic, Ron Hughes, complained that a 1 percent tax hike ten years ago almost cause him to go out of business. A provincial petition to prevent the rise in sales tax failed to stop the government from passing the bill. The new tax will go into effect next month.

10. How much is the new sales tax?
 - (A) 5 percent.
 - (B) 7 percent.
 - (C) 52 percent.
 - (D) 57 percent.
11. What might be a result of the new sales tax?
 - (A) People will buy new clothes.
 - (B) Some stores will have big sales.
 - (C) People will buy few things.
 - (D) Some new stores will open next month.
12. When will the new sales tax go into effect?
 - (A) Today..
 - (B) Next month.
 - (C) In two weeks.
 - (D) Next year.

News 5 transcription

The new high-speed service to the nation's capital began yesterday. Passengers said they preferred taking the train because it is more convenient than the plane. Three trains a day leave from the downtown train station for the capital. The trip takes two hours by plane. Citizens have been waiting for the new transit system to be completed since construction began on the rails over five years ago. The project was postponed several times over the years due to lack of funding and a labor shortage.

13. When did high-speed train service begin?

- (A) Last month.
- (B) Last week.
- (C) Yesterday.
- (D) Last night.

14. Why do people like the train?

- (A) It's faster than the plane.
- (B) It's new.
- (C) It's convenient.
- (D) It takes a long time.

15. How long is the plane trip to the capital?

- (A) 1 hour.
- (B) 2 hours and 45 minutes
- (C) 3 hours.
- (D) 3 hours and 45 minutes.

News 6 transcription

Mr. Joseph Robbins was apprehended by Argentinean authorities yesterday. Mr. Robbins has been sought by the police after fleeing the United States under

accusations of tax evasion. Mr. Robbins has been living in Argentina under the alias Ricardo Ruiz and was employed as a florist. Argentinean authorities found out about Ruiz's real identity after receiving information from a local merchant. Mr. Robbins will be returned to the United States next week.

16. What crime was Mr. Robbins charged with?
 - (A) Embezzlement.
 - (B) Inside trading.
 - (C) Tax evasion.
 - (D) Gambling.
17. How did the Argentinean authorities find Ruiz?
 - (A) They had a tip from a local merchant.
 - (B) They obtained information from U.S. authorities.
 - (C) They carried out extensive investigation.
 - (D) They traced bogus statement.
18. What will happen to Mr. Robbins now?
 - (A) He will change his name to Ruiz..
 - (B) He will go to jail in Argentina.
 - (C) He will work as a florist.
 - (D) He will be returned to the United States.

News 7 transcription

Heavy snowfall last night caused several minor traffic accidents and was also the reason for the closing of the Green River Bridge. The bridge had just been opened last month after a year-long reconstruction project. Road conditions are still icy today, and the bridge will remain close until Wednesday. Most city buses and trains will also be

delayed today because of the icy conditions. Warmer temperatures and sunny skies on Tuesday should help melt the ice and clear up the roads.

19. Why was the bridge closed?
 - (A) Because of an accident
 - (B). Because of the snow.
 - (C) Because of heavy traffic
 - (D) Because of construction..
20. When will the bridge be reopened?
 - (A) Today.
 - (B) Tonight.
 - (C) Tuesday.
 - (D) Wednesday.
21. What will the weather be like on Tuesday?
 - (A) Snowy.
 - (B) Rainy.
 - (C) Windy.
 - (D) Sunny.

News 8 transcription

Sparkles Jewelry Store in downtown Shelbyville was robbed last night just before closing. Over \$ 10,000 in cash was taken, but valuables such as jewelry, watches, and computers were left behind. The robbery occurred at 8:55, according to police. Louise Jefferson, the store owner, was the only person present. All customers and staff had already left. Anyone with information about this crime should call police at 222-555-0800.

22. What was robbed?
- (A) A clothing store.
 - (B) A jewelry store.
 - (C) A computer store.
 - (D) A watch store.
23. When time did the robbery happen?
- (A) 8:05
 - (B) 8:15.
 - (C) 8:50.
 - (D) 8:55.
24. Who was in the store at the time of the robbery?
- (A) Police.
 - (B) Customers.
 - (C) The store staff.
 - (D) The store owner.

Appendix C

Day 1

Search Continues for Brazil Plane Crash Victims

18 July 2007

Rescue workers have been struggling to locate bodies in the smoldering wreckage of the plane that crashed at Brazil's busiest airport. Officials say they have recovered some 100 bodies since the incident late Tuesday, and rescue workers are continuing to search for others.

Scores of rescue workers were called to extinguish intense flames that erupted after the plane overshot the runway and crashed into a busy cargo terminal and gas station near the Congonhas airport. Officials say they believe all 186 people on the plane were killed, as well as several people on the ground.

The TAM airlines flight from the southern city of Porto Alegre was attempting to land during rainy weather when the crash occurred.

Brazil's Minister of Institutional Relations Walfrido dos Mares Guia says an investigation is under way.

He says aviation officials are expected to quickly inform the government and the Brazilian people about the causes of the crash and about safety measures that may be needed.

Witnesses say the Airbus 320 accelerated near the end of the runway, in what officials say was an apparent attempt to abort the landing and regain altitude. The plane left the runway and flew over a busy city street, before crashing.

Aviation experts say rainy weather likely played a factor, as well as the condition of the airport, which was renovated in recent months.

Brazil's Globo news channel broadcast a recording of conversations between air traffic controllers and pilots of a different plane, who were preparing to land at the airport, also on Tuesday.

One controller told pilots to take care not to land near the start of the runway, because it was slippery.

Sao Paulo-based journalist Dan Horch says Congonhas airport, which serves as a key hub in Brazil's largest city, has raised concerns in the past.

"It is well known at least here in Brazil, that that airport is dangerous in the rain," said Horch. "And they regularly close down that runway."

Brazil's airline industry has been crippled by air traffic controller strikes in recent months, which have caused massive flight delays and cancellations.

Aviation officials also are working to rebuild confidence in air travel after a crash last September, when a plane carrying 154 people went down after a mid-air collision.

