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Video Self-Monitoring as an Alternative to Traditional Methods of Pronunciation Instruction

P. C. Noble
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THESIS APPROVAL

The abstract and thesis of P.C. Noble for the Master of Arts in Teaching English to Speakers of Other Languages were presented July 3, 1997, and accepted by the thesis committee and the department.


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ABSTRACT

An abstract of the thesis of P.C. Noble for the Master of Arts in Teaching English to Speakers of Other Languages presented July 3, 1997.

Title: Video Self-Monitoring as an Alternative to Traditional Methods of Pronunciation Instruction

Japanese students of English have difficulty pronouncing /f/, /r/, /l/, /v/ and “th”, sounds that are either not present in their language, or as in the case of /r/, articulated in Japanese more like an English /d/. Their difficulty with these sounds seems to affect their comprehensibility in English to native-speakers of English.

The purpose of this partial replication of a 1994 study by MacDonald, Yule and Powers was to test three different methods of pronunciation instruction (and a control) to determine which promoted the greatest improvement in the pronunciation of the five target sounds among Japanese speakers. The three types of pronunciation instruction included two traditional methods: a teacher-led lesson, listening to audiotapes in a language lab; and an experimental method, which consisted of a two-phase video self-monitoring activity.

There were two hypotheses governing this study: 1) that the group participating in the video self-monitoring activity would score fewer errors in the target sounds than

the subjects of the other three groups on Post-test 1, and 2) that this same group would score fewer errors two days later on Post-test 2.

The native-speaker's evaluations of the results, which were registered as the number of inaccurate articulations of each of the five sounds, were subjected to a mixed-model ANOVA. Of the five phonemes, the hypotheses were supported for /l/ only, leading to the assumption that more time was necessary for the treatments to affect the subjects and that the native-speaker judges needed to be given an agreed-upon level of acceptability for determining native-like pronunciation. However, results showed that for all five phonemes, the teacher-led classroom and language lab activity proved most consistent in fostering an improvement in pronunciation of those sounds, leading to the conclusion that the teacher can not be taken out of the equation in pronunciation teaching.

VIDEO SELF-MONITORING AS AN ALTERNATIVE TO TRADITIONAL
METHODS OF PRONUNCIATION INSTRUCTION

by

P.C. NOBLE

A thesis submitted in partial fulfillment of the requirements for the degree of

MASTER OF ARTS
in
TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES

Portland State University
1997

DEDICATION

I would like to dedicate this thesis to my parents who have encouraged and supported me, and to Hiroko Katayama who brought me to Japan.

I would also like to say thanks to Doug Hosier, wherever he might be.

ACKNOWLEDGMENTS

I would like to acknowledge my thesis advisor, Dr. Marjorie Terdal, for her encouragement and support. If it had not been for her, I don't think I would have had the strength to continue plugging away.

I would like to thank my friends who laughed at my jokes and never once doubted that I would finish even when I was losing hope. Sandy Cesar and Dominico Passafaro listened to me and fed me delicious pasta. Cheryl Fischer sang "To Dream the Impossible Dream" with me many a time. Troy Redinger told me I could do it. My cousin, Kimberly Meyer, M.D., who is finishing up her psychiatry residency, told me what I was doing was admirable and inspirational (and she had gone through medical school!). And in keeping with the theme of dreaming an impossible dream, Jerry Podczaski emerged from the distant past to offer support and encouragement.

Special thanks is due to the Bank of Mom and Dad, Hetty and Horace Noble, for their financial support.

Finally, I'd like to thank Gunnar Gunderson and the second language acquisition students who acted as judges. Without them, this thesis would truly not exist.

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CHAPTER 1

INTRODUCTION

Statement of Problem

Purcell and Suter (1980) consider Japanese a “non-favored” language background for students learning to speak English. This is not a value judgment; it only indicates that speaking English is especially difficult when one’s native language is Japanese.

One possible area of frustration for the Japanese speaker is the lack of phonological equivalence between the sound systems of Japanese and English. For example, the sounds /l/, /f/, /v/ and “th¹” are not present in Japanese. In addition, the phoneme /r/ occurs in Japanese but is pronounced more like the English /d/, and is often confused with the English /l/.

These phonological differences color Japanese speakers’ English, at best, and, at worst, prevent others from understanding them when they speak. At the same time, pronunciation theory suggests that students older than puberty may not be able to achieve accent-less pronunciation (Selinker, 1972). Subsequently, the English as a

¹“Th” is made by placement of the tongue between the teeth, namely labiodentally. This sound can be transcribed phonetically as /θ/ and /ð/, to distinguish between the voiced and voiceless contrasts. For this study, no distinction was made between the voiced and voiceless aspects in order to concentrate on articulatory placement for sound production, which is the same for both phonemes.

Second Language (ESL) educator can feel frustrated since pronunciation instruction might seem an inefficient use of time inside or out of the ESL classroom.

In confronting this situation while teaching in Japan, and assuming the possibility of pronunciation improvement, the researcher reflected on two general questions, which guided the design of this study: 1) Would Japanese speakers' English pronunciation improve if instruction was given that focused on enhancing accurate pronunciation of /l/, /r/, /f/, /v/, and "th"? and 2) What is the "best" method of instruction to achieve accurate pronunciation?

Background

Although intelligible pronunciation is seen as crucial, there are problems with standardizing a method of instruction. Historically, the pronunciation class was one that gave primary attention to phonemes and their meaningful contrasts, environmental allophonic variations, and combinatory phonotactic rules, along with structurally based attention to stress, rhythm and intonation (Morley, 1991). Time-constraints, impatience with traditional rote teaching methods, and cultural identity issues have caused classes in which the sole focus was pronunciation to fall out of vogue.

Self-monitoring is one way students can assume a more active role in their own pronunciation instruction. One of the benefits of self-monitoring is that it helps students develop speech awareness and self-observation skills in a brief period of time

(Morley, 1991). Another benefit is that it allows the student to assess him/herself and to retain responsibility for the aims and objectives of the course (Dickinson, 1987).

A useful tool in the self-monitoring process is video recording. Like a mirror, the video allows an individual to observe oneself. Unlike the mirror, however, a video presentation shows behavior after it has already happened, allowing the observer to take notes about the performance without corrupting it. As students watch the videotape, they can evaluate how their mouths and jaws are moving to produce sounds (Svensson & Bogarskola, 1985). Watching videos might be especially helpful to Japanese speakers, since “the Japanese speaker trusts his eyes before ears” (Thompson, 1987).

In the same way that formal instruction directed at relatively simple grammatical rules is successful in developing implicit knowledge (Pica, 1983; Pienemann, 1984), focused attention on specific segmentals before watching the video should allow for student correction. Implicit awareness of appropriate mouth and jaw movement from watching native-speakers serves as a yardstick by which students can gauge their own mouth and jaw position when articulating the segmental features, thereby moving pronunciation of Japanese speakers further towards complete intelligibility.

Statement of Purpose

The purpose of this study is to determine if a two-part video self-monitoring intervention is the most beneficial in improving Japanese speakers' language production of /l/, /r/, /f/, /v/, and "th", assuming that pronunciation is an aspect of language production that can be improved. The first stage of this intervention would raise students' awareness of the target segmental features by requiring them to tally their occurrences in a selection of written text, thereby prompting a focus on the segmental forms. The second stage allows the subjects to self-monitor their pronunciation by watching a videotape of their performances of the same written text.

This study partially replicates research completed by Macdonald, Yule and Powers and published in 1994 (MacDonald, et al., 1994) The original study introduced four interventions, or ways to teach English pronunciation: 1) a traditional teacher-fronted lesson, 2) a session in the language lab, 3) a control, and 4) a modified interaction activity. In order to evaluate which of these interventions was the most successful, subjects were audiotaped giving a prepared speech before the intervention, presenting a different talk immediately following the intervention and delivering this same talk two days after the intervention. One-hundred and twenty native speakers evaluated pairs of words electronically excerpted from the audiotapes to determine at which time, and by which intervention, subjects showed the most improvement.

The current research has in common with the MacDonald study the goal of trying to determine the most efficient way of teaching English pronunciation, but

substitutes a two-stage self-monitoring intervention--tallies of the occurrences of the segmentals and the video viewing--for the modified interaction activity. The instruments by which native speakers evaluated the subjects' pronunciation differed from the original, as well as their written critiques of the study's methodology. Therefore, this study not only applies the methods of MacDonald et al. to another nationality (Japanese rather than Chinese), and substitutes the video viewing for the modified interaction activity, but also pays attention to native speakers' comments concerning the process of judging.

Tables 1.1-2 , at the end of this chapter, juxtapose the basics of the two studies.

Hypotheses

The following questions guided the research: which method of pronunciation instruction (of four) leads to the greatest immediate improvement in a Japanese speaker's overall ability to accurately pronounce five sounds not present in Japanese, as perceived by a native speaker of English? Does a particular method have a more substantive effect on one sound in contrast to the other four? Which method best helps a subject retain improvement in pronunciation of the target sounds over time?

