

Dissertation Prospectus

Effects of Visual Instruction on Second Language Productive Phonology

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Introduction

The acquisition of Second Language (L2) productive phonology is seldom ever completely successful with adult learners. Most researchers contend that adult language learners cannot achieve native-like productive phonology in their second language and attribute the cause, principally, to language transfer and age-dependent factors. For example, Scovel (1969) maintains that no adult ever achieves native-like pronunciation in a second language. Some researchers suggest that successful attainment of L2 productive phonology is extremely rare (Flege, Munro, MacKay, 1995). However, with individualized practice, there is evidence that the learners' performance is improved (Hill 1970, Neufeld 1977, Archibald 1995, Young-Scholten 1995). These scholars argue that L2 productive phonology is attainable regardless of the learner's age and first language. They maintain that there are methods that can enhance the teaching of L2 pronunciation and that can help students acquire native or near native proficiency in pronunciation. The present research builds on this direction of instruction.

Hypothesis

This study proposes to test the hypothesis that adult learners practicing L2 sounds, with the ability to see on a diagram articulatory movements (point and manner of articulation) and conscious modifications of their researcher-prompted output, will approximate closer the target sounds, with the result of more native-like production and a more rapid progress. The idea behind the proposal is that it isn't just practice of sounds

that improves the productive phonology, but informed practice. Teachers may give feedback to the student, but my hypothesis is that instruction that can be seen and then the output-modified will work better. The hypothesis is based on the assumption that to acquire new speech sounds, L2 learners need visual instruction.

Rationale

1. First language acquisition capability is virtually universal, as is the capacity for second language acquisition of syntax, morphology, lexicon, semantics, and pragmatics.
2. Some second language learners achieve native-like phonology in their second languages.
3. By extension the capability for complete acquisition of second language phonology should also be universal; however, evidence supporting this conclusion is scarce.

Justification for examining this area

There is a dearth of studies in the field of L2 phonology because of the common belief that the learner's phonological system does not provide useful insights into the nature of the second language acquisition process. To a large extent, this notion was based on the wrong assumption that all phonological errors were the result of direct transfer of the native language phonology to the interlanguage system in some uninteresting ways (Tarone, 1978). That is to say, the pronunciation of a second language was not significant for the field of second language research. This conviction is still prevalent among second language acquisition researchers, second language teachers, and students. However, it would be misleading to presume that language learners only need to acquire the grammar system and vocabulary of a second language. It is equally essential that they acquire the rules of the second language phonology to be intelligible to

other speakers of that language. Therefore, it is reasonable to assume that “research in this area will shed much light on our understanding of the process of speech perception in general” (Tarone, 1978).

Furthermore, it is believed that Universal Grammar (UG) is available to first language learners only. Second language learners, on the other hand, do not have access to UG and use information-processing strategies or problem-solving procedures, which make adult language learning very different from child language acquisition. Although the input processing strategy may not work sometimes, “the insight that acquisition involves input-processing strategies of some kind is important and should be pursued” (White, 1991).

Research Question

1. To what extent can adult Japanese speakers of English produce English /l/, and /r/ just like native speakers of the target L2 with the aid of visual instruction?

The present study will examine the production of English /l/ and /r/ by native speakers of Japanese since these are the most problematic L2 sounds for them to pronounce. Japanese speakers of English often identify English liquids /l/ and /r/ with Japanese liquid /r/, and, as a result, approximate and substitute the target L2 sounds with Japanese /r/. The process is called interlingual identification, and is triggered when the perceptually similar L2 and L1 sounds differ acoustically and auditorily. What is interesting is that this identification can extend from a perceptual level to a productive level (Lehiste, 1988; Flege, 1988). The purpose of the present study is to determine whether with informed practice, Japanese speakers of English would be able to improve

their production of English /l/ and /r/ and, thus, transcend the process of interlingual identification.

General Methods

Subjects

Forty beginning Japanese speakers of English, studying English as a Second Language in the United States, will be chosen for this study. The subjects will be divided into two groups: control and experimental.