Opposition Rallies against Venezuela Reform Plan

30 November 2007

Many of the marchers wore blue shirts and carried signs calling for voters to cast "no" ballots against President Hugo Chavez's reform plan. The rally on a plaza in central Caracas was the last in a series of recent marches led by university students and government opposition groups before the Sunday vote.

Opponents of the 69-point plan say it will place too much control in the hands of Mr. Chavez, but the president argues the reforms are needed to strengthen the people's voice in government. One marcher, recent university graduate Desiree Pacheco said she fears the reforms will take away the people's rights.

Pacheco says the reforms will limit access to government institutions, restrict property rights and the ability for a person to do and say what they feel.

Opposition members expressed confidence they would prevail on Sunday, partly based on recent opinion polls suggesting the "yes" vote would fall short of the 60 percent needed. They also say many long-time Chavez supporters plan to vote against the reform.

Government supporters have campaigned heavily in recent weeks, placing red banners that ask people to vote "yes" around Caracas, and running television advertisements. At a press conference, Telecommunications Minister Jesse Chacon said the official campaign aimed to engage people directly about the reform proposals.

Chacon says officials are not concerned with newspaper predictions and opinion polls, only the actions of the Venezuelan people.

If the opposition vote wins on Sunday, it would mark the first time Mr. Chavez has been defeated at the ballot box since taking office in 1999. The prospect has prompted some opposition members to allege the government may seek to manipulate the results. Cultural director Maria Fernanda Urrutia says she has concerns about the final outcome.

Urrutia says she is confident the opposition vote will prevail, but she is not confident in Venezuela's electoral institutions.

Government officials have rejected allegations of fraud, and say they will accept the people's decision.

Appendix D

Day 1

Hurricane Dean Intensifies to Category 5, Heads Toward Mexico

20 August 2007

The governments in Mexico and Belize issued hurricane warnings ahead of the storm, and braced for powerful wind and rain. In the Mexican resort town of Cancun, scores of tourists packed the airport in search of flights leaving the area ahead of the storm. Mexico's state oil company also began evacuating workers from oil rigs in the Gulf of Mexico.

Weather forecasters said early Monday the storm was a category four hurricane, with maximum sustained winds of 240 kilometers per hour and possible rainfall of up to 50 centimeters.

Michelle Minelli, a forecaster with the National Weather Service in Miami, said the storm was expected to get stronger as it entered warmer waters of the Gulf of Mexico.

Earlier, the hurricane's eye passed south of the Cayman Islands and Jamaica, where it snapped trees, tore off roofs and flooded streets. Officials in both places said they were spared the worst of the storm, however, and no casualties were reported immediately.

In south Florida, businessman Leo Benjamin said he managed to catch a late flight out of Jamaica before the storm, but three members of his missionary team did not. He

said he spoke by telephone with them late Sunday, as the storm battered the home where they took refuge in Kingston.

Benjamin said he spoke by telephone early Monday with residents of Jamaica's north coast, where people expressed relief that storm damage was relatively minor.

Since last week, Hurricane Dean has been blamed for at least eight deaths in Haiti, the Dominican Republic and the island of Dominica.

In the southern United States, officials in Texas and Louisiana have ordered emergency crews to monitor the storm for possible heavy rainfall and winds.

Officials with the U.S. space agency have ordered the shuttle Endeavour to return to earth Tuesday, one day ahead of schedule, because of weather concerns at Mission Control in Houston, Texas.

Day 2

Mexico Begins to Assess Damage From Hurricane Dean

21 August 2007

Officials in Mexico's Yucatan peninsula began assessing the damage from Hurricane Dean after the category 5 storm hit the coastline early Tuesday bringing winds of 265 kilometers per hour.

The eye of the hurricane first reached land near the Mexican town of Chetumal, where it uprooted trees, snapped power lines and flooded streets. Mexican troops had evacuated some residents in the area ahead of the storm, but others remained in their homes.

During a trip to Canada, where he met with U.S. President Bush and Canadian Prime Minister Stephen Harper, Mexico's president, Felipe Calderon, said he was cutting short the meeting so he could return to Mexico to focus on the disaster. Calderon said he had received no reports of casualties from the hurricane so far.

At a news conference, President Bush told the Mexican leader that Washington was prepared to offer emergency assistance if needed.

Forecasters said the eye of Hurricane Dean followed a path across sparsely populated areas on Mexican coast, and away from population centers such as the resort city of Cancun.

Hugo Camarillo, an employee at the Hyatt Regency hotel in Cancun, said Dean brought strong winds and rain to the area, but caused no real damage.

Camarillo said only 30 guests remained at the hotel while the hurricane passed through, but he said tour groups were expected to begin returning to the beach-side hotel late Tuesday.

The last major hurricane to hit the area was Wilma in 2005, which caused nearly \$3 billion in damages on Cancun's coast.

Weather forecasters said hurricane Dean had steadily weakened as it moved over land, and was downgraded to a category one storm with winds of 140 kilometers per hour. But they warned the storm could regain strength as it moved into the Bay of Campeche, on its way to a second landfall in central Mexico, sometime Wednesday afternoon.

Hurricane Dean is blamed for at least 11 deaths in Jamaica, Dominican Republic, Haiti and the island of Dominica.

In Florida, the U.S. space shuttle *Endeavour* landed safely, after officials ordered the crew to end its mission one day early because of weather conditions at mission control in Houston, Texas.

Day 3

Red Cross Appeals for Victims of Hurricane Dean

26 August 2007

Hurricane Dean is the first hurricane of this year's Atlantic storm season. It has left a trail of death and destruction in the Caribbean. Anna Nelson, a Red Cross spokeswoman, says this is creating a great deal of anxiety among the residents of these beautiful, but vulnerable islands.

Dean reached Category 5, the strongest type of hurricane. It whipped through six Caribbean islands in mid-August before tearing into Mexico's Yucatan Peninsula, near the border with Belize. Eleven people were reportedly killed.

The fierce winds tore roofs off buildings and uprooted trees, flooded streets, damaged houses and destroyed agricultural crops. The full extent of the damage is not yet known. But, the United Nations estimates that the island of Martinique alone suffered losses of around \$200 million.