Hypothesis One

Native English-speaking judges will note fewer errors in pronunciation of the target sounds /l/, /r/, /f/, /v/, and “th” when evaluating subjects who have participated in the fourth intervention: the video self-monitoring and tally of target segmentals .

Hypothesis Two

Individuals who have participated in the video self-monitoring activity will decrease in number of errors noted between Post-test 1 and Post-test 2, while subjects of other treatment groups will remain constant or increase in number of errors.

The following chapter will review literature concerning pronunciation and its instruction in the ESL classroom.

Table 1.1

MACDONALD, YULE AND POWERS' STUDY: ATTEMPTS TO IMPROVE ENGLISH PRONUNCIATION: THE VARIABLE EFFECTS OF DIFFERENT TYPES OF INSTRUCTION (1994) "A"

	Subjects	Condition	Materials
Non-native speakers (NNS) LEVEL:	23 Chinese students	1) 10-minute teacher-fronted vocabulary drill	A 6-minute mini-lecture on the subject of the metric system
	High intermediate/ low advanced	2) 30-minute self-study using audiotapes	
Native speaker judges (NS) LEVEL:	120 English speakers	3) Control (has 10 minutes to review notes)	Forced choice discrimination tasks to evaluate whether NS's pronunciation was "standard"
	College undergraduates	4) Modified interaction activity	

Table 1.2

CURRENT STUDY: ATTEMPTS TO IMPROVE ENGLISH PRONUNCIATION: THE VARIABLE EFFECTS OF THREE TYPES OF INSTRUCTION (1997) "B"

	Subjects	Condition	Materials
Non-native speakers (NNS) LEVEL:	48 Japanese students	1) 10-minute teacher-fronted vocabulary drill	3 10-sentence Accent Analyses (Dale and Poms, 1994)
	intermediate	2) 30-minute self-study using audiotapes	
Native speaker judges (NS) LEVEL:	6 English speakers	3) Control (has 10 minutes to review notes)	Forced choice discrimination tasks to evaluate whether NS's pronunciation of target segmentals was "standard"
	Students in a second lang. acq. class	4) Video self-monitoring and segmental tallying	

CHAPTER II

LITERATURE REVIEW

This chapter reviews the relevant literature for this study in four sections: 1) a discussion of what the word “pronunciation” means, including a) the physical requirements necessary for pronunciation, b) reasons why investigating pronunciation is important to ESL educators, c) one model of the cognitive processes supporting pronunciation, d) the importance of listening discrimination to accurate pronunciation; 2) the difficulties obstructing pronunciation improvement in a second language, 3) pronunciation instruction in the ESL classroom; and 4) a sample of experimental approaches to pronunciation instruction, including a) self-monitoring and b) video.

What Is Pronunciation?

The term *pronunciation* has both concrete and abstract denotations. These meanings refer both to the act of pronunciation, and to what the act represents.

According to The Oxford English Dictionary (2nd Edition, 1986), the fifth definition of the word “*pronunciation*” means to give utterance to; to utter, speak, articulate (a word or words); to make or produce (a vocal sound). In physical terms, the organized system of vocal sounds known as “speech” requires three main

characteristics unique to humans. These are the following: (a) the bending of the vocal tract so as to produce three distinctly different resonating chambers (i.e., the pharynx, the oral cavity, and the nasal cavity, respectively), (b) the marked lowering of the larynx so as to allow the full voice generating (i.e. resonating) potential of the larynx to be utilized for the purpose of voice generation, and (c) the increased capacity for volitional (voluntary) movement of the velum (Puppel, 1992).

In terms of linguistic discussion, the study of the pronunciation patterns of speakers is an aspect of *phonology*. In its global domain, the phonology of a language can be described in terms of its *suprasegmental* properties. These properties include duration, rhythm, stress, pitch, intonation and loudness. On a more specific, local level, phonology can be described in terms of individual sounds which speakers use to form words and larger utterances. This description of language is referred to as a *segmental* perspective. The segmental features, or segments of a language are its consonants and vowels and any component sounds of which these are made (Pennington, 1996). A segmental *phoneme* is the smallest unit of speech which distinguishes one utterance from another.

The English phoneme /p/, for example, contrasts minimally with /b/ in the pair *poor* and *boor*. For native speakers, distinguishing between contrasts is accomplished intuitively; and a normal speaker of any language uses this complex system of contrasts with great speed and the greatest of ease (Lado, 1957). Non-native speakers, however, do not have the background or training to easily access this phonological

system. In their inexperience, phonemes may be incomprehensibly articulated. Since an incorrectly produced phoneme can prevent the conveyance of the correct sense of the word, it is not an oversimplification to say that accurate pronunciation is essential to communication.

In addition to defining pronunciation as a system of articulated sounds, pronunciation is seen not only as part of the system for expressing referential meaning, but also as an important part of the interactional dynamics of the communication process (Pennington, 1986). Stevick (1978) includes in his explanation of the term the abstract relationship between the speech producer and audience. In Stevick's opinion, the act of pronunciation brings with it a kind of susceptibility, making the speaker vulnerable to his hearers either (1) on account of the social inferences that the hearers may draw concerning him, or (2) on account of the opinions that they may form concerning his proficiency as a student, or both.

The act of pronunciation identifies the speaker not only as a partner in interlocution. It can also function, on the other hand, as a sign of the speaker's individual identity. As a symbol of identity, the method by which one pronounces words is critical to self-representation, and can confirm membership in family, region and nation (Guiora, 1982).

To summarize, pronunciation involves a complex interaction of perceptual, articulatory, and interactional factors (Pennington, 1986).

Why Investigating Pronunciation Is Worthwhile for ESL Educators

Of the billion or so people who use English for some purpose, only 300 million of them are native speakers (Morley, 1991). Since many people, most of whom are not native speakers, are speaking English in situations in which an exchange of information is a goal, it is important that the speakers understand each other. This is not always the case. As reported by a recent USA TODAY/CNN/Gallup Poll, one of four American consumers encountered problems in the past year because a business person or retail employee spoke poor English. Disputes about language in the workplace, where immigrants represent about 11% of the labor force, are expected to mushroom now that the Equal Employment Opportunity Commission has begun separately categorizing language complaints (Strauss, 1997, p. 8A). For these and other reasons, learners consistently give extremely high priority to mastery of pronunciation of the target language when opinions and preferences are investigated (Nunan, 1988).

When a student's priority is spoken communication, mastery of pronunciation raises self-esteem and self-confidence, as shown in studies of pronunciation training among international graduate assistants (Meyers, 1995; Stevens, 1989; Fragiadakis, 1988). Career security may also increase with improved pronunciation, since job seekers might face future tests of verbal competency in service fields ranging from medicine to maintenance (Strauss, 1997).

The act of speaking might actually be at the core of language acquisition. Long

(1983) and Varonis and Gass (1985) have suggested that it is not input per se that is important to second language acquisition but input that occurs in interaction where meaning is negotiated. Swain (1985) expands this theory. His hypothesis is that negotiating meaning needs to incorporate the idea of being pushed toward the delivery of a message that is conveyed precisely, coherently, and appropriately. It is only when the message is conveyed in this manner that the learner moves from semantic processing to syntactic processing. In other words, language acquisition depends upon a learner generating comprehensible output, which will lead to the intuitive use of that language's grammar system. Therefore, intelligible pronunciation is an essential component of communicative competence (Morley, 1991)

How Pronunciation Works--the Cognitive Process

In order to understand the obstacles impeding a learner's pronunciation improvement in a second language, it is useful to look at one of the models of how the brain approaches the act of pronunciation.

Puppel and Marton (1991) construct a two-level hierarchy which consists of a higher level of planning and a lower level of execution. The planning level, which is comprised of semantic-syntactic-lexical-phonological factors, constitutes the global level of language specificity (Kintsch 1984, cited in Puppel and Marton, 1991) in which the phonological domain is the lowest level.

Below the higher level of planning, the lower level of execution consists of a

complex speech production mechanism, which translates a general outline of global input propositions into an acoustically differentiated speech output. This translation is accomplished in a cascading fashion, through a proper activation of neuro-muscular complexes which are essential to speech production.

Figure 2.1 presents a model of linguistic processing which shows the progression from an idea to audible speech.

