

Impact of Speech Modification on EFL Listening

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The present study is conducted to investigate the effects of syntactic modification and speech rate on EFL listening comprehension. The subjects were 168 college freshmen in Taiwan. Given the four versions of the listening passage on syntactic modification (unmodified/paraphrase/simple sentence/mixed), plus two different speech rates (average/slow) for each syntactic version, there were altogether eight versions of the listening passage. Subjects were assigned to one of the eight experimental groups according to the results of a randomized complete block design. After listening to the passage, subjects completed a cloze test. The results confirm the significant role played by speech modification in L2 listening comprehension. The study offers empirical evidences for the facilitating effects of syntactic modification and slower speech rate. Finally, the current study proposes some implications for the instruction of EFL listening comprehension.

本稿はシンタックティック モディフィケーション (syntactic modification) とスピーチレート (speech rate) が如何に台湾人大学生の英語聴き取り能力に影響を与えるかを探究するものである。実証研究は168名の台湾人大学一年生をテストの対象とし、無作為でそれらを均等に八組に分け、そしてそれぞれに四種類のシンタックティック モディフィケーション (unmodified, paraphrase, simple sentence, mixed) と二種類のスピーチレート (平常の速さとやや遅い速さ) で組み合わせた八通りの試験

内容から任意に選択した一つのを施し、聞き終わってから同じ内容の穴埋めテスト (cloze) を全員に解答させる形で行う。本研究によってシタックティク モディフィケーションとスピーチ レートが外国語の聴き取り能力に与える影響を解明することができ、更に本研究を通じて、英語教育の一環である聴き取り訓練についても些細なりとも寄与し得ると思う。

The effect of FT on NS-NNS discourse is generally considered to be one of aiding comprehension of the target language input. However, it may not be the case that comprehension is necessarily facilitated by modified input. While the effectiveness of attempts at simplification cannot be guaranteed, recent second language acquisition (SLA) research has begun to examine how listening comprehension is affected by speech modification.

The purpose of the study is to conduct research in a design that will allow for examining the effects of speech modification on the listening comprehension of Chinese students who are learning English as a foreign language (EFL). Specifically, the current study will investigate two variables related to speech modification, i.e. syntactic modification, speech rate. The main research questions explored in the study include:

- (1) Do EFL learners perform better in listening comprehension when listening to a passage with syntactic modification than without modification?
- (2) Do EFL learners perform differently in listening

comprehension when listening to passages including different kinds of syntactic modification?

- (3) Do EFL learners perform better in listening comprehension when listening to a passage delivered at a slower speech rate than at the average rate?

Literature Review

The following sections include a literature review of related studies investigating how various kinds of speech modification influence L2 listening comprehension. First, some researchers have examined the role of syntactic simplification in facilitating L2 listening comprehension. There seems to be some inconsistency in their findings. Blau (1990) studied the effect of sentence structure on the EFL/ESL listening comprehension of Polish and Puerto Rican university students. It is suggested that sentence structure which made difference in the reading comprehension study (Blau, 1982) seems to be a less salient modification when the input is aural rather than written. Cervantes & Gainer (1992) also conducted a study to explore the effects of syntactic simplification on L2 listening comprehension. The subjects were English major freshmen and seniors in a Japanese university. They proposed that syntactic simplification is an aid to L2 listening comprehension.

Besides, two studies have been conducted to investigate another kind of syntactic modification, i.e.,

paraphrase. No absolute effectiveness of paraphrase was found in the studies. One study by Kelch (1985) tested the effects of syntactic modification which consists of paraphrase, synonymy, hyperonymy, and parallel syntactic structures. It was found that there was an effect only for those passages with both modifications and a slower speech rate. The other study by Pica et al. (1987) investigated the listening comprehension of low-intermediate adult ESL learners on directions to a task presented by a native speaker. Results show that subjects' listening comprehension was facilitated when the content of the directions was repeated and rephrased in interaction. However, reduction in linguistic complexity in the premodified input was not a significant factor.

Furthermore, some research has explored the effect of speech rate. Kelch (1985) was the first to examine speech rate under controlled conditions in an L2 situation. It was proposed that slower speech with its features of clearer articulation, fewer vowel reductions, and more easily identifiable word boundaries, may offer greater facility of comprehension for L2 listeners. Nevertheless, syntactic modifications do not necessarily qualify as absolute features of simplification, especially without the accompaniment of slower rate.