Although the damage has been extensive, Anna Nelson says it could have been a lot worse had the volunteer Red Cross Societies not been well prepared for the disaster.

The Red Cross says farming and fishing communities are among the hardest hit and will need help to regain their livelihoods. Other essential needs include water purification tablets to prevent sickness from contaminated water, blankets and sheets and mosquito repellent.

Day 4

Hurricane Gustav Slams Into US Gulf Coast

01 September 2008

Weather forecasters in Miami said Hurricane Gustav weakened slightly before making landfall Monday southwest of the low-lying city of New Orleans. The latest conditions appeared to be good news for New Orleans residents and officials who feared the storm could be worse than Hurricane Katrina which caused massive flooding in 2005 and was blamed for about 1,400 deaths.

The National Hurricane Center said hurricane conditions from Gustav extended over a vast area along the gulf coast, including tornadoes in some areas. Some outlying areas along the coast were submerged as the hurricane came ashore.

Forecaster Bill Read said the storm brushed past New Orleans around mid-day but the danger was not over.

Some two million people fled the coastline from Alabama to Texas ahead of the storm's arrival. New Orleans officials issued a mandatory evacuation for the city in an effort to prevent residents from being trapped in the city by flood waters.

Engineers in New Orleans said they expected heavy rains to cause some flooding, but the storm had not breached levee walls built to hold back Lake Pontchartrain.

Hurricane Gustav has raised concern about the strength of the levee system, which is still undergoing repairs and reinforcement work following Hurricane Katrina.

Day 5

Weather is Concern for Tuesday Shuttle Launch

NASA officials said Monday there were no technical issues to resolve before the scheduled launch of *Discovery* on Tuesday from Kennedy Space Center. But officials say forecasts show bad weather is likely, and they reduced the chance of liftoff to 40 percent.

Shuttle weather officer Kathy Winters says stormy weather may move through the space center around the time of the late morning launch.

If the weather does not permit launch on Tuesday, officials say they will try again on Wednesday or Thursday.

NASA test director Stephen Payne said thunderstorms had caused minor delays in preparations on Sunday, but he said crews had completed all necessary work on the shuttle.

Payne said that engineers have made slight changes to the shuttle's launch schedule to prevent the formation of ice, which they say causes foam insulation to break off the fuel tank during launch. A piece of falling foam damaged *Endeavour's* thermal protection system during launch in August, and damage from foam debris is blamed for the break-up of the shuttle *Columbia* during re-entry in 2003.

The *Discovery* will be carrying a crew of seven astronauts who will deliver a new module to the International Space Station. The new module is one of several that international partners plan to add to the orbiter to double the interior capacity of the station to allow six astronauts to live and work.

The *Discovery* crew is scheduled to return to Earth on November 6.

Day 6

US Space Shuttle Discovery Launches Two-Week Space Mission

Light rain showers cleared just hours before the late morning launch of *Discovery* from the Kennedy Space Center in Florida.

NASA spokesman George Diller monitored the launch sequence of *Discovery*, which carried seven astronauts and the *Harmony* module toward the International Space Station.

Earlier, NASA officials said they were monitoring a buildup of ice on a pipe that sends super-cold liquid hydrogen from the external fuel tank to the shuttle's main engines. Engineers said the ice was a possible concern, because it could cause debris to break off during launch and collide with the shuttle.

Foam debris caused damage to the wing of shuttle *Columbia* in 2003, which caused the orbiter to break up during re-entry, killing all seven astronauts on board. The shuttle Endeavour also was damaged by foam debris during launch in August, but landed safely.

Discovery's commander Pamela Melroy is leading the seven-member crew on what officials say will be one of the most difficult missions in the shuttle program's history. Astronauts are to perform five spacewalks to attach the new module to the International Space Station and practice shuttle repair techniques.

The Italian-built *Harmony* module is one of several that international partners plan to install to double the interior capacity of the station for astronauts to live and work in space. A European-built laboratory is to be delivered to the station as early as December.

The *Discovery* crew is scheduled to return to Earth on November 6.

Day 7

Shuttle Lands After Mission to Space Station

Commander Pamela Melroy and the crew of the shuttle *Discovery* ended their mission by flying east across the United States before touching down. NASA's Mission Control followed the shuttle as it came in to land at the Kennedy Space Center in Florida.

One of those returning with *Discovery* was astronaut Clayton Anderson who was working aboard the space station since June.

Last month, NASA officials described *Discovery's* mission, which was to include five spacewalks, as one of the most difficult and eventful in the program's history.

After docking with the orbiter, the shuttle crew installed a new pressurized compartment called *Harmony*, which will expand room for astronauts working in

space. Crewmembers also moved an enormous truss from a temporary position to its permanent spot on the station.

NASA officials then were forced to make last-minute changes to the astronauts' schedule of spacewalks to fix equipment problems. Officials ordered the astronauts to examine a malfunctioning joint on one solar panel, and Scott Parazynski left the orbiter to repair tears in the station's solar wings.

Astronaut spacewalks are often rehearsed for weeks in advance, but officials said the unplanned spacewalks were needed to avoid delays to future missions.

On December 6, the space shuttle Atlantis is to launch a mission to deliver a European-built laboratory to the international orbiter.

Day 8

Astronauts Review Spacewalks After Tool Bag Loss

The loss happened Tuesday during the first of four planned spacewalks for the *Endeavour's* mission to the International Space Station.

Astronauts Steve Bowen and Heide Stefanyshyn-Piper were outside the orbiter to clean and lubricate a troublesome joint on a wing of solar panels for the station. Then Stefanyshyn-Piper noticed grease was leaking from one of several guns in the tool bag she was carrying.

The bag should have been tethered to the astronaut, and Stefanyshyn-Piper said she is trying to figure out how it came loose. She and Bowen finished the seven-hour space

walk successfully, however, by sharing tools from Bowen's bag.

Speaking with reporters Wednesday, Stefanyshyn-Piper said the grease guns and other tools were not very special, but in space it is impossible to find replacements.

