

*In the name of the
Almighty*

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**The Influence of Note-taking, Working Memory Capacity
and Speed of Speech Presentation on Advanced EFL
Learners' Listening Comprehension Performance**

**MA thesis submitted to the Graduate Studies Office in partial
fulfillment of the requirements for the degree of Master of Arts in
Teaching English as a Foreign Language (TEFL)**

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September, 2008

1.9907

۸۷، ۱۱، ۸۷۸
۸۸، ۶۵



دانشگاه تربیت مدرس

دانشکده علوم انسانی

پایان نامه دوره کارشناسی ارشد آموزش زبان انگلیسی

تأثیر یادداشت برداری، ظرفیت حافظه کوتاه مدت و سرعت
ارایه مطلب بر عملکرد فراگیران پیشرفته زبان انگلیسی در
آزمونهای درک شنیداری

الهام محمدی

۱۳۸۸ / ۱ / ۱۸

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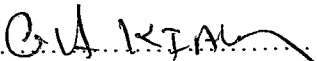



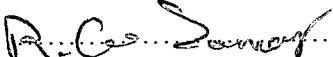
ENTITLED:

*The Influence of Note-taking, Working Memory Capacity and Speed of
Speech Presentation on Advanced EFL Learners' Listening
Comprehension Performance*

BE ACCEPTED IN PARTIAL FULFILMENT OF THESIS
REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN
TEACHING ENGLISH AS A FOREIGN LANGUAGE (TEFL)

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Acknowledgments

I would like to express my most sincere and deepest appreciation to the following individuals. Without their help and support, this thesis would not have been completed.

I thank Dr. Kiany who generously gave his time and energy in guiding me through the entire thesis process. I am grateful to Dr. Ghafar Samar for his valuable advices and continual encouragement. I am also indebted to Dr. Akbari and Dr. Rezayi for their meticulous reading and comments.

Last but not least, my deepest appreciation goes to my parents, whose unconditional love and consistent encouragement have been the greatest support during my life.

Abstract

This study was conducted to investigate the influence of note taking and the speed of speech presentation on the listening comprehension performance of Iranian advanced EFL learners. Additionally, the relationship between the working memory of the subjects, and their listening comprehension performance was also examined. 120 learners studying at Iran language Institute (Zanjan branch) were selected by administering Oxford Placement Test (Allen, 1992) and then the subjects took the Working Memory Span Test (Liu, 2001). They were randomly assigned to four groups of A, B, C, and D. The subjects in A and C were allowed to take notes while the short talks were being delivered to them with respectively a slow (120 wpm) and normal (180 wpm) speed. The rest of the subjects in groups B and D were not allowed to take notes while they were listening to the short talks respectively with a slow and normal speed of delivery. They were all required to answer the same 20 multiple-choice items and the obtained scores were analyzed by using SPSS software. The results indicated a significant effect of the speed of the speech presentation upon the subjects' listening comprehension performance but no significant effect of note taking activity. Interestingly enough, a significant interaction of the two independent variables on the dependent variable was found. Significant positive correlation was also found between the working memory span of the subjects and their listening comprehension performance. The results of this study may enable Iranian teachers and educators to deal with the causes of EFL learners' difficulties in listening comprehension tests and will make them capable of choosing appropriate techniques to support the learners who have problems in comprehending the target language speech.

Key words: Note taking, Working Memory Capacity, Speed of Speech Presentation, Listening Comprehension

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Chapter one:

Introduction

1.1. Background of the study

Listening is an active skill and during its process full participation and focused attention of the learner is required (Morley, 1984). Instead of listening passively, people have to be actively involved in the listening process, that is, they have to think while listening. According to Rivers (1966) listening in a foreign language comprises of two levels of activity: the recognition level and the selection level. Goh (1999) examined 20 factors as effective variables in listening comprehension. She further divided them into five major categories that are namely text, listener, speaker, task and environment. Individual differences such as memory capacity, intelligence, experience, and motivational levels are among listeners' variables. Speed of presentation can be related to the speaker category and note-taking pertains to the complexity of the task involved. In this study the researcher is going to investigate the effects of note-taking, memory, and speed of presentation on EFL learners' listening comprehension performance. The results whether support note-taking efficacy or reject its usefulness will give the teachers knowledge base to

offer suggestions for solving the problem EFL learners face in listening comprehension.