Listening Discrimination as an Aspect of Pronunciation

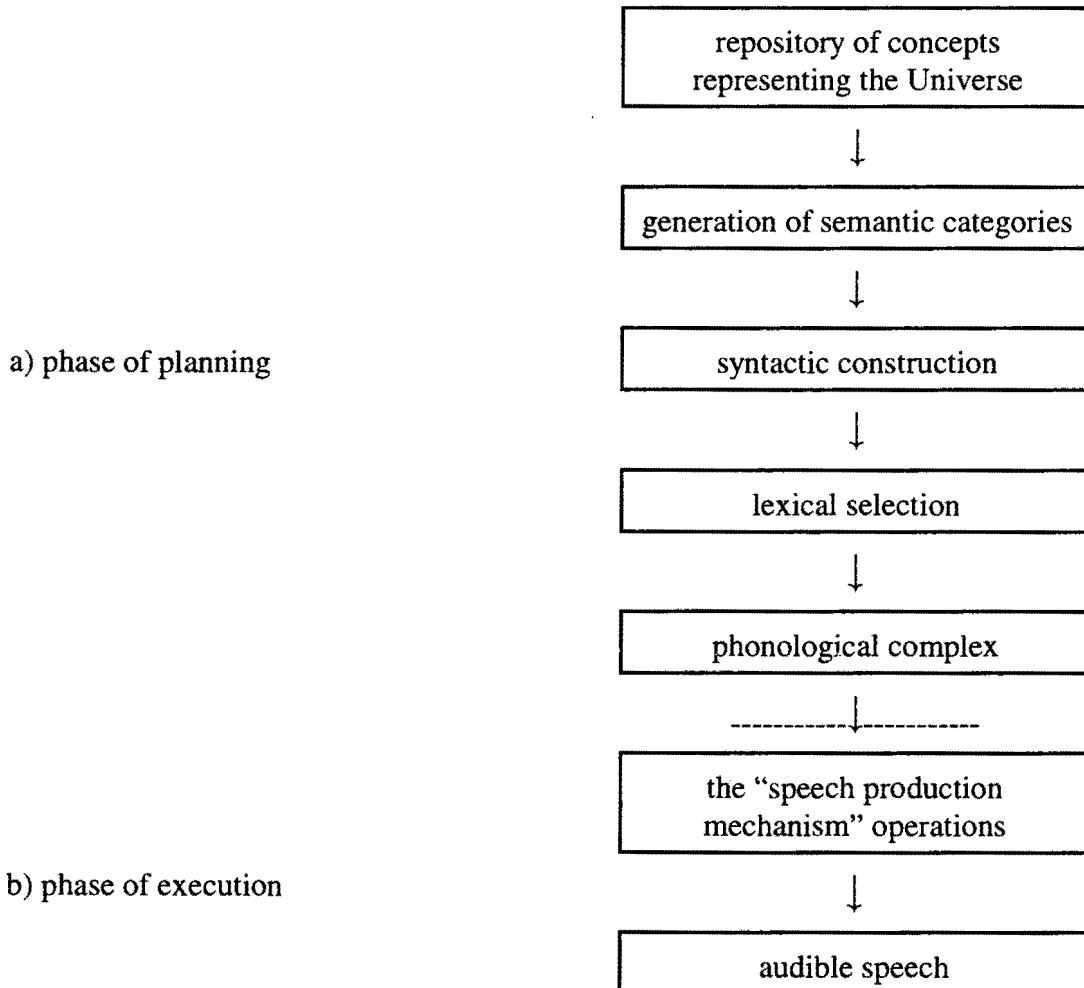
An important addition to the model of linguistic processing is the effect of listening discrimination ability on pronunciation. Although some research has been attempted to determine whether the development of pronunciation precedes discrimination or vice versa, the results are inconclusive (Borden, Gerber, & Milsark, 1983).

An ability to correctly perceive the sounds of a target language can be as essential to clear pronunciation as the positions of the articulators (Lado, 1957). That is, if a learner cannot hear the sound correctly, attempts at mimicry will fail.

Shimamune and Smith (1995) tested the possible interactive relationship between listening discrimination and pronunciation improvement of two Japanese students (1995). In order to test the pronunciation of each subject, a female native English speaker presented cards with a single printed word and asked the subject to pronounce that word. To test listening discrimination, the experimenter presented a

FIGURE 2.1

PUPPEL'S MODEL OF LINGUISTIC PROCESSING (1991)



card with a word pair , pronounced one of the words aloud, and asked the subject to point to the word he or she had just heard. During the testing session, the examiner offered no feedback to the subject regarding the correctness of the response. However, in an earlier training session, the experimenter gave the subject verbal feedback, modeling the correct pronunciation when the subject had erred. For Subject 1, pronunciation testing was conducted and its effect on listening discrimination was examined first. For Subject 2, listening discrimination training was conducted first, and its effect on pronunciation was assessed.

The researchers' conclusions were that pronunciation training has an effect on listening discrimination and, at the same time, listening discrimination training has an effect on pronunciation. The results of this study show that a true model of linguistic processing must address the direct relationship between the ability to discriminate among the sounds of a language and the ability to pronounce them in a target-like fashion.

Ironically, while the emphasis in most second language classrooms is on speaking rather than on phonetic perception, listening may be the best way to improve pronunciation (Underbakke, 1993).

Neufeld (1978) described a study in which English-speaking subjects received individualized instruction in the pronunciation of Chinese, Japanese and Eskimo--languages that are quite different from English. Each subject spent eighteen hours learning each of the three languages. During the first twelve hours, subjects only

listened and were instructed not to speak. The final six hours involved listening and repeating what was heard. Following training, the subjects' utterances were evaluated by native speakers of each language, and three-fourths of the subjects were judged as native or near-native. This supports the idea that listening without speaking can lead to improved speaking abilities (Underbakke, 1993).

Henning (1966) compared the effects of three treatments on the pronunciation of French vowels: pronunciation practice alone, discrimination training alone, and both pronunciation and discrimination training. The "pronunciation treatment" involved mimicry only. The "discrimination treatment" involved training in discrimination between sounds selected as the most likely sources of interference, whether English or French. The "combination treatment" included both types of training. The group receiving only discrimination training performed significantly better than the pronunciation training groups on both discrimination and pronunciation tests. The discrimination group also performed better (but not significantly so) than the group receiving both types of training.

These results further support the assumption that early stages of language learning should consist largely of listening to spoken input (Krashen, 1983), and that speaking should be delayed. It also appears that there is a high degree of transfer from listening to speaking.

In order to discriminate among sounds in a target language one must also pay attention to how sounds change according to their linguistic environment. Williams,

Green, Nicolson and Baker (1995) determined that perceptual consequences may be due to the differences in context between embedded patterns and those towards the limits of an extended repetitive sequence. The position and patterns of particular sounds affect the hearer's perception of those sounds.

Not only does the ability to discriminate between different sounds affect pronunciation ability, but different realizations of specific phonemes (allophones) may change meaning in one language, but not in another. For example, the "t" in "stop" and in "top" are actually different allophones. This is not significant in English, since substituting one realization for another does not change the meaning. To a speaker of Hindi, however, the difference between these two sounds is easily detected, because a change from an aspirated "t" changes the meaning of the word in Hindi (Underbakke, 1993).

In English, Americans distinguish between /l/ and /r/, known as categorical distinction, but do not distinguish among sounds within each category, even though they may be physically different (Underbakke, 1993). This categorical distinction, intuitively processed by Americans, is difficult for Japanese speakers whose "flap-r" causes /r/ to sound like the "t" in "butter" (Jorden, 1962).

Underbakke (1993) hypothesized that the difficulty of Japanese speakers to pronounce the /r/ and /l/ arose from their difficulty to perceive a difference between /r/ and /l/. In other words, it was not the Japanese speakers' cognitive processes resulting in speech production that was obstructing clear pronunciation of the target sounds, but

rather the inability to hear the difference between the sounds. Therefore, target-like pronunciation may be dependent upon accurate perception.

Difficulties in Improving Pronunciation

As stated above, one method of achieving accurate pronunciation requires a healthy marriage between a learner's perception of a target language sound and the physical production of that same sound. Damage to either the aural system or to articulatory factors may physically prevent a learner from reproducing the phonological system of a target language. In addition to physical requirements, however, the way one speaks is essential for self-representation, membership in a particular sociological group, and most importantly in terms of English as a Second Language (ESL) educators, for communication. The link between pronunciation and communication may motivate ESL students to endeavor to improve their pronunciation; however, it is the ties with their first language, and the students' sense of self, that might prevent the very improvement for which they are striving. This section will examine how interference, fossilization, the language ego, degrees of empathy as well as other factors can affect a learner's attempt to improve pronunciation.

The learner's first language affects a learner's pronunciation in a second language as follows: when learners learn their first language they construct a phonological system which they are able to access quickly and without thinking (Lado,

1957). As learners struggle to learn another language, they use their first language's phonological system as a guide to pronouncing the target language, creating an *interlanguage*. This negative transfer causes learners of the target language to make what native speakers perceive as errors. This is known as *phonological interference* (Puppel, 1992, p. 93).

For example, with Chinese learners of English, the absence of dental fricatives (at the beginning of *thin* and *this*) or the alveolar approximant /r/, in the Chinese learners' L1, motivates their substitution by the dental/alveolar stops [t] and [d] and the alveolar lateral [l] respectively (Hung, 1993). In other words, learners will substitute a sound from their language for unfamiliar sounds in the target language.

In addition to substituting sounds, non-native speakers might also "reduce" English sounds into more familiar arrangements. For example, English final clusters present the Thai speaker with a problem. Therefore, the Thai speaker reduces the cluster to a single final consonant. Usually, the first segment of the cluster is retained and the rest dropped, e.g. *pump* becomes 'pum' (Smyth, p. 255)

A phoneme's pronunciation is colored by the learner's pronunciation of the neighboring phonemes, and a researcher can predict how the pronunciation of the variant will differ from a native-speaker pronunciation, if the first language of the learner is known. This is known as the *Variability Model*.

