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ABSTRACT

This study was conducted in an attempt to provide an alternative to the long-established method of tape listening and repetition drills, a method that has had disappointing results. It is suggested that the rate of speed of phonic presentation is not commensurate with the rate of comprehension. The proposed method seeks to prevent cognitive overloading by using a speech compressor on native-speaker tapes and following this by repetition. An experiment measuring the effect of this method on listening, speaking, reading, and writing skills implies that one particular method is not so important as specialized strategies directed to specific groups of students and individual language skills. (AM)

Repetition Through Successive Approximations

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The use of repetition as a means of language acquisition hardly needs documentation. Drills have been based upon repetition from antiquity to the Renaissance and modern times (Kelley, 1969, p. 91). In the 1950's, particular reliance was placed upon the pattern drill, featuring successive approximations structured in accordance with linguistic analysis and psychological theories applied to classroom procedures (Rivers, 1968, pp. 101-109). According to the audiolingual method, which dominated the 1950's and 60's and is still of major importance, language material should be presented in sequenced repetitions, proceeding from dialogue, developed in a normal situational context, to drills requiring incrementally independent manipulation of the language for the purpose of increasing linguistic transfer and the avoidance of boredom. Such drill sequences were seen to provide the repetition thought necessary for thorough acquisition of grammatical concepts, correct linguistic habit formation, and the ability to transfer learned language patterns to different contexts (Rivers, pp. 106-108).

Recent studies, however, indicate scepticism as to the absolute effectiveness of any one method of instruction in all instances, and point to the need for "experimentation with well defined variables to determine the best ways of teaching specified elements of foreign language" (L. G.

Heien, 1973, p. 195). Particularly the use of tapes in the language laboratory and in the classroom to provide repetitive practice has been found to be much less effective than originally anticipated (Jarvis, 1970, pp. 91-93; W.F. Smith, 1970, pp. 192-94; P.D. Smith, 1970, pp. 3-5). The repetitive, sequenced drills, long considered essential to language training (Mackey, 1967, p. 257), have not yielded results commensurate with expectations, and under controlled conditions they frequently have not produced significant differences in student performance (A.N. Smith, 1970, p. 115). In most cases, the standard audio-lingual tape system appears to be less effective, even after repeated listening experiences (W.F. Smith, 1970). One explanation for this observation may be that pronunciation and intonation of the model, that is to say native speaker, voice on the tape may interfere with student comprehension, particularly in those instances where the classroom teacher is not a native speaker. Another more probable explanation for this phenomenon may be that the rate of speed of the phonic presentation is not commensurate with the student's rate of listening comprehension; he is therefore unable to identify sounds and words in meaningful sequences.

In an unpublished pilot study, Mizell and Thomas (1972), reduced the rate of phonic presentation of native speakers by using the speech compressor. They succeeded in demonstrating that students, who listened to tapes presented at a reduced rate of speed, performed, on the average, at a higher level than students listening to tapes presented at a normal rate. However, since the ultimate objective related to listening is not only comprehension, but comprehension at a normal rate of speed, a method of instruction should be developed which will not only assure comprehension,

but will also develop the ability to understand normal speech more accurately and retain the information so acquired for longer periods of time. If it is assumed that it is possible to reduce the rate of verbal presentation to a level where cognitive overloading does not occur, in other words, a level at which the student fully comprehends all components of the language segment heard on the tape, it seems reasonable to infer that the rate of listening comprehension in terms of both short and long-term mastery can be increased by having students listen to tapes with a rate of phonic presentation reduced from the normal, but free of phonemic and intonational distortion.

Historically, this has not been possible due to the lack of technology. However, Stricht in 1964, by the use of a speech compressor, demonstrated that the comprehension rate of native-speaker speech is primarily related to the rate of spoken presentation and only secondarily to interfering factors, such as background noise, voice, pitch, and intonation. His research thus suggests that student response to a language tape is more likely to be affected by speed than by differences in accent and intonation. Friedman, Orr, Freedle and Norris (1966) and Friedman and Johnson (1969) came to similar conclusions. If these findings are applicable to foreign-language instruction, as Gilbert Jarvis (1970, pp. 91-93) indicates they might be, it seems reasonable to conclude that the comprehension of foreign-language materials can be systematically increased by: (a) using a speech compressor to reduce the rate of speed of language presentation to a level of complete learner-comprehension; and, (b) repeating the material to be acquired.

The purpose of the present research was to examine language acquisition within the four skill areas of listening, speaking, reading, and writing as it is affected by both non-distored retardation and repetition

of speech. Eighty-one middle school German students in the Pennsylvania public schools were, therefore, randomly assigned to one of three groups. Group I heard, once, taped materials which were reduced in speed to a point where comprehension was assured. Group II heard, three times, material identical to that of Group I, except that subjects in this group listened to tapes in which the speed was successively increased from a base level 20% slower than normal to an intermediate level 10% slower than normal to a third repetition of the identical material at normal speed. Group III heard individual tapes presented, once, at a normal rate of speaking. All reductions in speed were accomplished by the speech compressor and were completely undistorted. The student population was controlled for (a) sex, because it has been demonstrated that sex differences are related to cognitive activity in a wide varity of learning tasks (Tyler, 1956; Dye and Very, 1968); and, (b) language ability. The Pimsleur Language Aptitude Battery was used to determine the language aptitude of all subjects.