Note-taking is a multi-facet process that involves listening, information encoding, cognitive processing, and recording information in a written form (Peck & Hannafin, 1983). Listeners have to find the text meaningful in order to write down meaningful notes and this process of note-taking presents greater challenge for learners listening to a text in a second or foreign language. It is due to the fact that non-native speakers, specifically of English, have to comprehend the text using their insufficient English proficiency and from other factors such as the amount of information, their unfamiliarity with the topic and speed of presentation. Two functions of note-taking have been suggested by Di Vesta and Gray (1972) and they are explained in detail below:

Encoding function allows the learner to transcribe whatever subjective associations, inferences, and interpretations occurred to him or her while listening and it ensures that information that a listener receives is first properly understood, and then encoded into memory.

External storage function provides a learner a resource for later study or reference. The main purpose of note-taking is to give listeners clues for remembering and recalling materials. This function indicates that a

learner's performance will become better by reviewing what is stored in a written form.

Richards and Friedman (1978) proposed two likely functions for notes regarding the external storage hypothesis: a rehearsal function and a reconstruction function. A rehearsal function improves a learner's recall due to recall of the reviewed material from the notes. In the reconstruction function, the reviewing of notes allows learners to reconstruct parts of the text for which no notes have been taken.

Note-taking demands more time owing to its mechanical nature, and will automatically lead to a higher memory capacity requirement (Marquez, & Marquez, 1987). This may in its own right decrease the capacity available for the listening and analysis effort. Therefore the listener has to free some processing capacity by reducing the quantity of notes to enhance the capacity for listening and analysis (Gile, 1995). According to Gile (2002), there is coordination among listening, note-taking, and memory operations and it defines the level of the listener's comprehension. In this regard note-taking is considered as an aid to memory that is limited in capacity.

It is generally believed that listeners need more time to process texts in foreign languages (Munro & Derwing, 1995). EFL or ESL learners who

listen to English speeches with faster speed of presentation have to manage greater processing demands. When the presentation is fast, the note-taking activity hampers useful encoding. At a slower speed of presentation, the activity of note-taking may enhance listening by increasing a learner's concentration and focus of attention. It is suggested that a learner listen without taking any notes when the speed of presentation is above 200 words per minute and take notes when the speed of presentation is average (120 words per minute). Goh (1999) suggests that one of the major problems learners face in second language listening comprehension is the speed of speech presentation. She further emphasizes that this problem identified by the learners is due to their perception of how fast or slow the speakers are speaking.

According to Schunk (2004) cognitive information processing system includes four major components: attention, perception, short-term (working) memory, and long-term memory. He believes that information processing begins with a stimulus input, such as visual or auditory, which is received by the sensory memory and it is held in sensory form until pattern recognition (perception) takes place. Pattern recognition is a process during which meaning is assigned to a stimulus input. Then the information in sensory form is transferred to the short-term memory, that can be called working memory. When information is held in working

memory, some prior and relevant knowledge in the long-term memory will be activated to assimilate the new coming information into the long-term memory. To focus on working memory in detail, it can be said that it serves as a better predictor of an individual's comprehension ability and it can be explained partly by the active role it plays during the process of comprehension. The whole system of cognitive information processing is often limited by the capacity of working memory, to put it in another way working memory capacity limits higher-level processes in human brain (Daneman & Merikle, 1996).

Schunk (2004) believes that encoding--the process of putting new information into the information processing system and preparing it for storage in long-term memory--is usually accomplished by making new information meaningful and integrating it with previous relevant information in long-term memory.

