DOCUMENT RESUME

ED 225 402 FL 013 451

AUTHOR Vanderplank, Robert N.
TITLE Only in the Language Laboratory: Dynamic Stress Matching as an Aid to the Development of Listening Comprehension.
PUB DATE 80
NOTE 10p.; Paper presented at the Concordia Colloquium on Language Laboratories (Montreal, Quebec, July 6-8, 1981).
AVAILABLE FROM Concordia Colloquium on Language Labs, Concordia University, 1455 de Maisonneuve West, Montreal, Quebec H3G-1M8, Canada ($15.00 for entire journal).
PUB TYPE Journal Articles (080) -- Reports - Descriptive (141) -- Speeches/Conference Papers (150)
JOURNAL CIT SPEAQ Journal; v4 n3-4 p163-71 1980

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Auditory Training; Higher Education; Instructional Materials; *Language Laboratories; *Listening Comprehension; *Second Language Instruction; *Skill Development; *Stress (Phonology)

ABSTRACT

An experiment was carried out at the University of Edinburgh to discover ways in which students might be helped to understand spoken language and to become more confident in their interactions in the language. As a result of the experiment findings, materials were designed to train students to perceive stress patterns, to internalize stress-timing at both word and sentence levels, and to develop an accurate awareness of the perceptual structure of the message. The materials and methods of the course that was developed were designed to exploit the advantages of the tapes in use in the language laboratory, and the possibilities offered by the laboratory for active student use of the language and for self-assessment. The materials prepared for the course were chosen according to linguistic, functional, and stylistic criteria. The stress and rhythm patterns were simplified for perceptual training through regularization of the patterns, while maintaining the stress location of the authentic discourse. It is claimed that such training in stress perception allows the understanding process to operate more efficiently and accurately, and that its most important feature is the active and critical matching of the main stress pattern as this is perceived by the student with the "objective" stress pattern of the master. (AMH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED225402

SPEAQ JOURNAL
Vol. 4, Nos. 3-4
1980

Only in the Language Laboratory: Dynamic Stress Matching as an Aid to the Development of Listening Comprehension

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Robert Vanderplank
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ROBERT N. VANDERPLANK
University of Edinburgh

Listening comprehension is the skill which seems to lag behind the others right up to advanced levels. Students who have made otherwise satisfactory progress often lose confidence when confronted by natural speech. This paper presents research which brings together techniques for developing listening comprehension and for ensuring maximum utilization and exploitation of language laboratory (LL) facilities.

Most approaches to the development of listening comprehension in learners of English attempt to minimise the inhibiting effect of the rapid arrival of the language from which the listener is expected to grasp meaning and thereby understand. Current approaches (for example, Underwood, 1979) have tried to limit the effect of the rapid sequence of words by concentrating on the meaning and understanding aspects. This we might call simplification by topic control or by skilled editing of the authentic material. I feel that this approach places the learner in a difficult position. He/she cannot be assumed to have a complete linguistic repertoire on which to draw, and so a large element of the understanding must be based on the impression formed from a few phrases or words, rather than on a complete message that can be repeated or paraphrased and thereby shown to have been understood.

More commonly, the design of materials for practice in listening comprehension follows broadly similar lines of simplification to those used in materials for reading, writing and speaking practice, that is, control of content, selected and graded grammatical points, restricted vocabulary, and, in the case of listening, reduced speed or elimination of performance errors. The pre-occupation with controlled structure

FL013451

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

and vocabulary on the one hand, and with authenticity and overall understanding on the other has inevitably meant a lack of interest in the non-linguistic, temporal aspects of listening and in potential ways of simplifying them.

In recent experiments carried out at the University of Edinburgh (Vanderplank, 1981), the findings indicated, firstly, that stress perception can be simplified (that is, made easier) by regularising the occurrence of main or sentence stress, and secondly, that regularising stress can aid learners' comprehension of certain varieties of spoken discourse, regardless of whether topic, content, structure and vocabulary have been simplified by the usual selection and grading processes.