Dickerson (1975) applied the model in a study of ten Japanese speakers. On three separate occasions over a nine-month period, each subject was given a three-part

test consisting of free speaking, the reading of dialogues, and the reading of word lists. The analysis of the data indicated that the production of all the subjects was similar in a number of respects. First, their production of a sound was influenced by the phonetic environment; that is, it was sensitive to the consonants and vowels adjacent to the target sound (p. 402). Secondly, all subjects used the same variant of the target phoneme in each situation (p. 404).

Evidently, first language greatly impacts the learning of the second language. In fact, Purcell and Suter (1980) determined that the first language of a learner accounts for nearly 42% of the variance of subjects' pronunciation accuracy scores (p. 279). The profile of nonnative speakers who are most likely to pronounce English poorly would involve persons who are native speakers of one of the "nonfavored languages" (here, Japanese or Thai) (p. 285). Following first language, three other variables mentioned by Purcell and Suter which affect pronunciation accuracy are aptitude for oral mimicry, residency, and strength of concern for pronunciation accuracy (p. 285).

Due to the influence of the first language on the learning of additional languages, linguists thought that a comparison of a learner's first and second language --contrastive analysis-- should reveal areas of difficulty for L2 students. This would provide teachers and developers of language learning materials with specific guidelines for lesson planning (Dulay, Burt, Krashen; 1982, p. 97).

Another obstacle to improving pronunciation is that adult learners tend to

“fossilize.” At this point learners’ pronunciation becomes rather unyielding to change, requiring special methods of instruction. One reason might be biological. Studies have shown that second language pronunciation skills decrease substantially at puberty (Ausubel, 1964; Lenneberg, 1967). Another reason is that the speaker thinks that he or she has mastered as much of the second language as is necessary (Selinker, 1972).

Guiora (1972b) believes that both the biological and personal choice rationales offered above ignore the individual personalities of language learners. He introduces the concept of the *language ego*, which parallels the structure of the body ego, with physical outlines and firm boundaries. The permeability of these language boundaries, specifically the flexibility of the pronunciation boundaries is developmentally and genetically determined (p. 145). That is, it is not only age which affects learners’ progress towards native-like pronunciation proficiency, but also the lack of a certain emotional flexibility.

Guiora (1975) theorized a link between the emotional flexibility resulting in empathy, an internal psychological process, and pronunciation, an externally observable and thus more readily measurable behavior. (p. 45)

The minutiae of pronunciation are part of one’s language identity and are what makes one identifiable by his speech patterns as an American, another as a Swede, and so on. Speaking the way we do reflects what we are, but in ways too subtle and too numerous for us to keep track of. Each one of us has a set of pronunciation habits which are invariable unless factors in our make-up can make us more flexible, unless we have the ability to step outside of our ‘language shoes’ and expand our identity in some way. We hypothesized that this ability to shed our native pronunciation habits and temporarily adopt a different pronunciation is closely related to empathetic capacity (p. 49).

Figure 2.2, on the next page, presents Guiora's model of factors resulting in authentic pronunciation of a non-native language.

While Guiora believes that a high degree of empathy can lead to success in modifying one's pronunciation in a target language, Acton (1984) proposes that improving pronunciation depends upon (possibly) changing a constellation of related behaviors, including the interrelated factors of linguistic phenomena (e.g., grammar, orthography, and conversational control factors), non-verbal behaviors (e.g. facial expression, upper-body movements, gesture, and posture), and psychological factors or mechanisms (e.g., affect, personality, and monitoring).

To summarize, learners may want to improve their pronunciation, they may have the physical ability to make the target sounds, but first language interference and a rigid language ego can foil even the best intentions.

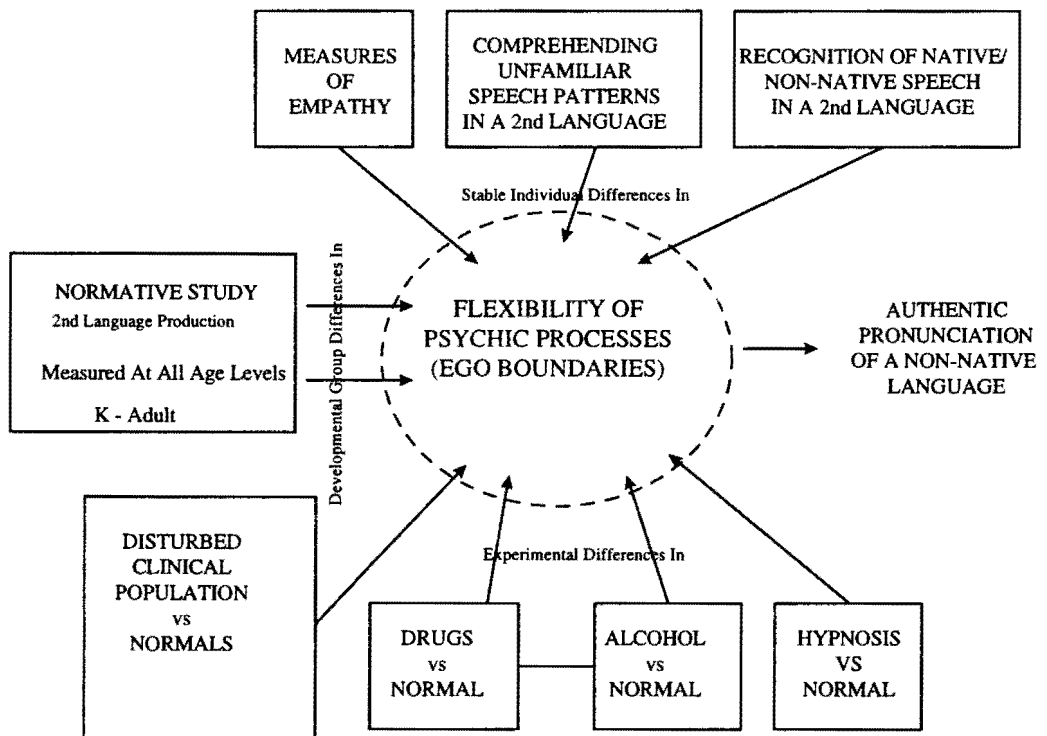
The Specific Pronunciation Difficulties of the Japanese Speaker

As stated above, Japanese native-speakers will have difficulty with English pronunciation, since the phonological systems of the two languages differ widely.

One of these problems is that there are few consonant clusters. Japanese learners therefore find the more complex sounds of English very hard to pronounce, and they may have even greater difficulty in perceiving accurately what is said (Thompson, 1987, p. 213).

FIGURE 2.2

GUIORA'S (1975) MODEL OF FACTORS RESULTING IN AUTHENTIC
PRONUNCIATION OF A NON-NATIVE LANGUAGE



According to Thompson (1987), there are 16 noticeable problems for Japanese learners of English. Seven of these obstacles involve vowels, while the remaining nine focus on difficulties with consonants. The following four items in Thompson's list of 16 refer to the pronunciation of the five sounds investigated in this study (the numbering follows that of Thompson's text):

1. /l/ and /r/ are both pronounced as a Japanese /r/ (a flap almost like a short d), causing confusion in pairs like *glamour* and *grammar*, *election* and *erection*.
3. /f/ may be pronounced almost like /h/ before "o": *horse* for *force*.
4. /θ/ and /ð/ do not occur in Japanese. They may be pronounced as /s/ and /z/ or /ʃ/ and /dʒ/: *shin* for *thin*; *zen* for *then*.
5. /v/ may be pronounced as /b/: *berry* for *very* (p. 214).

In her widely-used instruction for Japanese language, Jorden (1987) explains that the Japanese /r/ closely resembles the 'r' in the British English pronunciation of 'very', which often sounds like a 'd' to American English speakers.

Table 2.2 presents possible pronunciation problems for the target sounds of this study (Dale and Poms, 1994). Other possible pronunciation problems include: inserting an extra vowel after a final consonant, expanding or reducing past tenses, dropping the final /s/ of third person singular present tenses and possessives (Dale and Poms, 1992).

Table 2.2

A BREAKDOWN OF PRONUNCIATION PROBLEMS OF JAPANESE
SPEAKERS FOR THE TARGET SOUNDS OF THE CURRENT STUDY

Sound	Substitution	Example
/l/	/r/	<i>fright</i> instead of <i>flight</i>
initial /θ/	/s/ /ʃ/	<i>sank</i> instead of <i>thank</i> <i>shin</i> instead of <i>thin</i>
final /θ/	/f/ /v/	<i>roof</i> instead of <i>Ruth</i> <i>pat</i> instead of <i>path</i>
initial /ð/	/d/ /dʒ/	<i>day</i> instead of <i>they</i> <i>Joe's</i> instead of <i>those</i>
final /ð/	/z/	<i>bays</i> instead of <i>bathe</i>
initial /f/	/h/	<i>hat</i> instead of <i>fat</i>
final /f/	/p/	<i>cup</i> instead of <i>cuff</i>
initial /v/	/b/	<i>berry</i> instead of <i>very</i>
final /v/	/f/	<i>safe</i> instead of <i>save</i>

Pronunciation Instruction in the ESL Classroom

Although the factors mentioned above--interference, fossilization, the language ego and degrees of empathy--affect pronunciation improvement, formal pronunciation instruction avoids addressing these factors directly. Instead, pronunciation instruction in the ESL classroom can be categorized as traditional or communicative. Traditional techniques emphasized the accurate production of spoken English, while communicative activities focussed more on the students' ability to exchange

comprehensible information.