As mentioned earlier one of the functions of note-taking is encoding and in this way the multi-facet activity of note-taking can be of help to working memory. In this study working memory will be considered as an independent variable deriving from individual differences of the subjects. Working memory has dual function of temporary storage and being in charge of carrying out various cognitive tasks, such as reasoning, learning,

and language comprehension. Daneman & Merikle (1996) investigated the relationship between a learner's working memory capacity in listening, and his or her listening comprehension and found statistically positive correlations. As a result it seems reasonable to assume that a non-native English learner's working memory capacity in listening may also correlate positively with his or her listening comprehension, even though to the best of our knowledge no study has been conducted to explore this relationship (Daneman & Merikle, 1996).

Based on the previously mentioned studies it can be inferred that note-takers who are allowed to both encode the information and review their notes would outperform those that are not allowed to take notes in the listening comprehension test. But Hale and Courtney (1991) found the opposite and indicated that permitting learners to take notes had little influence upon their listening performance. The findings of Dunkel, Mishra, and Berliner (1989) revealed that memory plays an important role in the processing of lecture information. They found a significant effect of memory on lecture-information processing in their analysis.

All these studies have attempted to explore and investigate more deeply the factors that affect the listening comprehension performance. However there seems to be a lack of focused investigation in exploring the

efficacy of multi-facet activity of note-taking along with other individual factor that is memory capacity and the speed of presentation, a feature of the speech being delivered.

1.2. Statement of the Problem

By reviewing some studies it became evident that few studies have been conducted to explore the influence of note-taking upon ESL or EFL learners' listening comprehension performance. As it was pointed out previously the listening process requires active involvement on the part of EFL or ESL learners and comprehension is the criteria upon which the effectiveness of this process is judged and evaluated. Factors such as individual differences, the characteristics of the speech, the mode of presentation and the conditions under which the speech is being delivered are among the ones that affect listening comprehension. This study is an attempt to explore more specifically the effects of factors like note-taking, working memory limitations and the speed of the delivered speech upon learners' performance on listening tests. The Iranian advanced EFL learners are chosen for the purposes of this study and this will in turn help Iranian educators and teachers develop strategies and techniques and also utilize appropriate methods to support disadvantaged learners handle their problems in listening comprehension.

In short, this study seeks to find out whether note-taking during listening process is of hand or hindrance and whether with fast presentation note-taking will improve listening comprehension performance or weaken it and to what extent the working memory capacity correlates with listening comprehension performance.

1.3. Significance of the Study

As with exploring the factors effective in listening comprehension performance several studies have been conducted (Dunkel, Mishra, & Berliner, 1989; Gile, 1995; Gile, 2002; Goh, 1999; Munro & Derwing, 1995). All of these studies have been done with a focus upon the researchers' specific EFL context and no investigation has been done to explore the effect of factors like note-taking, working memory capacity and the speed of presentation on the Iranian EFL learners' performance on the listening comprehension tests. The results of this study may enable educators and specifically teachers in Iranian context to explore the causes of EFL learners' difficulties in listening comprehension tests and will probably make them capable of choosing appropriate strategies and techniques to support the learners who have difficulties in comprehending target language speech.

1.4. Research Questions

1. Does note-taking activity have any influence on the Iranian EFL learners' listening comprehension performance?

2. Does the speed of speech presentation influence the Iranian EFL learners' listening comprehension performance?

3. Is there a significant interaction of the two independent variables of the study on the dependent variable?

4. Does the working memory capacity of the Iranian EFL learners correlate with their listening comprehension performance?

1.5. Research Hypotheses

H₀1: There is no difference between Iranian EFL learners who take notes while listening with those that do not take notes in their listening comprehension performance.

H₀2: The speed of the speech presentation has no effect upon the scores of the Iranian EFL learners in the listening comprehension test.

H₀3: There is no significant interaction of the two independent variables of the study on the dependent variable.