Astronauts have been talking with NASA officials on the ground to adjust plans for the three remaining space walks, which were to involve two astronauts performing repairs outside the orbiter at the same time. The next spacewalk is set for Thursday for additional repairs and preparation for the installation of a new truss to the space station.

Crew members also have been busy transferring supplies and equipment from the shuttle into the station. *Endeavour* is delivering a number of new facilities, including additional sleeping quarters, a second toilet and an exercise machine to the station.

The upgrades are part of a plan to double the number of astronauts living at the station to six by next year.

Day 9

Cuban Elections to Determine Fidel Castro's Future

State-run television announced the decision by Cuba's interim leader Raul Castro to hold elections on January 20. The voting is held every five years to select the 609 members of the National Assembly as well as delegates to provincial bodies.

Individuals must first be elected to the National Assembly to be eligible to serve on Cuba's Council of State, which is led by the president.

The question is whether ailing leader Fidel Castro will seek re-election to the National Assembly after temporarily handing power to his brother, Raul, 16 months ago. The 81-year-old Fidel has not been seen in public since undergoing stomach surgery in July of last year.

Uva De Aragon, associate director of the Cuba Research Institute at Florida International University, says the vote may confirm what many observers have been expecting.

De Aragon says the January vote may serve to formalize the unofficial changes that have been happening in Cuba's leadership, and confirm the transfer of power from Fidel to Raul Castro.

Cuban officials have not commented on a future presidential transition, which would mark the end of Fidel Castro's more than four decades in power.

Since taking over, Raul Castro has been criticized for announcing few changes to address an economic decline and political concerns on the island.

De Aragon says a formal transfer of power could embolden Raul to begin tackling the problems.

She says, if elected president, Raul Castro would begin to make the changes that Cuban people have been expecting.

De Aragon says many Cubans are hoping for economic reforms to end an economic slump, and few expect to see a political opening in the Communist system in the short term.

Local elections were held last month.

The U.S. State Department has expressed concern that candidates in past elections were chosen through unions and other groups controlled by the Communist leadership.

Day 10

Castro Hints at Retiring from Cuban Leadership

Cuban state television broadcast the comments from the 81-year-old Cuban leader, who has not been seen in public since undergoing intestinal surgery in July 2006. A presenter read the letter, which Mr. Castro devoted mostly to the Bali summit on global warming.

He also said his duty is not to hold on to positions or block the path of younger people, but to share the experiences and ideas from his life.

Mr. Castro handed power to his brother, Raul, 16 months ago, and since then has written a series of essays and letters, including some where he says his physical recovery has been a difficult process. Officially, he remains head of Cuba's government.

Mr. Castro has been nominated to stand for re-election to the National Assembly in next month's election. Only as a member of the assembly he would be eligible to serve on the Council of State and as its president.

Fidel Castro is one of the world's most enduring heads of state, having served in that role since 1959.

Day 11

Raul Castro Picked as Cuba's President

Cuba's National Assembly confirmed the transfer of power to Raul Castro, from his brother, Fidel. Officials announced the decision at a meeting Sunday to select the 31 members of the governing Council of State, which includes the presidency.

Raul told delegates in the 614-member assembly that he will continue his brother's work to lead the Communist nation.

Raul said he accepted the responsibility placed upon him, adding that Fidel can never be replaced.

The 76-year-old Raul had been serving as acting president since July 2006, when his brother temporarily handed over power to undergo intestinal surgery. Last week, Cuban state media published a letter from Fidel Castro, saying he would not stand for re-election as president because he remains frail following the operation.

At the start of Sunday's assembly meeting, delegates applauded when Fidel's name was called, but state television showed his chair was empty. The 81-year-old has not been seen in public since his operation.

Since taking over temporary power, Raul Castro has called for a national debate to find ways to strengthen the Communist state, improve economic activity and correct income inequality.

In a statement early Sunday, U.S. Secretary of State Condoleezza Rice called on the Cuban government to begin a process of peaceful and democratic change, including

the release of political prisoners. She said the Cuban people have a right to hold democratic elections and to engage in a dialogue about the island's future after what she called "five decades of tyranny."

Day 12

Cuba to Expand TV Content in Latest Reform

Cuban officials announced plans for the new 24-hour television channel at a conference of writers and artists in Havana. Intellectuals at the event called for the Communist government to embrace new technologies and expand access for cultural and artistic expression to Cubans.

The move would create a new channel on Cuba's television airwaves, which are dominated by official speeches, political discussion shows and old American movies.

Rafael Lima, professor at the University of Miami School of Communication, says Cuba is showing signs of relaxing its tight control over information on the island.

Lima says other reforms, such as easing ownership of cell phones, computers and other electronics, will further enable Cubans to reach out in ways that have long been restricted.

Cuba's government also lifted a ban on Cubans staying at tourist hotels across the island. Some Cuban-Americans say the measures are only intended at generating more revenue for state-controlled businesses.

In Miami, Carmen Lopez says Cuban exiles are under greater pressure now to send U.S. dollars to help family and friends pay for consumer goods.

Lopez says Cuban-Americans will begin sending more money to family on the island, which will not lead to needed changes, such as free and fair elections.

Analysts say the reforms will have limited impact across Cuba, especially for many residents unable to afford electronics or \$150 nightly rates at a tourist hotel.

Jonathan Benjamin-Alvarado is a political science professor at the University of Nebraska at Omaha.

Benjamin-Alvarado says the reforms are significant, especially because they demonstrate that Cuba's government under Raul Castro is prepared to change. He says the government has been under public pressure for greater access to personal liberties and material goods. The question is if Cuban leaders have more reform plans to satisfy those demands.

Day 13

Pope Canonizes 18th-Century Brazilian Monk Said to Cure Thousands

11 May 2007

Pope Benedict led the canonization ceremony for Antonio de Sant'Anna Galvao who becomes the first Brazilian-born saint in the Roman Catholic church. Brazilian bishops recounted the history of the Franciscan monk, who died in 1822 at the age of 83 after founding several monasteries and convents in the country.

Galvao is best known for distributing prayers written on tiny strips of paper, which church members swallowed, hoping the so-called prayer pills would cure their illnesses. The prayer pills are still distributed at the Monastery of Light, where people place donations in a revolving window for the nuns who work inside.