Theoretical Background to the Design of Stress Matching Processes

As Lehiste (1973, 1977) has shown, the language of the spoken discourse not only arrives in a syntactically rulegoverned order, but also with a stress pattern set in a rhythm appropriate to the language, and in locations appropriate to the specific discourse. What, therefore, in the sequence of (possibly) known syntax and lexis inhibits or prevents comprehension by learners? Brown (1977) has written at length on the problems that the reduction of citation forms and the simplification patterns of informal speech cause for learners' comprehension. In this respect, I would suggest that the double function of main stress may have a paradoxically helping and hindering effect on learners, in that it not only indicates information (given/new, emphatic, contrastive), but also maximises the flow of information. This it does through the weakening or shortening of words or syllables carrying no main stress, and through the increasing of 'distance' between main stress in utterances with a high ratio of given compared to new information (for example, parenthetical utterances).

It was found in the experiments mentioned above that learners of English were failing to locate linguistically important stress accurately and also that they were failing to match their *perception* of the message with the message itself. Since the stress and rhythm pattern of an utterance governs the way in which the syntactic and lexical information is structured in the stream of speech, I would argue that one possible cause of the learner's comprehension difficulty is the mismatching of the stress and rhythm pattern as perceived by the learner with the stress and rhythm pattern of the message itself.

Since a key element in the accurate decoding of the message is the accurate location of the main stress (Lehiste, 1973, 1977) and its consequent effect on other stress location in the utterance, this can be referred to as a *timing* problem. That is, the listener must actively perceive and accurately match the stress location in real time. If the learner is not aware of this problem and is directed to the hit or miss, feelings of understanding, or "reasonable interpretation" (Brown, 1978) strategies, or is given no systematic training in accurate, *active* stress perception, it is not surprising that listening comprehension ability frequently lags behing other, more 'static' or learner-controlled skills, and that the learner lacks confidence in listening at otherwise advanced levels of proficiency. 'Static' is used in contrast to the 'dynamic' of the title of this paper. In all 'static' skills the language is under the temporal control of the reader, writer or speaker, while listening is 'dynamic' and the language is not under the control of the listener in temporal terms. Thus, it is not surprising that the learner does not take part in interactional or listening situations (radio, lectures, etc.) with the same confident assumptions of language ability that might be held on opening a book, relating events, or composing a piece of written work. Abercrombie (1967) has stated that the goal of confident tuning in or 'phonetic empathy' is both rare and difficult for learners to achieve. However, it is a view central to this paper and to my research in this field that the main cause of such failure and of the consequent attitude is the absence of perceptual training methods, which can overcome the problem of rapid and efficient decoding of spoken discourse in real time.

The rationale behind materials designed according to these premises is, therefore, briefly, that by taking the learner through active, vocal or sub-vocal stages of speech perception, where main stress is made explicit and regular, and by insisting on active matching of stress patterns and active shadowing of spoken discourse in which the stress pattern has been regularised, the learner will internalize stress-timing at both word and sentence level, and will develop an accurate awareness of the perceptual structure of the message. When combined with increased structural and lexical knowledge (provided in parallel by appropriate courses), this will enable the learner to operate higher level decoding strategies with less dependence on either the language of the message or the explicit stress pattern.

Design of Materials

The design of the materials for training in dynamic stress matching was indicated by the results and insights obtained from the experiments already mentioned. These helped to identify some problems and paradoxes in the development of listening comprehension and offered possible learner-related explanations for them. The main findings were:

i. learners have a linguistically significant stress perception problem (that is, learners just do not pick up stresses that are used to signal specific information).

ii. learners differ from native speakers in their approach to decoding spoken discourse in terms of degree of dependence on the language of the message.

iii. both frequency and rapidity of stress (i.e. spacing and pacing) appear to play significant roles in comprehension for native speakers and learners in certain forms of spoken discourse.

iv. regularising stress spacing and pacing appears to improve both stress perception and comprehension in certain varieties of spoken discourse for learners.