Views on teaching pronunciation have changed dramatically over the last half-century of language teaching. In the heyday of audiolingualism and its various behavioristic methodological variants, the pronunciation component of a course or program was a mainstay. Language was viewed as a hierarchy of related structures and at the base of this hierarchy was the articulation of phonemes and their contrasts within English and between English and native languages. Pronunciation classes consisted of imitation drills, memorization of patterns, minimal pair exercises and explanations of articulatory phonetics (Brown, 1995).

The traditional approach to pronunciation instruction, in regard to segmental phonemes, centers around the presentation of target sounds, which are then mimicked by the learner. The presentation of target sounds relies heavily on contrasting minimal pairs. Minimal pairs are two words that differ only by one phoneme, e.g. *ship* and *sheep*. The presentation of the sounds may require modeling by an instructor, examples on audiotape, as well as a cross-section of the mouth to show the position of the articulatory features for each sound (Bailey, 1994; Dale & Poms, 1994; Grant, 1993, Baker, 1990).

There are problems with the focus the traditional curriculum places on minimal pairs. Brown (1995) found, in his experience in Singapore, that many minimal pairs, such as *ship* and *sheep*, would not be confused in context. Also, he points out that “some pairs of phonemes have very few minimal pairs” (p. 169).

Carruthers (1983) agrees that a few of the minimal pairs are potentially confusing. He also agrees with Brown (1995) and others that segmentals should be taught in terms of distribution and the features, e.g. voiced and voiceless instead of individual phonemes.

When the Communicative Approach to language teaching began to take over in the mid-to-late 1970's, most of the aforementioned techniques and materials for teaching pronunciation at the segmental level were flatly rejected on theoretical and practical grounds as being incompatible with teaching language as communication (Celce-Murcia, Brinton & Goodwin, 1996, p. 10). Krashen (1983) found fault with the traditional approach, which can be summarized as “imitation, explanation and drill” (Carruthers, p. 196) because the three aspects of the traditional approach do not transmit a real message and, therefore, are not communication.

In the interest of promoting fluency-based instruction, accuracy-based focus on English phonology became, for many, an afterthought (Brown, 1995). Rather than attempting only to build a learner's articulatory competence from the bottom up, and simply as the mastery of a list of phonemes and allophones, a top-down approach is taken, in which the most relevant features of pronunciation--stress, rhythm, and intonation--are given high priority.

In some texts, however, activities include instruction in achieving the correct intonation or learning to reduce syllables to more closely mimic spoken English, while pronunciation training in the individual segmentals is ignored (Richards & Bycina,

1984; Nunan, 1989; Tanka & Baker, 1990)

Currently, focussed pronunciation instruction strikes a balance between segmentals and suprasegmentals while, also, addressing the issue of *voice quality setting*. Voice quality setting proposes that each language has certain stereotypical features such as pitch level, vowel space, neutral tongue position, and degree of muscular activity that contribute to the overall sound quality or “accent” associated with the language (Celce-Murcia, Brinton & Goodwin, 1996; p. 10).

In order to compare different examples of pronunciation instruction, Table 2.3 juxtaposes three textbooks’ approaches to the presentation of the sound /f/.¹ Comparison of the three texts suggests that minimal pair contrasts, spelling hints and forced choice exercises designed to improve listening comprehension are recommended at every level. Although these three less communicative activities provide the mainstay of pronunciation instruction in the ESL classroom, educators still urge the inclusion of communicative activities in order to improve production of intonation, stress, rhythm and pitch. The point is that a truly acceptable pronunciation is one which allows the listener to understand the content of a message without being distracted by its form (Carruthers, 1983).

¹Each of the textbooks has lessons recorded on an accompanying audiocassette (referred to in Table 2.3 as “tape”).

Table 2.3

/f/, AS PRESENTED IN THREE DIFFERENT PRONUNCIATION TEXTBOOKS

Textbook title▶ Activities▼	Pronunciation Pairs (beginning level)	English Pronunciation for Japanese Speakers (non-leveled)	Well Said (advanced)
Drawing of articulatory position	NO	YES, shows position of upper teeth, airstream, vocal cords	YES, "Lightly touch the upper front teeth to the inside lower lip."
minimal pair contrasts	5 ex's.*: /p/ vs. /f/ 5 ex's.: /h/ vs. /f/ (on tape)	5 /p/ vs. /f/	12 /p/ vs. /f/ in initial, medial and final position (on tape)
Circle the sound	NO	YES, as it occurs in words in a paragraph	YES, 12 examples, as it occurs in a word
forced choice listening discrimination	6 /p/, /h/ vs. /f/ (on tape)	5 /f/ vs. /p/	5 /p/ vs. /f/ (on tape)
Listen and repeat	23 examples of /f/ in initial, medial and final position	1) 15 examples of /f/ in initial, medial and final position 2) 15 ex.s of /f/ in i, m, f position with spelling variations	1) 8 ex.s each of /f/ in initial, medial and final position, 2) repeat phrases to practice blending 3) repeat the sentences
Dialogue	36 examples of /f/ in i,m,f postion	NO	NO
Cloze exercise	NO	NO	a paragraph with 12 blanks
Fill-in-the-blank	YES	YES	NO
Intonation	2 sentences to repeat	NO	Not in this section, but dealt with elsewhere
Spelling hints	"sometimes /f/ is written as <i>ff</i> , <i>ph</i> , or <i>gh</i> "	Categorizes the words in the Listen and Repeat section according to "f", "ph" and "gh"	"The /f/ sound is spelled <i>f</i> (<i>free</i>), <i>ph</i> (<i>sphere</i>), and <i>gh</i> (<i>tough</i>).
Communicative practice	NO	Read your horoscope aloud.	Predict consequences by completing the (10) unfinished "if" statements. Share results in groups.

Experimental Methods of Pronunciation Instruction

Although the traditional and communicative methods of pronunciation instruction are most common, there are other, more experimental techniques to improving pronunciation.

Guiora et al. (1972) authored a study which confirmed the hypothesis that the ingestion of small amounts of alcohol, under certain circumstances, did lead to increased ability to authentically pronounce a second language. Schumann et al. (1978) designed a study in which hypnosis was tested as a method of improving pronunciation. Although speakers perceived an improvement in phonemic ability, Schumann et al. believed the results to be inconclusive.

McDonald, Yule, and Powers (1994) planned a study that would compare four different conditions that reflected current pedagogical practices: a) traditional drilling activities, b) self-study with tape recordings, c) a modified interaction activity, and d) a no-intervention control condition. The subjects of the study were 24 Chinese college students who were intermediate-to-advanced learners of English. The purpose of the study was to determine which of the four conditions improved the subjects' English pronunciation of certain target words, as judged by native speakers. The results did not conclusively show any improvement or disintegration among groups, therefore eliminating scientific confirmation that one method of pronunciation instruction excelled in comparison to another.

One can assume, therefore, that there is no specific, "best" way to teach

pronunciation. Interestingly enough, even the *teaching* of pronunciation might not be the “best” way to improve pronunciation. According to Purcell and Sutter (1980) teachers and classrooms seem to have had remarkably little to do with how well their students pronounce English. The researchers calculated the effect on pronunciation of four aspects of formal education:

- 1) number of years of formal classroom training in English,
- 2) number of months of intensive formal classroom training in English,
- 3) number of weeks of formal classroom training focused specifically on English pronunciation, and
- 4) proportion of the subject’s teachers who themselves had been native speakers of English .

None of these proved important in accounting for variations in pronunciation accuracy (p. 285). Instead, the researchers found that the most significant affecters of pronunciation accuracy were:

- 1) first language,
- 2) strength of concern for pronunciation accuracy,
- 3) percent of (second language) conversation at work or school,
- 4) aptitude for oral mimicry
- 5) amount of interchange with native speakers

If established means of pronunciation instruction have not been proven to be effective, perhaps the answer to determining the most efficient way of improving pronunciation instruction is to shift the burden of instruction from the instructors to the students themselves.

Self-monitoring

Krashen (1982 and elsewhere) has suggested a Monitor hypothesis to account for how a learner should use learned rules in spontaneous output. Monitoring can be applied when learners have the time, when the focus is on form, and when they know the rule. Although Krashen (1983, p. 143) proposed that the monitoring of spontaneous conversation might result in the negative consequence of slowing down communication, he states that the Monitor can be successfully applied in writing and in prepared speech (1982, p. 89) when a quick response is no longer necessary.

Acton (1983) expanded Krashen's notion of the Monitor in order to include the notion of *post-hoc monitoring*. In post-hoc monitoring, learners are taught to scan their speech after the fact, suppressing the urge to monitor sounds and structures, consciously as they speak them.