Besides, Griffiths (1990, 1992) looked at the relationship between speech rate and L2 listening comprehension. In one study (Griffiths, 1990), he investigated the effects of three speech rates on the

comprehension of lower-intermediate Japanese EFL learners. He suggested that slower speech seems to offer few benefits to lower-intermediate L2 learners, and that faster speech appears to result in reduced comprehension. Another similar study by Griffiths (1992) proposed that the conventional teacher-training direction to speak at normal rates to beginners seems questionable since even lower-intermediate students can benefit from slower speech. Finally, Radar (1990) investigated the impact of slower speech for university students of Spanish and found no significant main effect for speech rate. This study illustrates how speech rate may interact with text content and experimental procedure.

Methodology

Two modifications of syntactic features, i.e., the usage of paraphrase and simple sentence, were made to the original version of the selected listening passage. As a result, there were four syntactic versions of the listening passage, including the unmodified version, the modified 1 version (paraphrase), the modified 2 version (simple sentence), and the mixed version (both paraphrase and simple sentence). Besides, the present study adopted the norm of speech rates proposed by Pimsleur et al. (1977). Thus, a speed of 160 wpm was designated as the average target speech rate, and 110 wpm as the slow target speech rate. Given the four versions of the

listening passage on syntactic modification, plus two different speech rates for each syntactic version, there were altogether eight versions of the listening passage.

In the study, the subjects were 168 college Chinese students from the freshman class in Taiwan. Subjects were assigned to one of the eight experimental groups according to the results of a randomized complete block design. The eight different recordings of the listening passage were randomly allocated to the eight experimental groups. After listening to the passage, subjects completed a cloze test.

Results

In the present study, a cloze test was constructed to measure the subjects' performance in recalling part of the listening passage. The cloze test had a total of ten points. Table 1 demonstrates the descriptive statistics of cloze test scores for the two between-subject factors. In terms of syntactic modification, subjects in the mixed group hearing both the paraphrase and simple sentence versions got the highest average scores ($M = 5.52$), followed by the version of paraphrase ($M = 5.36$), and then the version of simple sentence ($M = 4.74$). Among the four kinds of syntactic modification, subjects listening to the passages of the unmodified version had the lowest average scores ($M = 3.40$). With regard to speech rate, subjects listening to the passages delivered at a slow rate scored higher ($M = 5.44$) on the cloze test

than did subjects hearing passages at an average rate ($M = 4.07$).

Table 1: Descriptive Statistics of Cloze Test Scores for Factors

Factor	Level	N	Mean	SD
Modification	Unmodified	42	3.40	2.14
	Paraphrase	42	5.36	2.67
	Simple Sentence	42	4.74	2.78
	Mixed	42	5.52	2.51
Rate	Average	84	4.07	2.41
	Slow	84	5.44	2.71
Total		168	4.76	2.65

To determine if there were any significant differences in subjects' cloze test performance due to syntactic modification, speech rate, listening proficiency, listener gender, or interaction between them, a two-way (4×2) ANOVA on cloze test scores was conducted. Results in Table 2 indicate that there are significant main effects for the two between-subject factors, i.e., syntactic modification ($F=6.56$, $p=0.00$), and speech rate ($F=15.87$, $p = 0.00$).

Table 2. ANOVA on Cloze Test Scores

SV	SS	df	MS	F	p-value
(A)Modification	93.30	3	31.10	6.56**	0.00
(B)Rate	75.22	1	75.22	15.87**	0.00
A x B	35.33	3	11.78	2.48	0.06
Error	644.75	161	4.00		
Total	4971.00	168			

* $p < 0.05$, ** $p < 0.01$

With a significant main effect for syntactic modification, to further investigate the difference among the four kinds of syntactic modification, post-hoc tests with Tukey's procedure were conducted to make pair wise comparisons of group means of cloze test scores. Results show that subjects in the paraphrase, simple-sentence, and mixed groups got significantly higher cloze test scores than did those in the unmodified group ($p = 0.00$; $p = 0.03$; $p = 0.00$). Although the subjects in the mixed group scored higher than did those in the paraphrase and simple-sentence groups, the difference is not large enough to reject the null hypothesis at the 0.05 level of significance ($p = 0.99$; $p = 0.35$). Similarly, subjects in the paraphrase group scored higher than did those in the simple-sentence group, but the difference

does not reach a significant level of 0.05 ($p = 0.56$).