The aims of the materials were two-fold: firstly to train learners at elementary to upper intermediate levels in the accurate perception and production of word and sentence stress, and secondly, to reduce message dependency and increase speed and accuracy of understanding of all varieties of spoken discourse. In more specific terms, some fifteen objectives were also built into the design, the most important of which were to following five:

i. to develop an awareness of the relationship of increased physical and respiratory effort to stress perception and production.

ii. to train learners in accurate location of main stress and silent stress in regular connected spoken discourse, and accurate marking of sense breaks.

iii. to develop an awareness of the relationship of word stress to main stress in connected spoken discourse.

iv. to train learners in accurate *simultaneous* active matching of perceived spoken discourse with objective spoken discourse through stress matching.

v. to train learners in accurate stress matching, shadowing, following and understanding at different rates of spacing and pacing of stress.

The aims and objectives were to be achieved by using specific training methods, tested previously as experimental techniques. The training methods comprise:

i. active matching of the language as perceived with the actual language of the message at word, utterance and discourse levels, through stress perception, location and production.

ii. training in self-assessment and self-development of syntactic and semantic decoding through subjective estimation and shadowing techniques.

iii. training in perceptual matching of changes in tempo and rhythm of spoken discourse through acceleration and deceleration of space and pace of regular stress.

Equipment

The use of the LL is an essential part of the principles and design of the materials and of the methods for exploiting them. Hence the title of the paper: 'Only in the language laboratory...' It was intended that the perceptual training programme which I shall go on to describe would fully utilize the facilities and functions of the LL and would, at the same time, minimise the limitations of the LL as a teaching aid. In incorporating the use of the LL in the design of the training programme, consideration was given both to the advantages of the LL over other aids (or no aids) and to the defining features of the LL in terms of facilities offered. Thus, the materials and methods were designed to exploit the advantages of the constant real-time model produced by tapes, the individualisation of perceptual training offered by LL booths, the facilities for low-level perceptual training in stress location and shadowing through use of the dual track, master/student recordings, and the self-pacing and self-assessment facilities of the LL, together with the possibility of detailed observation of individual problems by the teacher. At the same time, it was felt that the limitations of the LL in being non-critical and non-responsive were minimised by the *active* nature of the training

procedures and self-assessment procedures which were provided by the LL facilities themselves. That is, the learner was not expected to repeat or respond to a stimulus on the tape, but to record *simultaneously* with the master, using this own perception of stress location to guide him. The effect to the controlled stress beat and unstressed to stressed ratios is that accurate matching (that is, accurate *timing*) of student and master recordings is possible, with consequent ease of self-correction and self-assessment.

Materials

It was found in the first experiment that there was no significant link between level of language knowledge as tested and stress perception ability in learners. The materials selected, therefore, were from a wide variety of styles, linguistic levels and registers. The criteria for their selection were linguistic (level of language difficulty), situational (in a library, breakfast), functional (argument, description, etc.), and stylistic (formal lecture, TV announcement, informal dialogue, etc.). An important design principle was the simplicity of the procedure by which materials were graded. It was considered central to the method that any stretch of spoken discourse could be regularised with regard to stress and thus graded, just as any piece of written material can be simplified and graded accordingly for reading practice. While the essence of simplification in reading practice is to keep topic, theme and certain essential stylistic devices, such as irony or suspense, unchanged while modifying syntax and vocabulary, in simplification and grading for perceptual training, only the stress and rhythm patterns are simplified through regularisation, while maintaining the stress location of the authentic discourse and so retaining the original meaning given by the syntax + stress interaction.

In practice, such regularisation means controlling the ratio of stressed to unstressed words and the maximum 'distance' between stressed words, and also controlling the frequency of stress occurrence as measured in stress beats per minute. The validity of these two variables as important factors in listening comprehension was suggested by the results of one of the experiments where both regularisation of stress frequency and ratio of stressed to unstressed words appeared to enhance learners' comprehension. The grading process is, therefore, largely the product of the two variables, spacing and pacing, with elements of the usual structural and lexical grading also present.

This means, for example, that at LEVEL 1, (the lowest level), the space between words carrying main stress is 2 - 1, a stressed word on average every other word, and the pace is 60 beats per minute. At LEVEL 2, the pace remains the same, at 60 beats per minute, but the space changes to 3 - 1, a stressed word on average every third word. An example of this is shown below.