Morley (1991) suggests that self-monitoring raises the consciousness of the learner and helps students develop speech awareness, self-observation skills, and a positive attitude towards these skills. Firth (1987) suggests that the ability to self-correct results from clear, concise teaching and appropriate feedback. The end result is that self-monitoring helps the student shift from dependence on the teacher to independence and self-reliance.

Although the simple idea of using a mirror to monitor one's pronunciation is often suggested (see for example, Grant, 1993; Jull, 1987; Morley, 1991), self-monitoring form after the fact requires a recording method. Since the sounds that

comprise accurate pronunciation are, as discussed above, generated by the appropriate position of articulatory features, audiotape recording of the speech to be monitored is not as beneficial to the speaker's improvement as the videotaping of his or her performance.

Videotaping as a Self-monitoring Tool

It is widely recognized that visuals in the classroom are very useful. Studies show that students arrive at a quicker understanding of a presentation when well-chosen visuals are used. Also, learners tend to have longer memory retention when the information is passed on to them with the help of visual aids (Di Carlo, 1994).

This is especially significant for helping Japanese students improve their pronunciation since "the Japanese speaker trusts eyes before ears" (Thompson, 1987, p. 212). Furthermore, "Japanese speech, lip and jaw movement tend to be minimized" (Thompson, p. 213), which viewing a video will show. Finally, the delay between recording the videotape and watching it can provide the time that is necessary, as suggested by Krashen, for successful self-monitoring.

Since Japanese students are often perceived as shy (Ozawa, 1996), video feedback's objective quality permits the subject to feel safe. The security this objectivity provides allows one to confront the differences between that person's 'idealized image' and 'real self' and begin to bridge the gap between one's perception of oneself and the 'objective world's' perception (Heilveil, p. 4). As pointed out by Di

Carlo (1994), a video's combined impact of sight and sound create a kind of total mental response that increases concentration. This impact is linked to an involvement between the right side of the brain, which controls visual activities, and the left side of the brain, which primarily controls the linguistic ones in most individuals. This cortical parallel interaction of both hemispheres of the brain reveals complex multi-sensory potentials. The global emotional activity of "looking and listening" generates in the memory sensory system a more active and convincing comprehension than any simple verbal explanation (p. 468).

Filmed images are also psychologically involving for the audience. Kuleshov (cited in Bordwell and Thompson, 1994) showed that a viewer, when shown a still of an expressionless man paired with a child, a meal and a coffin, respectively, will interpret the man's lack of expression as, in fact, a reaction to the previous image. Evidently, an audience subconsciously interacts and analyzes the image on the screen, bestowing upon the "moving picture" of the video or film a power greater than that possessed by a simple, non-dynamic visual.

Even though video self-monitoring has been shown to be effective in mental health therapy (Heilveil, 1983; Wicklund, 1985), this application in the ESL classroom is not as prevalent as using pre-produced videotapes as alternatives to textual material (Lonergan, 1984). There are exceptions but in the cases where video feedback has been incorporated in the lesson, students were not made to focus on a particular aspect of their speech, critiquing, instead, all of the production aspects as a totality. Clearly,

video feedback is effective, but is it more effective in pronunciation instruction than more traditional methods?

In summary, researchers know that accurate pronunciation of a second language requires an interaction of healthy articulatory features and the ability to distinguish among different sounds. Researchers suspect that changing pronunciation might depend on a speaker's level of listening discrimination skills, as well as one's cultural identity, propensity to mimic, and age. The many factors influencing pronunciation prevent educators from being able to definitively state the best method of pronunciation instruction. On a positive note, ESL teachers are incorporating within their curricula a wide variety of methods of instruction. These resources are designed not only to help students achieve language goals, but to help them enjoy the language learning process. One of these methods, which teaches while holding the students' attention, is videotaping.

As a means of beginning to investigate the question of video feedback efficacy, this study's purpose is to investigate the benefits of self-monitoring video on pronunciation accuracy as compared to instruction which entails minimal pair repetition and listening discrimination drills. The following chapter describes the design of the study, its subjects and methodology.

CHAPTER III

METHODS

This study partially replicates one published by MacDonald, Yule and Powers in 1994. The purpose of the previous study was to determine whether one of four methods of pronunciation instruction proved superior in improving the comprehensibility of 23 Chinese students of English to native English speakers acting as judges. This study differs from the MacDonald et al. investigation in its focus on six segmentals, namely /f/, /v/, /l/, /r/, and “th”, rather than the entire spectrum of language production as illustrated by the pronunciation of isolated words, the use of canned responses instead of spontaneous conversation as the data, the substitution of a video self-monitoring intervention as one of the four methods of pronunciation instruction, and in the nationality of subjects. The constant between this partial replication and the original is a common structure of testing and interventions. For a complete comparison, please see Tables 3.2 and 3.3 which summarize the main aspects of both studies.

This chapter discusses subjects, instruments, and collection of data.

Description of Subjects

A group of 46 Japanese students from a branch of a Japanese university, studying for one year in Salem, and 6 American students from Portland State

University, participated in this study.

The Japanese college students were both male and female between the ages of 20 and 23. They had all completed between 6 and 10 years of English language instruction in junior and senior high school, with an average of 8.2 years of study, before attending their university in Japan, where they were majoring in International Studies and English Literature.

Prior to this study, 17 of the subjects rated the quality of their English pronunciation as “poor”; 16, as “fair,” and 4 as “good.” None of the subjects selected either “very good” or “excellent,” with only 37 out of 48 subjects responding. Only one of the subjects had not had formalized pronunciation instruction in Japan, but all subjects agreed, with the exception of one who reported having studied English pronunciation in “100% of my classes in Japan (and) in the US,” that there was more attention paid to pronunciation in the American classes. One student noted that his English language teachers in Japan “were not good at English pronunciation.”

The students had been in Oregon for three weeks when their participation in this pronunciation study began.

The six American students who acted as comprehensibility judges were undergraduates in a second language acquisition class at Portland State University. All had studied at least one foreign language; one had spent one year in Korea.

Subject Criteria

The subjects were chosen by the following criteria: they were Japanese, they were third-year college students enrolled in the same program at the same university, and they had all had at least six years of English instruction in Japan. As stated above, the judges were all students in a second language acquisition class, and were approximately of the same generation and level of education. Both subjects and judges volunteered for participation. Judges wrote an essay about their involvement in the study for credit towards their final grade in the second language acquisition class. Subjects received an evaluation of their pronunciation. The consent of both judges and subjects was recorded on a form deemed acceptable by Portland State University. Samples of both the consent forms are presented in Appendix G.

Instruments and Materials

The Japanese subjects were divided among four groups, according to subject's choice of day and time. Three of the groups each received a different pronunciation intervention. The last group was the control and did not receive an intervention. Immediately before and after each intervention, and exactly two days after the intervention, members of each group, as well as the control, were asked to read ten sentences excerpted from a published Accent Analysis. These three different sets of

10 sentences represented a Pre-test, Post-test 1 and Post-test 2 (See Appendix A). For one of the interventions, the subjects' Pre-tests were videotaped; in all other cases, the three sets of sentences were audiotaped.

Description of the Interventions

There were four interventions, chosen by MacDonald et al. to represent the most popular methods of pronunciation instruction, plus an experimental technique of their own design. The two standard methods of pronunciation instruction in a classroom situation, according to the original study, are: teacher-fronted, where the teacher models target sounds and words for student repetition, and self-study, in which a student listens to audiotaped exercises in a language lab. The third group participated in an "experimental" intervention, which in the MacDonald et al. study was an information gap activity. In this partial replication of that earlier study, the third intervention was still "experimental," but was changed from an information gap activity to a video self-monitoring activity. The fourth group, the control, did not participate in an intervention, but were given ten minutes to review their notes between the Pre-test and Post-test 1.

Administering the Interventions

Since subjects must be given Post-test 2 exactly two days after Post-test 1, the subjects were assigned to groups 1, 2, 3, or 4 according to their availability to be

present two days after their taking of the Pre-test and participating in the intervention. If one group outnumbered another, subjects were asked to switch so that, at the outset of the study, all four groups included 12 members, although the actual number of subjects for each group varied. All members were notified one week before of the time and place of their first two tests and intervention.

The language lab at Tokyo International University of America was chosen as the site of all tests and interventions because of the desks' built-in audiotape cassette machines, which were needed to record the subjects' Pre-tests, and Post-tests 1 and 2. Each of the interventions was held in this room.

The 12 members of Group #1 arrived Monday at 5:00. They were asked to choose a seat in the first two rows and to fill out the survey of their English language learning experience which was placed on each desk (see Appendix B). Attendance was taken. Surveys were collected. Subjects were then asked to record the ten sentences of the Pre-test. These Pre-tests were removed and the teacher (researcher) explained that we were going to "talk about pronunciation." Subjects were asked which English segmentals they found difficult to say, and the six target segmentals--/l/, /r/, /f/, /v/, /θ/, and /ð/-- were volunteered (as well as others). These were written on the board. The voiced /θ/ and voiceless /ð/ were both treated as one sound: "th". The teacher then explained through hand gestures and commentary ("This is my mouth, this is my tongue," etc.) the articulatory features which corresponded to the target segmentals. Subjects also received a handout of a drawing of the cross-section of a

mouth (Grate, 1974).

