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ABSTRACT

A study investigated the effect of pausing, a component of speech speed, on the listening comprehension of second language learners. Groups of subjects at two ability levels listened to taped versions of two brief lectures recorded with four different combinations of speed and pausing conditions. Comprehension was measured by means of cloze tests with exact and acceptable word scoring. Statistical analysis of the results consistently showed significant main effects for ability, an interaction effect between pausing and ability in two instances, and no significant effects involving speed. While the findings do not strongly confirm the expectation that pausing aids comprehension, and subjects' comments suggest that too long a pause or too slow a speed may create boredom, it is concluded that there is reason for teachers to use pausing judiciously in the classroom to approximate normal speech. A brief bibliography is included. (MSE)

THE EFFECT OF PAUSING ON LISTENING COMPREHENSION

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ABSTRACT

The study reported here is a contribution to the work in Second Language Acquisition research that focusses on the role of modifications of input on learner comprehension of speech. The specific variable investigated was pausing, a component of speech speed. Previous research had found that slowed speech aided comprehension.

Groups of subjects at two ability levels listened to taped versions of two lecturettes recorded with four different combinations of speed and pausing conditions. Comprehension was measured by means of cloze tests with exact and acceptable word scoring. Four three-way ANOVA tests on the results consistently showed significant main effects for ability, an interaction effect between pausing and ability in two instances, and no significant effects involving speed. Implications for teaching are discussed.

THE EFFECT OF PAUSING ON LISTENING COMPREHENSION

INTRODUCTION

Students spend a lot of time listening. For example, Wilt (1950) found that in elementary schools in the US pupils spent more than half of the school day listening. Regardless of what the exact percentage of listening time in second language classrooms is, in many approaches to second language education students are listening to the target language an important part of the time.

Given the importance of listening in second language classrooms, attention should be given to how to enable learners to get the maximum benefit from what they hear. This issue is part of what has been a major focus in second lnaguage acquisition (SLA) research for more than ten years: an effort to understand the contribution of environmental factors to SLA. This work in SLA is part of a larger effort in education which looks at the effects of teacher behavior on student achievement.

To look at this relation between environmental factors and learning, a three-part research agenda has been in process (Long 1985). With specific regard to listening, first the discourse modifications that native speakers (NSs) make when communicating with non-native speakers (NNSs) were investigated. Now, in the current stage, the effects of modification on comprehension are being looked at. In the future, the focus of investigation will turn to the role of comprehensible input in increased language proficiency.

Krashen (1982) and Long (1983) stress the need for spoken

input to be comprehensible. A key means of making input comprehensible is through modification. (For a review of the various types of input modification, see Parker & Chaudron, 1987.)

Second language teachers modify their speech in a way which combines two registers: Teacher Talk and Foreigner Talk. Studies which have reported the special features of second language teachers' discourse include Downes (1981), Henzl (1975, 1979), and Wesche & Reddy (1985). Modifications of elaboration (Parker & Chaudron, 1987) in Second Language Teacher Talk have been found to include slower rate, more and longer pauses, clearer articulation, greater volume, and more use of gestures.

Once researchers had identified some of the features of Second Language Teacher Talk, the next task was to investigate the effect of these factors on comprehension. Long's 1985 study combined many types of modifications. He constructed two versions of a lecturette: one in unadjusted NS discourse and the other with elaborations, slower speech, and simplified syntax. Comprehension was found to be better for the modified lecturette. However, the question remained as to which of the modifications were responsible for the increased comprehensibility.

Kelch (1985) sought to provide a partial answer to this question. He used a dictation measure to access the effect of slowed speech and elaboration, separately and together, on comprehension. Results showed a significant main effect for slowed speech, no significant main effect for elaboration, and an interaction effect for the two independent variables when the dictations were scored for equivalent meaning, but not when exact

scoring was used.

The research reported here attempts to take Kelch's study a step further by taking a closer look at slowed sppech. Hatch (1983:159) lists the foolowing as the features of slowed speech: clearer articulation, fewer reduced vowels, less consonant cluster simplification, more fully released final stops, stronger voicing of voiced consonants in the final position, and longer pauses between major constituents. To this list can be added pauses between syllables and words not at constituent boundaries.