LEVEL 1. : I wánt to télephone Lóndon but I dón't seem tó be dóing it corréctly // Wéll fírst you must diál níne to get an oútside líne SPACE: 2 - 1, PACE: 60 beats p.m., Max. distance: 3

LEVEL 2. : I wánt to telephone Lóndon but I don't séem to be doing it corréctly // Wéll fírst you must dial níne to get an oútside líne SPACE: 3 - 1, PACE: 60 beats p.m., Max. distance: 4

The Test Course

The materials were formed into a course, which is called 'Stress on Listening'©, and this course was tested at a community college in Edinburgh. The course lasted for twenty hours, one hour per day, four days per week over a six week period, and was held in an AAC LL. Ideally, the course should have lasted thirty hours, but even so, comparing the results of the pre- and post-course listening comprehension test for Instruction and Control Groups, the difference in progress made by the Instruction Group over the Control Group was very encouraging. Perhaps more important than the simple evidence that the Instruction Group appeared to improve its listening ability well ahead of the Control Group was the fact that the volunteer students continued to attend the course right through the six weeks and even seemed to enjoy the work. It was clear that they were able to exploit the facilities for self-criticism, self-pacing and self-responsibility offered by the LL, and developed an awareness of the importance of the rhythmic and perceptual aspects of spoken discourse, which was shown by the results of tests built into the course at different stages.

The Role and Place of Dynamic Stress Matching Materials

1. I am not claiming that training in stress perception directly improves the learner's conscious ability to understand spoken discourse. I would prefer to say that it allows the understanding process

to operate more efficiently and accurately within the constraints of real time.

2. The place of a stress training programme such as the one described can best be seen diagrammatically. I have adapted a model of language skills proposed by Widdowson (1978) for this purpose, and this is shown below.

	PRODUCTIVE	RECEPTIVE	
AURAL	SAYING (role-paying, situations)	LISTENING (intensive & extensive listening	PRACTICE
AURAL	SPEAKING (pron. drills structure drills, dialogue repetition, situational drills)	HEARING (discrimination exercixes, stimulus/correct response exs.)	TRAINING

Clearly, the Hear/Training part is where the course or the materials selected from a battery would fit in. That is, between the 'static' discrimination exercises, and the lexico-grammatical stimulus/response type of training.

3. The importance of the LL as the vehicle for such training must not be underestimated. The most important feature of the stress training course is the active and critical matching of the main stress pattern as perceived by the learner/listener with the 'objective' stress pattern of the master. Such a training is only feasible using a dual-track, master/student, record and playback facility, which, I would suggest, is not only the most important facility offered by the LL, but which is also its defining feature.

REFERENCES

Abercrombie, D. *Elements of general phonetics.* Edinburgh: Edinburgh University Press, 1967.

Brown, G. *Listening to spoken English.* London: Longman, 1977.

_____ Understanding spoken language. *TESOL Quarterly*, 1978, *12*, (3), 271-283.

Lehiste, I. Rhythmic units and syntactic units in production and perception. *Journal of the Acoustical Society of America*, 1973, *54*, 1228-1234.

_____ Isochrony reconsidered. *Journal of Phonetics*, 1977, *51*, 253-263.

Underwood, M. *Have you heard.* Oxford: Oxford University Press, 1979.

Vanderplank, R.N. *Using the language laboratory to develop the listening comprehension ability of adult learners of English by means of training in the perception of stress.* Unpublished doctoral dissertation, University of Edinburgh, 1981.

Widdowson, H.G. *Teaching English as communication.* Oxford: Oxford University Press, 1978.

Robert N. Vanderplank, obtained a B.A. in French at the University of Kent at Canterbury, and a Ph.D. in Applied Linguistics at the University of Edinburgh. He has taught EFL in France, Britain, and Saudi Arabia, and served as Director of Studies, British Council, Morocco. He is currently working at the Institute for Applied Language Studies, University of Edinburgh, and developing materials derived from research on perception and language learning.