Wesley Luis Carvalhaes traveled to Sao Paulo from central Brazil for the pope's visit and to collect prayer pills for himself, his mother and an aunt. He says he learned about Galvao from a colleague at the Catholic high school where he teaches.

He says Galvao's reputation began to spread after his prayer pills reportedly cured a woman who was experiencing problems in pregnancy.

Carvalhaes says Galvao has been credited with nearly 24,000 miracles. In making the case to the Vatican for sainthood, Galvao's supporters documented two specific cases of women who said they were cured of illnesses in the 1990s.

Still, many Catholic faithful in Brazil are unfamiliar with the Franciscan monk. The attention raised by the canonization may change that, says Reverend Terence Hogan, rector of St. Mary's Cathedral in Miami.

Reverend Hogan says in many cases, the rigorous process of certifying events and detail in the life of a person being considered for sainthood helps to raise awareness about key figures in the Roman Catholic church.

At the Monastery of Light, demand for Galvao's paper pills jumped following his beatification in 1997, and again this year.

Cleide Souza Fidelli, who regularly comes to mass at the monastery's church, says she was surprised by the attention recently.

She says a long line of people were waiting to receive their prayer pills when she came to the church last month, which is something she had not seen in the past four years.

The canonization ceremony is a key part of Pope Benedict's five-day trip to Brazil, where he is trying to reconnect with the nation's Catholic majority. Church officials are struggling to slow the pace of Catholics converting to pentecostal churches and other Christian faiths.

Day 14

Pope Benedict Stresses New Solutions to Social, Economic Problems

Pope Benedict traveled to a recovery facility for drug addicts on the fourth day of his visit to Brazil. He delivered a speech to a crowd of pilgrims and former patients at the drug clinic, which also has facilities in Russia, Mozambique, Mexico and other nations.

The speech came ahead of a meeting with regional church leaders to discuss the goals of an upcoming conference of Latin American and Caribbean bishops. Pope Benedict is expected to press bishops during the meeting Sunday to find new ways to resolve such problems as crime, drug addiction, and widespread poverty.

Friday, the pontiff outlined his concerns during a speech to some 300 Brazilian bishops at a cathedral in Sao Paulo, where he urged them to take a greater role in combating problems caused by poverty and disparities in income.

He says church leaders should view economic and social problems from the point of view of human dignity, and not simply in terms of economic winners and losers.

Pope Benedict also expressed concern about the rising number of divorces in Brazil, as well as what he called attacks on the sanctity of marriage and the family. He

criticized legal reforms that he said have a negative effect on society, such as recent measures in some countries to allow abortion or same-sex unions.

The pope said bishops also had a responsibility to work with the government and business sectors to promote Christian values.

He called on the bishops to help bring about a spirit of truthfulness and honesty among the nation's political and business leaders.

The pope's message about social and economic distribution has resonated with many Catholic pilgrims who came to Sao Paulo for the pontiff's visit. High school student Aline Novaro, who traveled from Argentina, says she is concerned about worsening conditions in poor communities.

She says there is a great deal of violence, and many people have little access to education and the church. And she says it is important to pray for improvements in school systems.

During his trip to Brazil, Pope Benedict has also called for greater efforts to improve Catholic education in the region, in part to counter the spread of Evangelical Protestant congregations.

Day 15

Over 400 People Charged in US Mortgage Fraud Schemes

Federal officials say more than 400 people are facing charges in the mortgage fraud probe, including 60 people arrested Wednesday during sweeps in several major cities. Many of the accused were employed in the real estate industry, as mortgage brokers,

property appraisers or title agents, and some worked at banks issuing loans. Officials say those individuals abused their positions to inflate a property's value or pass along false information about a buyer or a home to claim the mortgage.

In Miami alone, officials say 102 people have been charged since last September. U.S. Attorney for south Florida, Alex Acosta, says some schemes involved people using stolen identities, for example, to get a mortgage on a home worth \$100,000.

Officials say some of those charged in the probe belong to criminal organizations that were using the schemes to launder money raised through illegal activities.

FBI Assistant Special Agent Tim Delaney said the majority of cases involved the cooperation of several people tied to the real estate and mortgage industries, with the simple goal of making money.

Officials say the fraud operations have a damaging effect on Miami and other communities, because they create artificially high home values and often lead to foreclosures. They say additional arrests are expected as officials continue to uncover bogus mortgages.

In a separate action, authorities in New York arrested two former managers of Bear Stearns investment bank for concealing problems in some of the firm's sub-prime mortgage holdings. The men are accused of fraud in managing hedge funds that collapsed last year, months before the firm said it had lost billions of dollars in investor's money. The bank's problems helped spark the sub-prime mortgage market crisis.

Day 16

Florida Land Deal Will Boost Everglades Restoration

The \$1.7 billion plan aims to fill a major hole in long-running efforts to restore the vast watershed in southern Florida. State government officials agreed to buy the land from U.S. Sugar Corporation, which will abandon its sugar cane fields and end operations after six years.

The cane fields have long cut off the natural flow of fresh water, from lakes in central Florida through the Everglades and into the Gulf of Mexico. Environmental groups say that water is needed to supply the Everglades National Park as well as public water sources.

Florida Governor Charlie Crist led talks for buying the 75,000 hectares.

The purchase involves nearly a quarter of the land set aside in a special farming area created more than 50 years ago, when engineers began draining parts of the Everglades wetlands.

Since then, U.S. Sugar and other cane growers have been criticized for sending polluted water into remaining wetlands.

Recently, Florida officials had tried to negotiate deals to buy back smaller portions of land from sugar growers.

John Adornato of the National Parks Conservation Association says the announcement of the huge deal is a welcome surprise.

Once restored, the Everglades will be able to trap vast quantities of rain water, reducing concerns about drought that have led to water usage restrictions in recent years.

Adornato says restoring more land also increases the ability of the Everglades to filter dirty rainfall run-off.

The state of Florida and U.S. Sugar are expected to negotiate final terms for the land deal by November. Environmental groups say they will be watching to ensure that it will benefit the wetlands.