Data Collection/Analysis Procedures

Elicited Speech

The target sounds being examined will be given in citation forms (words) and sentences. The reason for doing this comes from the fact that even though learners sometimes approximate the phones in isolation, they still have trouble pronouncing them in different word positions, mainly because of the sounds preceding and following them. The target sounds /l/ and /r/ in words and sentences will occur in word-initial, word-medial, and word-final positions, which will be effective in determining whether the subjects have mastered these sounds in different phonological environments. Furthermore, first language (L1) acquisition research suggests that sentence repetition tasks result in better performance than spontaneous speech (Dickerson, 1974). The effect of sentence versus spontaneous discourse on the phonology of L2 users is unknown. However, in order to obtain a sufficient data sample, a sample that is consistent across subjects, sentence production, along with citation forms, is selected for this study. Johansson's (1973) use of target language sounds at the sentence level is a significant improvement over previous experimental studies, for example.

Connected Speech

In addition, a sample of spontaneous connected discourse will be elicited from each subject. The natural speech of each speaker, speaking English, will be audiotaped as they answer a set of questions. These questions will be related to the subjects' educational background, work, personal interest, and academic goals, etc. Prompting will be kept at a minimum.

Speech Perception

The subjects (both control and experimental) will be given a speech perception test before and after the training, in which they will listen to thirty multiple choice questions, containing /l/ and /r/ words in different word positions. After listening to the questions, they will choose the closest /l/ or /r/ word that they hear in the sentences.

They will have three words to choose from for each sentence they hear.

The purpose of this test is to determine whether speech production has an impact on speech perception. Archibald (1996) believes that speech perception and speech production are two relatively independent skills and should be teased apart to examine L2 phonology. However, Flynn and Manuel (1991) note that perceiving and discriminating between speech sounds is a specialized behavior. They claim that adult L2 learners don't lose their ability to perceive speech sounds, but they have difficulty with certain perceptual distinctions. It would be interesting to see if the subjects in the experimental group will be able to obviate the difficulty in making perceptual distinctions with an improved ability to produce L2 sounds.

Training

The experimental group will spend 2 hours practicing the target sounds twice a week for 8 weeks. They will be shown two diagrams, one for each sound, showing the exact point of articulation of the target sounds. The investigator will explain the organs of speech and manner of articulation. Technical details such as liquid and retroflex will not be discussed to preclude complexity and misunderstanding. During each training session, the investigator will not model the target sounds because speech perception and speech production are relatively independent skills and should be teased apart in trying to unravel the puzzle of phonological fossilization (Archibald, 1993a; 1993b). It should be noted that speech perception involves acoustic phonetics whereas speech production involves physiological bases of speech. This study is concerned with L2 productive phonology and, therefore, will focus on the articulatory aspects of phonology.

In addition to the diagrams, the subjects will be given oral and written instructions for each sound, such as ‘place the tip of your tongue against your upper gum ridge,’ ‘raise the tip of your tongue towards the upper gum ridge but do not touch it,’ etc.

The control subjects will not receive the special training. They will be orally tested along with the experimental subjects. However, to determine the effectiveness of the visual instruction compared to other conventional methods of teaching pronunciation, such as oral drills, listening and repeating exercises, etc., the subjects in the control group will also spend 2 hours repeating pairs of words and sentences, containing English /l/ and /r/ in various word positions, after an instructor (a native English speaker) on an audiocassette. The frequency and length of this exercise will be the same as the training period, i.e., 2 sessions of 2 hours per week for 8 weeks. The control group’s output will not be prompted by the researcher. In other words, the target sounds will not be

modeled, prompted, and modified by the researcher; the control group will only listen to the instructor on the tape and repeat after him/her without any intervention.

Before and after the completion of the training, both the control group and the experimental group's production of the target sounds will be recorded on audiocassettes. A panel of 10 native English speakers will test the subjects' production of the target sounds /l/ and /r/ by listening to the audiocassette and ranking them on a scale of 1 to 3, with 1 being /l/, 2 being /r/, and 3 being 'don't know'. The errors which allow minimal intelligibility but fall short of native-like production will be ranked 3. In other words, only native-like production of /l/ and /r/ will be ranked either 1 or 2.

Scores given by the judges will be computed. These scores will be obtained by averaging over responses obtained for each subject. An overall mean will be computed for laterals /l/ and retroflexes /r/ spoken by all 40 subjects.