After checking each student's ability to produce the liquids /l/ and /r/ in isolation, the teacher introduced copies of minimal pair drills (Grate, 1974, see Appendix C). Students were assigned descending rows of pairs, so that each student's presentation was unique. The other subjects were asked to read silently along. Tongue-twisters featuring /l/, then /r/, then /l/ and /r/ were modeled. This process was repeated for the other four segmentals with /θ/ and /ð/ presented as the same sound. Emphasis, in that case, was placed on correcting the position of the tongue, lip and teeth as to distinguish the /θ/ and /ð/ from /s/ and /t/.

Although the foundation for this intervention is provided by the MacDonald et al. study, the actual lesson plan was created according to suggestions from Well Said: Advanced English Pronunciation (1993), and English Pronunciation Exercises for Japanese Students, 2nd ed (1994), all of which the teacher (researcher) had used in actual EFL and ESL classes. This teacher-fronted intervention lasted 60 minutes, after which Post-test 1 was immediately administered.

The second group (12 students) followed directly after the first on that same day, in the same language lab. The introductory procedures were the same with students filling out the survey of their English language study, and recording the Pre-test. The teacher (researcher) then explained to the subjects that they would be listening to taped instructions and that they should complete the exercises, which were a combination of aural, oral and written activities (see Appendix D).

The first activity was a listening exercise, which asked subjects to differentiate between /f/ and /p/. This was followed by a cloze dictation focusing solely on /f/. The sound /v/ was then highlighted in a forced choice activity where /v/ words were compared to similar words that featured /w/, /f/ or /b/. The next activity continued to concentrate on /v/, and followed the same differentiation format as the first /f/ vs. /p/ activity. The fourth exercise required the students to listen and compare words that contain both a /v/ and /w/, /b/, or /f/. Subjects were then asked to repeat the modeled words. /θ/ was reviewed through listening to the sound in isolation, followed by an exercise where subjects indicated whether the /θ/ occurred in beginning, medial or final position. A cloze dictation in which subjects filled in blanks with /θ/ words followed. /l/ and /r/ were reviewed by means of a differentiation activity identical in format to the /v/ exercise occurring secondly in this intervention. Answers to the cloze dictations and forced choice exercises were provided after the respective activity.

While the method for this intervention is provided by the MacDonald et al. study, the exercises themselves were reproduced from the sections of Well Said that addressed the correct pronunciation of the target segmentals. Originally planned for 30 minutes, this language laboratory-styled activity lasted 55 and 60 minutes, due to mechanical problems between the language lab's main console and the students' headphones. Post-test 1 immediately followed the completion of the intervention.

The third group (Group #4)¹, of which 12 members arrived² began on Tuesday at 5:00 p.m. with the completion of the survey. Since each one was to be videotaped reading the Pre-test, with each segment averaging about 7 minutes to videotape, other members were asked to leave the room and wait in the nearby cafeteria. After being videotaped reading the sentences of the Pre-test, subjects were asked to tally the number of incidences of the segmentals (again, /θ/ and /ð/ were combined as “th”) occurring in each of the ten sentences of the Pre-test. Tallies were made on a grid provided by the researcher (see Appendix E).

When all of the subjects were videotaped, they returned to the language lab from the hallway and cafeteria to view the tape. Students giggled nervously when their face appeared on screen and laughed, not unkindly, at a few of their peers’ performances. Administering of Post-test 1 immediately followed the viewing. This intervention was experimental and represented a departure from the original study’s use of an information gap activity.

The 12 members³ of the fourth group (Group #3), which participated directly after the departure of Group #4, was the control; therefore, they filled out the survey, recorded the Pre-test, and were given 10 minutes to review the Pre-test, per the

¹Group #4 participated in its intervention before Group #3, because there was quite a lot involved in administering the video self-monitoring intervention and the researcher thought it best to start as early in the day as possible.

²Only 6 members, however, fulfilled all of the requirements -- Japanese as a first language and completion of the Pre-test, Post-test 1 and Post-test 2 --necessary for inclusion in the current study.

³Since two of the participants were Korean speakers, their scores were not included in the final results.

MacDonald study. During this 10-minute period, all 10 students chose to re-read out loud the sentences of the Pre-test. They paid special attention to multi-syllabic words and words which included sounds foreign to Japanese. Many sighed when the Pre-test was taken away from them and they were asked to record the different sentences in Post-test 1.

Exactly two days after each group's recording of Post-test 1, Post-test 2 was audiotaped.

Tests

In the MacDonald et al. study, 120 judges listened to one-word excerpts from the subjects' taped lectures. The judges then indicated whether these words sounded like native-speaker English in a forced choice determination.

In this study, 6 judges (2 judgments per subject) listened to audiotapes of thirty sentences for each subject. These sentences were taken from the Accent Analysis presented in English Pronunciation for Japanese Speakers (2nd ed.) (1994). Each of the three tests' ten sentences stressed one of the target segmentals. Judges, however, were asked to decide "yes" (native-speaker like) or "no" (non native-speaker like) for all of the target segmentals in each sentence, and not only the "star" segmental of that particular sentence. While authors recommended that teachers indicate which sound is being substituted for the correct sound when administering the Accent Analysis, the speed at which the sentences were being read rendered this method of analysis

impractical. In order to understand what subjects were saying, judges transcribed the sentences. In this way, subjects' errors were not only indicated, but shown in context with adjacent sounds.

Judging

Six students volunteered from the Fall Term of the Second Language Acquisition class to act as judges of the comprehensibility of the Japanese subjects' production of the target segmentals. The judges were not trained specifically for this task. Instead, they were asked to rely on their intuitive knowledge of "standard" English and to evaluate the study's subjects accordingly. That is, whether or not a subject was comprehensible depended solely on that judge's opinion.

Each judge listened to an audiotaped recording of a subject's Pre-test, Post-test 1 and Post-test 2. In order to avoid over-familiarity with each subject's voice, the three tests of a subject were interspersed with those of another. In other words, a judge would hear the Pre-test of one subject and then the Pre-test of another, before listening to the Post-test 1 of the first subject. Each judge was given 12 tapes. Each tape contained 4 subjects.

The judges' responsibility was two-fold. Firstly, they transcribed the subjects' audiotaped sentences exactly as they heard them. Secondly, the judges had to listen to the taped readings of the three tests while reading along on the hard copy. As they read, they were asked to note by "Y" or "N," in the space above the text, whether the

target segmental was pronounced with native-speaker proficiency. Each judge, all native speakers, was allowed to use his or her perception of native-speaker proficiency as a guide in making an evaluation. The judges spent between 7.5 and 15 hours completing the evaluations.

After the evaluations were completed, samples of the judges' scores were compared to determine interrater reliability. The measure of inter-rater reliability was found according to the formula "agreements ÷ agreements/disagreements" (see Appendix F). Finally, two of the judges' scoring and transcriptions were compared with the researcher's in order to illustrate the divergence of opinion. See Appendix G for these results.

Data Analysis

The data was submitted to a two-way repeated measure ANOVA in order to test the interaction between the independent variable (method of instruction) and dependent variables (number of errors noted for the Pre-test, Post-test 1 and Post-test 2) for each of the four groups.

Findings

In each of the three tests, the target segmentals were underlined, as shown in one of the sentences from the Pre-test:

His parents arrive in Merrick tomorrow.

In the sentence above, there are five opportunities for nonstandard pronunciation: 4 /r/s and 1 /v/.

For each of the sentences, on each of the three tests, the number of errors, i.e. the number of times the judge wrote “N” above /l/, /r/, /f/, /v/ or “th”, was counted.

Table 3.3 shows the number of errors possible for each of the target phonemes in each test.

Table 3.1

NO. OF POSSIBLE ERRORS FOR EACH PHONEME IN THE PRE-TEST,
POST-TEST 1 AND POST-TEST 2

Test #	Phoneme				
	/l/	/r/	/v/	/f/	“th”
1	17	21	9	8	11
2	13	33	10	11	16
3	21	29	7	11	9

In the case that two judges evaluated one subject creating two scores, a situation in 28

of the 41 cases, outcomes were averaged with the resulting one number used in the statistical analysis.

A split-plot design, or mixed model ANOVA, was employed to determine whether 1) there was a variance in the number of errors produced among individual phonemes among the four groups between the Pre-test and Post test 1; 2) if there was a variance in the number of errors among the individual phonemes between the Pre-test and Post test 2; and 3) if there were any changes among the groups between Post-test 1 and Post-test 2 for individual phonemes.

Although the data were not normally distributed in the case of phonemes /r/, /v/ and /f/, the researcher chose to use the ANOVA because it was more powerful than other statistical tests; that is, it is more sensitive to small fluctuations in statistical significance than, for example, the Kruskal-Wallis, a non-parametric test.