The feature of slowed speech investigated here is pauses at constituent boundaries. Several researchers have pointed out that the use of such pauses is a way for teachers to give learners extra time to process what they have just heard (Hatch, 1983; Kelch, 1985; Hakansson, 1986). A similar phenomenon may also occur when people read texts. Bower & Cirilo (1985:89) state that in reading "special integrative processing" occurs at the ends of sentences. Further, Chaudron (1988) suggests that learners who have understood the meaning of a constituent may use the time provided by a pause to focus on other language features.

Another reason for focussing on pauses is that they may be a means that teachers can use to let students hear comprehensible target language input that is spoken at a normal rate with normal intonation but is made comprehensible by longer than normal pauses. Such speech is still not what students usually encounter outside the L2 classroom, but it may be a step closer to normal NS-NS speech than uniformally slowed speech.

Several investigations have described the use of pausing by

teachers of L2 learners, part of the first stage of the research agenda mentioned earlier. Henzl (1973, 1979) found that teachers used longer pauses when speaking to NNSs than to NSs. Hakansson (1986 found that pauses used by teachers of Swedish as a second language were longer than in normal Swedish discourse. Finally, Downes (1981) reported that L2 teachers made more frequent use of long pauses than native-speaking nonteachers when talking with NNSs.

The present study moves on to the second stage of the research agenda in an attempt to determine the effect of longer than normal pauses on L2 students' listening comprehension.

SUBJECTS

The subjects for the study were 73 foreign students enrolled in four classes at two different levels (80 and 70) of Listening Comprehension courses at the English Language Institue (ELI) of the University of Hawaii at Manoa. The large majority of these students were of East Asian and Southeast Asian background. Although TOEFL and ELI tests had judged thses students to need more work on their English, their level was fairly advanced.

MATERIALS

Two expository lecturettes (Driver and Learning) read by a native-speaking female were used in this study. They were of approximately equal length (415 and 453 words). Pilot tests had led to the rejection of two other lecturettes because they were judged to be too difficult.

Four versions of each lecturette were recorded: 1) normal

speed, normal pauses; 2) normal speed, long pauses; 3) slow speed, normal pauses; and 4) slow speed, long pauses. (See Table 1 for the conditions and times.)

MEASUREMENT

The dependent measures employed in the study were cloze tests constucted for the two passages. The criterion for choosing deletions was that a word would be difficult to guess from context. This criterion was used because if context clues could be used, the cloze would be a test of reading, not listening, ability. Twenty blanks were created in each passage.

PROCEDURE

The research was conducted in a language laboratory of the University of Hawaii at Manoa. The central console in the lab is capable of simultaneously playing four different recordings. Subjects were randomly assigned to booths in the lab. (See Table 2 for a listing of the passage conditions contained on the four recordings).

Before hearing the tapes, subjects were briefed on the purpose of the research and the procedure which was to be followed. Then, they did two very short sample cloze tests. Directions were to fill in the blank with the exact word from the passage they were to hear. After hearing each passage, subjects had ten minutes to do the cloze test.

The scoring for the cloze passages was done by both exact word and acceptable word methods. An acceptable word was any

which was appropriate to the passage. The list of acceptable words evolved from separate lists compiled by two members of the research team each independently going over half the tests, comparing their selections and possible selections, and coming to agreement over any differences.

ANALYSES

A 2 x 2 x 2 analysis of variance was used to determine if there were any differences in comprehension due to speed, pausing, class level, or interaction between any of the independent variables on the cloze tests.

RESULTS

The means, standard deviations and ns for each proficiency level and each passage using exact and acceptable word method are shown in Tables 3-6. Tables 7-10 display the results of the ANOVA, which indicate that comprehension scores were consistently higher for the more advanced level, ELI 80, across passages and scoring methods. The only other significant effects, besides those for level, were found for the interaction between pause and class: Driver passage, acceptable word ($F = 4.16$, $df = 1/64$, $p < .05$) and Learner passage, exact word ($F = 3.98$, $df = 1/64$, $p < .05$). There were no significant effects for speed, either alone or in interaction. The KR-20 reliabilities for the cloze tests were as follows: Driver passage - exact word .67, acceptable word .69; Learner passage - exact word .44, acceptable word .57.