Day 17

Republicans Campaign Hard For South Carolina Primary

Republican leaders in South Carolina say Saturday's vote is a key step in the process to select the party's presidential candidate for the November elections. Since former President Ronald Reagan won the South Carolina primary on his way to victory in the 1980 general election, no Republican candidate has captured the White House without winning the state's primary.

Recent opinion polls show the top two candidates are Senator John McCain and former Arkansas governor Mike Huckabee. Both held numerous campaign events across the state ahead of the vote.

Senator McCain has been appealing to the state's large population of military personnel and veterans to say his service during the Vietnam War would help him as commander-in-chief.

On the economy, McCain said South Carolina has been a model for other states, because it has attracted new factory jobs to replace work lost when plants closed and moved overseas.

Huckabee has criticized the economic views of his opponents, saying too little attention is being paid to the problems facing families.

At some of his campaign events, Huckabee has sought to appeal to the region's Christian base, by emphasizing his background as a Baptist minister.

Some political analysts have said religion may work against former Massachusetts Governor Mitt Romney, who is Mormon. During a brief stop in the state on Thursday, Romney focused on the need to address a possible recession in the country.

Former Senator Fred Thompson from the neighboring state of Tennessee also has campaigned actively in South Carolina and has emphasized shared cultural ties. On Thursday, he addressed the nation's economic troubles. He said economic experts should be allowed to find the solution.

A new McClatchy/MSNBC poll shows Senator McCain leading the field with 27 percent support, two points ahead of Huckabee. It shows Romney and Thompson in a close battle for third place as well as limited support for former New York Mayor Rudy Giuliani and Congressman Ron Paul.

South Carolina's Democratic voters will hold a separate presidential primary next Saturday.

Day 18

South Carolina Residents Vote in US Presidential Primary

After early primaries and caucuses in the Republican race for the presidential nomination, no clear leader has emerged from the field of candidates.

Senator John McCain, former Arkansas Governor Mike Huckabee, and former Massachusetts Governor Mitt Romney have each claimed at least one victory so far. A win in South Carolina could provide needed momentum in upcoming primaries.

McCain has emphasized his military experience during the campaign in South Carolina, home to many active and retired military personnel.

At a campaign stop Friday, the Arizona senator addressed fears of an economic recession, saying what he called "out of control" government spending is part of the problem.

"Stop the spending. If we don't stop the spending, it is all going to go out the door no matter what it is," he said.

Huckabee, a Baptist minister, is expected to win support among the state's many Christian voters.

In his campaign, he appealed to religious opposition to gay marriage, saying, if elected, he would lead efforts to amend the constitution to define marriage as between a man and a woman.

"The fundamental unit of any government is family and strong marriages, and without that the rest of society begins to fall apart," he said.

Mitt Romney campaigned briefly this week in South Carolina before flying to Nevada for the Republican caucus there.

Former Senator Fred Thompson has been trailing the leading candidates so far, but hopes to make a strong showing in South Carolina, which is next to his home state of Tennessee.

Thompson has tried to separate himself from the other candidates by claiming he has the toughest policies to fight illegal immigration. During a rally on Friday, he told supporters that controlling immigration is a key component of national security.

"Part of that national security issue involves our own borders," he said. "A nation that cannot secure its own borders will not remain a sovereign nation, and we need to understand that."

The South Carolina vote may be crucial in the selection of the Republican candidate for the November election. Since 1980, no Republican has gone to the White House without winning the state's primary.

South Carolina Democrats hold their primary next Saturday.

Day 19

McCain Wins South Carolina Republican Primary

The victory gives Senator McCain a boost as he battles for the lead in the Republican presidential race with Mike Huckabee and former Massachusetts Governor Mitt Romney.

Exit polling showed that McCain drew strong support in Saturday's vote from moderate Republicans and voters who described themselves as independents.

In a series of campaign stops across the state, McCain emphasized his military experience, and his proposals for government spending cuts and national security improvements.

During a victory speech, McCain thanked supporters for showing confidence in his leadership and his policies.

The outcome was a vindication for John McCain who lost the state primary to President Bush in 2000, following a negative advertising campaign against the Arizona senator.

In his speech, McCain also recalled that since 1980, no Republican has gone on to win the White House without winning the state's primary.

Exit polls showed that support for Mike Huckabee was strong among evangelical Christian voters in South Carolina.

In a concession speech, Huckabee thanked his campaign staff and supporters, saying he will move on in upcoming primaries to seek the party's nomination.

Former Tennessee Senator Fred Thompson finished in third place in South Carolina, narrowly ahead of Mitt Romney.

Romney campaigned briefly in South Carolina earlier this week before moving on to Nevada, where he won the caucus there Saturday by a large margin. Shortly after giving a victory speech in Nevada, Romney traveled to a rally in Florida, which holds Republican and Democratic primaries on Tuesday, January 29.

The attention returns to South Carolina next Saturday for the Democratic presidential primary.

Day 20

McCain Picks Alaska Governor as Vice Presidential Candidate

Senator McCain named Sarah Palin as his running mate only hours after the close of the Democratic National Convention in Denver. The announcement during a rally in Ohio was aimed at grabbing the attention away from Democrats and building momentum for the Republican Party convention, which opens next week.

Senator McCain said he chose the Alaska governor after a long search for someone he said could bring change to Washington, and help put the nation back on the road to prosperity and peace.

McCain noted Palin is a relative newcomer to politics and someone who has never served in Washington. He praised Palin for her record in Alaska, where she has served as mayor and state commissioner, and was elected governor in 2006.

Palin said she was proud to accept the invitation to run alongside John McCain in the general election in November. She said her record in Alaska shows she is committed to reform, such as cutting taxes and fighting corruption.

Palin is the first female and the youngest person to be elected governor in Alaska, a huge and remote state that is home to key oil and gas reserves. As governor, the 44-year-old said she has taken advantage of high oil prices to fund new energy projects. "We are now embarking on a \$40 billion natural gas pipeline to help lead America to energy independence," said Palin.

Senator McCain has focused his campaign on finding new energy solutions, as well as maintaining strong military support for the war in Iraq. Palin said her son has enlisted in the Army, and will be deploying soon to the region.