Particular concepts within each skill area were arbitrarily chosen to be examined. For listening, the concepts, accusative and nominative cases of the definite article and the verb "sein", were selected; for writing, the indefinite article nominative and accusative; for speaking, inverted word order; for reading, nominative and accusative personal pronouns. At intervals of approximately two weeks, identical tests were given to all groups to determine the extent of comprehsnion and transfer ability in terms of listening, speaking, reading and writing. All test items were based upon the Modern Language Association standardized tests in the four skill areas. An analysis of variance (ANOVA) was performed on all data within each skill area to identify the results of the three different treatments and their interactions with sex and language ability. Where

significant means or interactive effects occurred, a Newman-Keuls post-test analysis was applied to determine significant differences between appropriate pairs of group means. As anticipated, differential language ability was reflected in all results, that is, subjects with high, medium, and low language ability consistently achieved correspondingly. Generally, sex differences in regard to language acquisition were prominent throughout the experiment.

In the listening skills, the use of repetition with successive approximations proved more effective with males than with females when ability levels were not considered, and when instruction centered on a concept such as the definite article. The concept, "sein," however, yielded slightly different results, when ability was not a consideration; successive approximations did not produce results superior to any other method for males in this case. These contrasting results with regard to males are in keeping with previous research which indicates that verbs are easier instructional concepts to acquire than definite articles. For females, surprisingly, the more difficult concept was acquired most easily at normal speeds, and the less difficult concept was most easily acquired at slow speeds. One possible explanation for the conflicting results may be that there are sex differences with regard to the perceived difficulty of linguistic concepts, such as have occured in specific studies of sex differences in relationship to varieties of learning tasks (Tyler, 1956; Dye and Very, 1968).

For listening skills, when ability levels are considered with a relatively easy concept, "sein," the successive approximations were again more effective with males, particularly high-ability males. In terms of both instructional concepts, males responded to the treatment of repetition more extensively than to any other treatment, with the exception of medium and

low ability males who scored highest after using tapes recorded at normal speed. The implication seems to be, at least with regard to listening skills, that males are more sensitive to repetitive learning conditions. By contrast, females are more responsive to a slow presentation.

Sex differences displayed no differential performances related to writing skills. However, the normal speed of presentation resulted in higher achievement than did either of the other two treatments. High-ability subjects in the slow treatment group scored higher in the area of reading skills than did students receiving either of the other two treatments.

Speaking skills were not differentially affected by any treatment. This result may be due to the fact that speaking skills require more practice than was planned in the present scope of the experiment for either ability group or any treatment group. Since this skill is the most difficult to acquire, intensification of treatment, such as larger amounts of language material and longer periods of exposure to the various treatments, should in future experimentation reveal significant group differences in this skill area as well.

One of the major implications of these experiments appears to be that a particular overall method, such as audiolingual, grammar translation, or reading, is not so important as highly-specialized strategies directed to specific groups of students and to individual skills with regard to the concept being taught. Repetition of phonemes and morphemes, simplified by applied linguistics into successive approximations, does not necessarily result in greater language achievement. Nor does simple repetitive listening automatically result in superior language achievement, even when students fully comprehend what they are saying.

Greater differentiation within generally defined methodology is needed. Replication of experiments of this type should occur for substantiation and further precision of linguistic presentations. The Smith experiment (1968), entitled A Comparison Study of the Effectiveness of the Traditional and Audiolingual Approaches to Foreign Language Instruction Utilizing Laboratory Equipment, which demonstrated no significant differences among overall methods and stereotyped uses of the language laboratory, supports these conclusions with respect to the need for more specifically defined instructional strategies to reflect individual learning differences among students. Other studies of major aspects of the audiolingual method have also pointed to the pressing need for constructive modification of its basic assumptions (Hawley, 1970, pp. 89-90).

On a very practical level, mini-courses, individualized instruction, and drills varied by more frequent references to interest-arousing situations (Reichmann, 1970, pp. 148-149), are called for. Tapes of various speeds should be available in the language laboratory and for use in the classroom, so that practice may be individualized as much as possible. Also, the speech compressor should prove useful at all levels of language instruction, but particularly at the intermediate level and in courses in composition and conversation, where diversity of ability in one classroom often gives rise to frustration over the pacing of instruction. More controlled experimentation should be encouraged to determine the effectiveness of other widely accepted strategies.

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Tables of Means

1. Listening Skill:: Definite Articles; sec X treatment interaction

Sex	Slow	Successive	Normal
Male	7.54	7.98	6.91
Female	7.70	5.80	8.66

2. Listening Skill: Sein; sex X treatment interaction

Sex	Slow	Successive	Normal
Male	2.47	2.78	3.71
Female	3.84	3.58	3.18

3. Listening Skill: Sein; language ability X sex X treatment.

Ability	Sex	Slow	Successive	Normal
H	M	2.00	4.50	4.00
	F	4.13	4.00	4.29
M	M	3.00	2.00	3.80
	F	2.40	3.25	2.25
L	M	2.40	1.83	3.33
	F	5.00	3.00	3.00

4. Reading Skill: Personal pronoun, 3rd. person singular, nominative; ability and ability X treatment interactions.

Ability	Slow	Successive	Normal	Ability Means
High	9.25	8.17	7.18	7.31
Medium	7.30	6.15	8.48	7.11
Low	4.15	6.42	5.08	5.22

Language Ability Means: High, 7.31; Medium 7.11; 5.22

Sex Means: Males, 5.44; Females 7.65.

5. Writing: Indefinite Articles, nominative.

Ability: High, 6.02; Medium, 4.91; Low, 4.89.

Sex: Male, 4.70; Female, 5.84.

Treatment: Normal, 5.77; Successive, 4.64; Slow, 5.42.

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