DISCUSSION

To briefly review, the goal of this research was to look at one aspect of the modifications that some teachers make in the input they give their L2 students. The aspect of modification which was investigated was pausing, specifically pauses at clause and sentence boundaries, one component of the larger modification category of slowed speech.

With any type of modification, whether it aids comprehension depends on several factors: the level of the learner, the difficulty of the discourse, and the way the modification is applied. In the present study, for example, in some instances pausing significantly increased comprehension of the more advanced students, but it never produced a significant increase in comprehension for the less advanced students. Perhaps this is because learners need to be at a certain ability level in order to make good use of the processing time that pauses afford. For instance, for beginners listening to otherwise normal native speaker discourse, longer pauses may not be much help because of the big gap between their L2 knowledge and the level of the discourse they are hearing. However, if that discourse is just a little about their level, then pausing might help.

At the same time that pausing may be helpful in some cases, the relationship between pausing and comprehension may be curvilinear rather than linear. In other words, instead of longer and longer pauses leading to greater and greater comprehension, making pauses longer may only help up to a point, and then after that point, making pauses even longer begins to

lower comprehension rather than increase it. This idea was supported by the comments of some of the subjects who we talked to after they had participated in the study. They said that the slow speech - long pause condition was too much of a good thing and made them feel bored and restless.

Another suggestion from the results is that pausing may be the key to what makes slow speech work in improving comprehension. This idea arises from the fact that the only significant effects, besides those for class, involved pause and not generally slowed speech.

To conclude, on beginning this research we felt, based on our experience as L2 learners and as interlocuters with other L2 learner, that pausing can aid comprehension. Although the research does not offer strong confirmation of this belief, there may well be a place for judicious use of pausing in the L2 teacher's repetoire of modifications, because pausing offers teachers a way of presenting learners with spoken input that is one step closer to normal speech than uniformly slowed speech. It is hoped that future research will help to more clearly define pausing's role in SLA.

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Table 1. Delivery Conditions & Passage Length Time (words per minute)

	PASSAGE	
CONDITION	DRIVING	LEARNING
NS-NP	2:22 (174)	2:48 (162)
NS-LP	3:33 (116)	4:10 (108)
SS-NP	3:30 (118)	4:06 (110)
SS-LP	5:14 (79)	5:34 (81)

NS = normal speed, SS = slow speed,
NP = normal pause, LP = long pause

Table 2. Order of Passage Conditions

GROUP	*CONDITION*
1	SS-NP, NS-NP
2	SS-LP, SS-NP
3	NS-LP, SS-LP
4	NS-NP, NS-LP

NS = normal speed, SS = slow speed,
NP = normal pause, LP = long pause

Table 3. Means and standard deviations for exact and acceptable word methods for *ELI 70* subjects on *Learning* passage.

PASSAGE CONDITION	EXACT n	x	s	ACCEPTABLE n	x	s
NS, NP	7	4.00	1.58	7	8.71	3.25
NS, LP	6	3.83	2.79	6	8.17	3.97
SS, NP	10	4.20	1.55	10	8.50	2.46
SS, LP	8	4.00	1.51	8	8.00	2.27

Table 4. Means and standard deviations for exact and acceptable word methods for *ELI 80* subjects on *Learning* passage.

PASSAGE CONDITION	EXACT n	x	s	ACCEPTABLE n	x	s
NS, NP	10	5.20	1.32	10	10.90	2.33
NS, LP	11	6.64	2.66	6	11.00	3.29
SS, NP	11	5.09	1.51	10	10.45	1.86
SS, LP	9	6.89	1.96	9	11.67	1.94

Table 5. Means and standard deviations for exact and acceptable word methods for *ELI 70* subjects on *Driver* passage.