Palin traveled from Alaska to Ohio Friday along with her husband Todd and four of their five children

Appendix E

Name: _____

謝謝您來參加此測驗，請先在左上角填上您的中文名字

測驗的說明如下：

- **聽力內容：**兩則各約兩分鐘的英語新聞（真實新聞）
- **作答程序：**可用筆記紙做筆記，待新聞結束後，才可看題目作答
- **題目型式：**九題是非題/一題簡答題(請看以下範例)

新聞一

1. The president of France is tired.

(A) True/正確的陳述 (B) False/不正確的陳述 (C) Not given/未提供的資訊

2.

3.

4.

5.

6.

7

8

9

10. What makes the president of France tired? (請簡答，中英文皆可)

(1) _____

(2) _____

(((請勿翻看下一頁)))

新聞一

1. The news is mainly about an airplane crashed into another plane in the air.
(A) True (B) False (C) Not given
2. The incident happened on Tuesday. (incident :事件)
(A) True (B) False (C) Not given
3. Some people on the ground were hurt due to the incident.
(A) True (B) False (C) Not given
4. Most passengers lack the knowledge of safety measures.
(A) True (B) False (C) Not given
5. The plane left the runway and flew over a busy city street before crashing.
(A) True (B) False (C) Not given
6. The airport was built twenty years ago.
(A) True (B) False (C) Not given
7. Pilots were told to land near the start of the runway.
(A) True (B) False (C) Not given
8. The traffic around the airport was terrible for several weeks.
(A) True (B) False (C) Not given
9. Three airplane accidents are mentioned.
(A) True (B) False (C) Not given
10. What are the two possible reasons for the accident? (請簡答，中英文皆可)
(1) _____
(2) _____

(請勿翻看下一頁)

新聞二

1. **The news is mainly about the support for a reform plan.**
(A) True (B) False (C) Not given
2. **Mr. Chavez said the reforms are needed to strengthen the people's voice.**
(A) True (B) False (C) Not given
3. **Many long-time Chavez supporters planed to vote for the reform.**
(A) True (B) False (C) Not given
4. **The advantages and disadvantages of the reform plan are both mentioned.**
(A) True (B) False (C) Not given
5. **The results from the opinion polls was questionable.** (opinion polls:民意調查)
(A) True (B) False (C) Not given
6. **Mr. Chavez has always won events of voting so far.**
(A) True (B) False (C) Not given
7. **Some protesters talked to President Chavez before the Sunday vote.**
(A) True (B) False (C) Not given
8. **Mr. Chavez visits the poor people as a regular activity.**
(A) True (B) False (C) Not given
9. **Urrutia said she is confident in Venezuela's election system.**
(A) True (B) False (C) Not given
10. **Who are the two groups of people leading the march? (請簡答，中英文皆可)**
(1) _____
(2) _____

Appendix F

請寫出此新聞的大意

請寫出此新聞中您聽到細節

Appendix G

姓名:_____

第一則新聞:巴西機場的飛機在降落是發生撞毀意外

- ☐ 聽過此新聞，並幫助了我剛剛聽力內容的理解
- ☐ 聽過此新聞，但剛剛沒有聽出來是此新聞
- ☐ 沒有聽過此新聞

第二則新聞:委內瑞拉人民針對改革公投的意見

- ☐ 聽過此新聞，並幫助了我剛剛聽力內容的理解
- ☐ 聽過此新聞，但剛剛沒有聽出來是此新聞
- ☐ 沒有聽過此新聞

Appendix H

Hurricane Dean Intensifies to Category 5, Heads Toward Mexico

(The governments in Mexico and Belize issued hurricane warnings ahead of the storm,)**1** (and braced for powerful wind and rain)**2** . (In the Mexican resort town of Cancun, scores of tourists packed the airport in search of flights) **3** (leaving the area ahead of the storm.)**4** (Mexico's state oil company also began evacuating workers from oil rigs in the Gulf of Mexico.)**5**

(Weather forecasters said early Monday the storm was a category four hurricane, with maximum sustained winds of 240 kilometers per hour and possible rainfall of up to 50 centimeters.) **6**

(Michelle Minelli, a forecaster with the National Weather Service in Miami, said) **7** (the storm was expected to get stronger) **8** (as it entered warmer waters of the Gulf of Mexico.) **9**

(Earlier, the hurricane's eye passed south of the Cayman Islands and Jamaica)**10**, (where it snapped trees)**11**, (tore off roofs)**12** (and flooded streets)**13**. (Officials in both places said) **14** (they were spared the worst of the storm)**15**(, however, and no casualties were reported immediately.) **16**

(In south Florida, businessman Leo Benjamin said he managed to catch a late flight out of Jamaica before the storm)**17**, (but three members of his missionary team did not.)**18**(He said)**19** (he spoke by telephone with them late Sunday, as the storm battered the home)**20** (where they took refuge in Kingston.)**21**

(Benjamin said) **22** (he spoke by telephone early Monday with residents of Jamaica's north coast,) **23** (where people expressed relief that storm damage was relatively minor.)**24**

(Since last week, Hurricane Dean has been blamed for at least eight deaths in Haiti, the Dominican Republic and the island of Dominica.)**25**

(In the southern United States, officials in Texas and Louisiana have ordered emergency crews to monitor the storm for possible heavy rainfall and winds.)**26**

(Officials with the U.S. space agency have ordered the shuttle Endeavour to return to earth Tuesday, one day ahead of schedule, because of weather concerns at Mission Control in Houston, Texas.)**27**

US Space Shuttle Discovery Launches Two-Week Space Mission

(Light rain showers cleared just hours before the late morning launch of *Discovery* from the Kennedy Space Center in Florida.)**1**

(NASA spokesman George Diller monitored the launch sequence of *Discovery*,) **2** (which carried seven astronauts and the *Harmony* module toward the International Space Station.)**3**

(Earlier, NASA officials said)**4**(they were monitoring a buildup of ice on a pipe)**5** (that sends super-cold liquid hydrogen from the external fuel tank to the shuttle's main engines.)**6** (Engineers said the ice was a possible concern,)**7** (because it could cause debris to break off during launch)**8** (and collide with the shuttle.)**8**

