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Training and Transfer of Foreign Word Identification at Three Speeds

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It is unclear whether slowing one's speech rate when talking to foreign language students improves their comprehension and ability to segment spoken input into separate words. Although some studies have found that slowed speech facilitates understanding (Flaherty, 1979), others showed either no effect (Blau, 1990) or an effect only for beginning foreign language students (Griffiths, 1992). The current series of experiments adds to this literature by examining the relationship between speech rate and beginning learners' foreign word identification in sentences.

Method

Subjects

In Experiment 1, 72 subjects participated; in both Experiments 2 and 3, 36 subjects participated. These subjects had no previous knowledge of Spanish; they were assigned to conditions in a pseudorandom order.

Procedure

In each experiment, during training, subjects listened to 12 Spanish sentences containing words included in a beginning Spanish textbook pronounced by a native speaker. The sentences were presented one at a time through a computer. After each sentence was presented, the subjects attempted to type it and then received feedback in the form of the correctly spelled sentence. The sentences were presented in blocks of 12, with each subject trained for eight blocks.

In Experiment 1, subjects were assigned to one of four training lists. One third of the subjects given each list trained with sentences presented at a normal conversational rate (145 words per minute). Another third trained on sentences slowed to 104 wpm. The last third trained on speeded sentences presented at 203 wpm. SoundEdit software was used to expand or compress the normal speech used for the medium speed to create stimuli at the slow and fast speeds. Subjects were then tested on 48 Spanish sentences (the 12 sentences in each of the four training lists). One third of the sentences from each list were presented at the slow speed, one third at the medium speed, and the last third at the fast speed.

In Experiments 2 and 3, only two of the lists were used at training, but all four lists were used at test. Three slower speeds were used (70, 97, and 134 wpm). The stimuli in these experiments were produced at all three speeds by the native speaker. No computer expansion or compression was used. In Experiment 2, before the beginning of training, half of the subjects were given visual pretraining on the spelling of the Spanish words in their training list, and half received no pretraining. During pretraining, subjects saw each word and copied it three times. In Experiment 3, half of the subjects were given visual pretraining, and half were given both visual pretraining and auditory pretraining on the sound of the words in isolation.

Results

Subjects in all three experiments who trained at the fast speed had a significantly lower proportion of correct responses during training than did subjects who trained at either the slow or medium speeds. There was also a main effect of testing speed, with subjects scoring worse for sentences tested at the fast speed than at the slow or medium speeds. Importantly, in Experiments 1 and 2, subjects trained at the fast speed did significantly worse at test than did those trained at the slow or medium speeds, but there was no difference between the slow and medium speed groups. In contrast, in Experiment 3 (in which all subjects received some form of pretraining), there was no effect of training speed on accuracy at test.

Conclusions and Implications

These experiments show that words in rapid speech are difficult for beginning foreign language learners to identify within sentences. However, with pretraining on individual words, the negative effects of training at a rapid rate are reduced. More importantly, the results suggest that slowed speech is not better for word identification than is normal conversational speech, even for novice foreign language students. These findings imply that slowing speech is not necessary for beginning foreign language instruction.

Acknowledgments

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