PASSAGE CONDITION	EXACT			ACCEPTABLE		
	n	x	s	n	x	s
NS, NP	6	5.50	1.76	6	8.70	3.08
NS, LP	8	4.00	1.31	8	8.13	1.64
SS, NP	7	6.71	3.40	7	10.45	4.28
SS, LP	10	5.20	2.15	10	8.60	2.17

Table 6. Means and standard deviations for exact and acceptable word methods for *ELI 80* subjects on *Driver* passage.

PASSAGE CONDITION	EXACT			ACCEPTABLE		
	n	x	s	n	x	s
NS, NP	11	7.18	3.76	11	10.73	4.22
NS, LP	9	7.89	2.15	9	13.44	1.67
SS, NP	10	8.20	2.39	10	11.60	2.37
SS, LP	11	8.82	3.37	11	12.27	2.72

TABLE 7

Analysis of Variance

Driver Passage

ANOVA (Exact Score)

Source	SS	df	MS	F	p
Main Effects	154.522	3	51.51	6.84	.000
Pause	1.234	1	1.23	.16	.687
Speed	21.790	1	21.79	2.89	.094
Class	132.195	1	132.19	17.54	.000***
Two-way Interaction	20.501	3	6.83	.91	.443
Pause x Speed	.014	1	.01	.01	.965
Pause x Class	20.344	1	20.34	2.70	.105
Speed x Class	.242	1	.24	.03	.858
Three-way Interaction	.006	1	.01	.00	.978
Pause x Speed x Class	.006	1	.01	.00	.978
Explained	175.029	7	25.00	3.32	.004
Residual	482.290	64	7.54		
Total	657.319	71	9.26		

*** p .005

TABLE 8

ANOVA (Acceptable Score)

Source	SS	df	MS	F	p
Main Effects	170.316	3	56.77	6.69	.001
Pause	3.034	1	3.03	.36	.552
Speed	2.969	1	2.97	.35	.556
Class	168.163	1	168.16	19.81	.000***
Two-way Interaction	54.368	3	18.12	2.14	.104
Pause x Speed	13.117	1	13.12	1.55	.218
Pause x Class	35.317	1	35.32	4.16	.046*
Speed x Class	7.311	1	7.31	.86	.357
Three-way Interaction	.619	1	.62	.07	.788
Pause x Speed x Class	.619	1	.62	.07	.788
Explained	225.303	7	32.19	3.79	.002
Residual	543.308	64	8.49		
Total	768.611	71	10.83		

*** p .005 *p .05

Analysis of Variance

TABLE 9

Learning Passage

ANOVA (Exact Score)

Source	SS	df	MS	F	p
Main Effects	76.086	3	25.36	7.05	.000
Pause	12.679	1	12.68	3.52	.065
Speed	.149	1	.15	.04	.840
Class	61.316	1	61.32	17.03	.000***
Two-way Interaction	14.480	3	4.83	1.34	.269
Pause x Speed	.167	1	.17	.05	.830
Pause x Class	14.315	1	14.32	3.98	.050*
Speed x Class	.067	1	.07	.02	.892
Three-way Interaction	.168	1	.17	.05	.830
Pause x Speed x Class	.168	1	.17	.05	.830
Explained	90.734	7	12.96	3.60	.002
Residual	230.377	64	3.60		
Total	321.111	71	4.52		

*p .05 ***p .005

TABLE 10

ANOVA (Acceptable Score)

Source	SS	df	MS	F	p
Main Effects	121.635	3	40.55	5.71	.002
Pause	.343	1	.34	.05	.827
Speed	.034	1	.03	.01	.945
Class	119.272	1	119.27	16.80	.000***
Two-way Interaction	8.073	3	2.69	.38	.768
Pause x Speed	1.930	1	1.93	.27	.604
Pause x Class	6.481	1	6.48	.91	.343
Speed x Class	.308	1	.31	.04	.836
Three-way Interaction	1.222	1	1.22	.17	.680
Pause x Speed x Class	1.222	1	1.22	.17	.680
Explained	130.930	7	18.70	2.63	.019
Residual	454.389	64	7.10		
Total	585.319	71	8.244		

***p .005