(Foam debris caused damage to the wing of shuttle *Columbia* in 2003,)**9** (which caused the orbiter to break up during re-entry,)**10** (killing all seven astronauts on board.)**11** (The shuttle Endeavour also was damaged by foam debris during launch in August)**12** (, but landed safely.)**13**

(*Discovery's* commander Pamela Melroy is leading the seven-member crew)**14** (on what officials say will be one of the most difficult missions in the shuttle program's history.)**15** (Astronauts are to perform five spacewalks)**16**(to attach the new module to the International Space Station)**17**(and practice shuttle repair techniques.)**18**

(The Italian-built *Harmony* module is one of several)**19** (that international partners plan to install)**20**(to double the interior capacity of the station for astronauts to live and work in space.)**21** (A European-built laboratory is to be delivered to the station as early as December.)**22**

(The *Discovery* crew is scheduled to return to Earth on November 6.)**23**

Raul Castro Picked as Cuba's President

(Cuba's National Assembly confirmed the transfer of power to Raul Castro, from his brother, Fidel.)**1** (Officials announced the decision at a meeting Sunday) **2** (to select the 31 members of the governing Council of State) **3** (, which includes the presidency.)**4**

(Raul told delegates in the 614-member assembly)**5** (that he will continue his brother's work to lead the Communist nation.)**6**

(Raul said he accepted the responsibility placed upon him) **7** (, adding that Fidel can never be replaced.) **8**

(The 76-year-old Raul had been serving as acting president since July 2006)**9** (, when his brother temporarily handed over power to undergo intestinal surgery.)**10** (Last week, Cuban state media published a letter from Fidel Castro)**11**(, saying he would not stand for re-election as president) **12**(because he remains frail following the operation.)**13**

(At the start of Sunday's assembly meeting, delegates applauded when Fidel's name was called)**14** (, but state television showed his chair was empty.)**15** (The 81-year-old has not been seen in public since his operation.)**16**

(Since taking over temporary power, Raul Castro has called for a national debate)**17**(to find ways)**18**(to strengthen the Communist state)**19** (, improve economic activity)**20** (and correct income inequality.)**21**

(In a statement early Sunday, U.S. Secretary of State Condoleezza Rice called on the Cuban government)**22**(to begin a process of peaceful and democratic change)**23** (, including the release of political prisoners.)**24** (She said the Cuban people have a right)**25**(to hold democratic elections and)**26**(to engage in a dialogue about the island's future after what she called "five decades of tyranny.")**27**

Florida Land Deal Will Boost Everglades Restoration

(The \$1.7 billion plan aims to fill a major hole in long-running efforts)**1**(to restore the vast watershed in southern Florida.)**2** (State government officials agreed to buy the

land from U.S. Sugar Corporation,)**3** (which will abandon its sugar cane fields and end operations after six years.)**4**

(The cane fields have long cut off the natural flow of fresh water, from lakes in central Florida through the Everglades and into the Gulf of Mexico.)**5** (Environmental groups say) **6** (that water is needed) **7** (to supply the Everglades National Park as well as public water sources.) **8**

(Florida Governor Charlie Crist led talks for buying the 75,000 hectares.)**9**

(The purchase involves nearly a quarter of the land) **10** (set aside in a special farming area created more than 50 years ago) **11** (, when engineers began draining parts of the Everglades wetlands.)**12**

(Since then, U.S. Sugar and other cane growers have been criticized for sending polluted water into remaining wetlands.)**13**

(Recently, Florida officials had tried to) **14** (negotiate deals) **15** (to buy back smaller portions of land from sugar growers.)**16**

(John Adornato of the National Parks Conservation Association says) **17** (the announcement of the huge deal is a welcome surprise.)**18**

(Once restored, the Everglades will be able to trap vast quantities of rain water,)**19** (reducing concerns about drought) **20** (that have led to water usage restrictions in recent years.)**21**

(Adornato says) **22** (restoring more land also increases the ability of the Everglades)
23 (to filter dirty rainfall run-off.)**24**

(The state of Florida and U.S. Sugar are expected) **25** (to negotiate final terms for the
land deal by November.)**26** (Environmental groups say) **27** (they will be watching)
28 (to ensure) **29** (that it will benefit the wetlands.)**30**

Appendix I

Time	Title	Idea Units
Week 1	Hurricane Dean Intensifies to Category 5, Heads Toward Mexico	27
Week 2	US Space Shuttle Discovery Launches Two-Week Space Mission	23
Week 3	Raul Castro Picked as Cuba's President	27
Week 4	Florida Land Deal Will Boost Everglades Restoration	30

Appendix J

New 1 titled “Hurricane Dean Intensifies to Category 5, Heads Toward Mexico”

The governments in Mexico and Belize issued hurricane warnings ahead of the storm.

In the Mexican resort town of Cancun, scores of tourists packed the airport in search of flights leaving the area ahead of the storm.

Mexico's state oil company also began evacuating workers from oil rigs in the Gulf of Mexico.

New 2 titled “US Space Shuttle Discovery Launches Two-Week Space Mission”

The launch sequence of Discovery carried seven astronauts and the Harmony module toward the International Space Station.

The Discovery crew is scheduled to return to Earth on November 6.

New 3 titled “Raul Castro Picked as Cuba’s President”

Cuba's National Assembly confirmed the transfer of power to Raul Castro, from his brother, Fidel.

New 3 titled “Florida Land Deal Will Boost Everglades Restoration”

State government officials agreed to buy the land from U.S. Sugar Corporation.

The \$1.7 billion plan aims to fill a major hole in long-running efforts to restore the vast watershed in southern Florida.

Appendix K

1. 訓練期間，您對英語聽力逐字稿的處理方式為何?
2. 你覺得你的聽力理解在接近訓練尾聲的時候有進步嗎?(自信)
3. 你覺得新聞英語實際上沒有一開始想得那麼難嗎?(自信)
4. 你之後會想要使用新聞英文來做自我聽力訓練嗎?為什麼?(意願)
5. 你對此訓練有任何回饋或是建議嗎?

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