Discussion

ANOVA results show that the main effect of syntactic modification is significant for subjects' scores on cloze test. It is suggested that EFL learners seem to perform better in listening comprehension when they listened to a passage with syntactic modification than to the unmodified passage. Results from the current study seem to support the findings of some previous research such as Chaudron (1982, 1983), Chaudron & Richards (1986), Cervantes & Gainer (1992), Chiang & Dunkel (1992). They all proposed that syntactic modification is an aid to L2 listening comprehension.

However, some research literature has also pointed out the non-significant effect of syntactic modification on L2 listening comprehension (Kelch, 1985; Pica et al., 1987; Blau, 1990). There seems to be inconsistency of research findings on whether syntactic modification affects L2 listening comprehension. It is proposed that the length of material may play an important role. For the two L2 listening studies which found no significant effect of syntactic modification (Kelch, 1985; Blau, 1990), they both included quite short listening passages. Besides, the input condition of listening material may also be related to the influence of syntactic modification. In the study by Pica et al. (1987), syntactic modification was found to facilitate L2 listening comprehension only

in the interactionally modified input rather than in the premodified input.

In addition, there seems to be some relationship between the type of comprehension task and the effect of syntactic modification on L2 listening comprehension. The comprehension tasks adopted in the present study are a cloze test and true/false questions. The study by Cervantes & Gainer (1992) also used a cloze test to measure subjects' listening comprehension. These two studies both indicated the significant effect of syntactic modification. By contrast, the studies by Kelch (1985) and Blau (1990) which found a non-significant effect adopted such comprehension tasks as dictation and multiple-choice questions. According to Chaudron's (1985) scheme, a cloze test and true/false questions require a lower degree of speech understanding than multiple-choice questions and dictation test do. Thus, it seems that syntactic modification of listening material can improve the performance in tasks requiring less comprehension, instead of those more complicated listening tasks.

Moreover, the study proposes that EFL learners do not perform differently in listening comprehension with regard to different kinds of syntactic modification for the listening passage. Findings of the present study seem to support previous claims that there is a great deal of controversy over what kinds of syntactic modification improve comprehension (Rubin, 1994). It seems that

the difference between the unmodified version of the listening passage and the version with any kind of syntactic modification is much more obvious than the difference between versions with various types of syntactic modification.

Results of the present study confirm Krashen's (1987) claim that slower speech rate is one of the characteristics of modified input for L2 acquisition. Hatch (1983) also suggested that the advantages of slower speech to L2 listeners include more processing time and clearer segmentation of the structures in the input. As proposed by Kelch (1985), slower speech with its features of clearer articulation, fewer vowel reductions, and more easily identifiable word boundaries, may offer greater facility of comprehension for L2 listeners. The facilitating effect of slower speech rate has been found in studies of hearing loss (Uchanski et al., 1996), L1 listening (Anderson-Hsieh, 1988; King & Behnke, 1989), and L2 listening (Kelch, 1985; Griffiths, 1990, 1992). The current study looked at listening comprehension in English as L2, providing further proof that slower speech is an important facilitating factor in second language listening comprehension.

Conclusion

The findings of the study can provide some implications for the classroom teaching of L2 listening comprehension. First, listening materials used in the

classroom should contain some kinds of syntactic modification making input more comprehensible, such as repetition and paraphrase of words, phrases, or sentences; restriction of vocabulary to common or familiar items; addition of boundary markers and sentence connectors; and reduction in sentence length and complexity through removal of subordinate clauses.

Moreover, teachers should be encouraged to use listening materials delivered at slower speech rates for teaching L2 listening comprehension in the classroom. Hence, L2 listeners can benefit from more processing

time, clearer articulation, fewer vowel reductions, and more easily identifiable word boundaries. Finally, emphasis on syntactic modification and slower speech rate for listening materials and instruction is especially important for beginning and intermediate-low L2 learners. Being provided with comprehensible input through syntactic modification and a slower speech rate, EFL learners are able to get additional help for listening comprehension to compensate for their limited L2 linguistic knowledge.

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