A discussion of the statistical results generated by the ANOVA will appear in the next chapter.

Table 3.2

PRE-TESTS, TREATMENT, POST-TEST 1 AND POST-TEST 2 OF STUDY MCDONALD(et al.)
STUDY ("A")

STUDY "A"				
Pre-test (T1)		Treatment	Post-test 2 (T2)	Post-test 2 (T3)
Subject records 6-minute mini-lecture in front of a single member audience	→	1. 10-minute, teacher-fronted vocabulary drill		
	<i>Each subject undergoes one of these treatments</i>	2. 30-minute self-study using audiotapes.	Same as in Pre-test, but instead of taping alone, there is a single-member audience.	A continuation of the mini-lecture (same-length, same subject)
		3. Control (has 10 minutes to review notes.)		
	→	→	4. Experimental modified interaction.	→

Table 3.3

PRE-TESTS, TREATMENT, POST-TEST 1 AND POST-TEST 2 OF CURRENT STUDY ("B")

STUDY "B"				
Pre-test (T1)		Treatment	Post-test 2 (T2)	Post-test 2 (T3)
Subject records 10 sentences (See Appendix A)	→	1. 10-minute, teacher-fronted vocabulary drill		
	<i>Each subject undergoes one of these treatments</i>	2. 30-minute self-study using audiotapes.	Same as in Pre-test, but 10 different sentences	Same as in Pre-test and Post-test 1, but 10 different sentences
		3. Control (has 10 minutes to review notes.)		
	→	→	4. Experimental video self-monitoring and segmental tallying	→

CHAPTER IV

RESULTS OF ERROR ANALYSIS

Results of this study are presented and discussed in two separate chapters. This chapter presents results of statistical analyses on the number of errors in the production of the five phonemes: /l/, /r/, /f/, /v/, and “th” for the four groups. Each group’s production was analyzed according to number of individual errors for each of the five phonemes during the Pre-test, Post-test 1 and Post-test 2. Three types of dependent variables, which are the number of errors scored during the Pre-test, Post-test 1 and Post-test 2, and their relationship to the independent variable, which is the method of teaching for each group, were investigated in the statistical analyses. The purpose of these analyses is to test two hypotheses: that Group #4 (participants in the video self-monitoring) 1) would score fewer errors for each of the five individual sounds during Post-tests 1 and 2 as compared to Groups 1, 2, and 3; and 2) would score fewer errors during Post-test 2 than Post-test 1, showing the residual effect of the video self-monitoring treatment. The data were submitted to a two-way repeated measure ANOVA in order to test the interaction between the independent variable (method of instruction) and dependent variables (number of errors noted for the Pre-test, Post-test 1 and Post-test 2) for each of the four groups. A criterion level for

significance was set at $p < .05$ for all statistical decisions.

The remainder of this chapter will present statistical results according to phoneme. First, each phoneme will be analyzed according to Group 4's production of errors for that phoneme and, second, Group 4's performance at Post-test 1 will be compared to production of the phoneme at Post-test 2. Tables presenting the results of the two-way repeated measures ANOVA for each phoneme are also given.

Production of Individual Phonemes

/l/

Table 4.1 presents the mean percentage of errors for Groups 1-4 in pronouncing */l/* during the Pre-test and Post-tests 1 and 2. The number highlighted in boldface type, below, represents the overall percentage of errors in pronouncing the phoneme */l/*. This number is lower than those posted for the other groups. Therefore, Hypothesis #1, which stated that Group 4 would have the fewer overall percentage of errors, has been supported.

The mean percentage of errors for Group 4 at the Pre-test is 14.71%, compared to the scores of Groups 1 through 3, which range between 27.94% and 28.82%. The reason for this difference between Group 4 and the other groups may be that Group 4's Pre-test was videotaped while Groups 1 through 3 were audio taped. Another reason could be the smaller sample size, which allows each score to have a greater effect on

the mean. Although it can not be conclusively determined why Group 4's results look much lower than the other groups, the important fact to remember is that there was not seen to be a statistical difference among the four Pre-test scores.

Table 4.1

MEAN PERCENTAGES OF ERRORS IN THE PRONUNCIATION OF /l/
AMONG/WITHIN GROUPS OVER TIME

Group #	n=	Pre-test (mean % of errors)	Post-test 1 (mean % of errors)	Post-test 2 (mean % of errors)	Total mean % of errors within Groups 1- 4(WG) ¹ :
1 (teacher)	8	28.68	17.79	22.32	22.93
2 (lang. lab)	12	27.94	16.67	23.02	22.54
3 (control)	10	28.82	22.69	21.91	24.47
4 (video)	6	14.71	24.36	11.11	16.72
Total mean % of errors among groups(AG):	36	26.14	19.87	20.57	22.19

These calculations can be seen as meaningful since the two-way repeated measures ANOVA for /l/ calculated the differences among groups at $p=.6738$ ($df=3$, $F=.52$), which is greater than the criterion standard of $p < .05$. Thus, the overall difference among groups, calculated from the total means, is nonsignificant. In

¹These numbers are the total mean percentages of errors within Groups 1 through 4 across the three tests.

Table 4.2

A 2-FACTOR REPEATED MEASURES ANOVA FOR I/I^2

Source	df:	Sum of squares	Mean square	F-test:	P-value
Group (A)	3	711.66	237.22	.52	.6738
Subjects within groups	32	14694.52	459.2		
Repeated measure	2	850.58	425.29	4.56	.014*
AB	6	1244.6	207.43	2.23	.0517*
B x subjects within groups	64	5964.2	93.19		

layman's terms, this nonsignificance among the groups indicates that the groups are the same before the Pre-test. After the intervention, the probability of the groups being different is, at $p=.0517$ ($df=6$, $F=2.23$), indicating that the differences among the groups is not based on random chance. Therefore, any changes at Post-test 1 can be said to occur from the intervention, and consequently, Hypothesis #1 is supported for

2

Group (A) submits the total mean value among groups to a one-way ANOVA to determine whether any difference noted among groups is significant or due to chance.

Subjects within groups is the calculated mean within groups which provides the denominator in the F: test ratio

df refers to the degrees of freedom

F:test=variance among groups/variance within groups

P value shows the probability that a difference is statistically significant or due to chance

Repeated measure refers to calculations performed on the total overall means of Group 1, 2, 3 and 4 at each of the three different testing times (Pre-test, Post-test 1 and Post-test 2).

AB shows the overall interaction between groups during the Pre-test, Post-test 1 and Post-test 2

B x subjects within groups is the calculated mean within groups which provides the denominator in the F: test ratio

the general population.

Group 4 showed an increase in the mean percentage of errors between 14.71% for the Pre-test and 24.36% for Post-test 1, indicating a disintegration in the pronunciation of phoneme /l/ immediately after the experimental video self-monitoring intervention. The mean percentage of errors noted for Group 4 at Post-test 2 was lower than both the mean percentage at Post-test 1 and at the Pre-test (11.11% at Post-test 2; 14.71% at the Pre-test). Although a Post-test 1 mean percentage of errors that is higher than both the Pre-test and Post-test 2 figures suggests a delayed effect (MacDonald et al., 1994), this study's Hypothesis #2 which theorizes that Group 4 would show a decrease in the mean percentage of errors between Post-test 1 and Post-test 2 is supported for /l/.

Differences during the Pre-test and Post-test 1 and Post-test 2 can be seen as significant since $p=.014$ ($df=2$, $F=4.56$), which indicates that any difference between the tests can not be attributed to chance.

/r/

Table 4.3 presents the mean percentage of errors in pronouncing /r/ for Groups 1-4 during the Pre-test and Post-tests 1 and 2.

Table 4.3

MEAN PERCENTAGES OF ERRORS IN THE PRONUNCIATION OF /r/
AMONG/WITHIN GROUPS OVER TIME

Group #	n=	Pre-test (mean % of errors)	Post-test 1 (mean % of errors)	Post-test 2 (mean % of errors)	Total mean % of errors(WG)
1 (teacher)	8	12.5	9.66	6.03	9.4
2 (lang. lab)	12	13.29	14.52	18.25	15.35
3 (control)	10	11.43	14.85	14.83	13.7
4 (video)	6	8.33	16.41	16.38	13.71
Total mean % of errors (AG):	36	11.77	13.85	14.27	13.3

Table 4.4

A 2-FACTOR REPEATED MEASURES ANOVA FOR /r/

Source	df:	Sum of squares	Mean square	F-test:	P- value
Group (A)		3	525.15	175.05	.79 .5082
Subjects within groups		32	7087.23	221.48	
Repeated measure		2	128.78	64.39	2 .144
AB		6	536.47	89.41	2.77 .0184*
B x subjects within groups		64	2062.59	32.23	

Members of Group 4, the video self-monitoring group, posted the second highest overall percentage of errors for the phoneme /r/ during the recording of all three of the tests (the figure highlighted on Table 4.3 in boldface type). This can be seen as meaningful since the two-way repeated measures ANOVA for /r/ calculated the differences among groups at $p=.5082$ ($df=3$, $F=.79$), which is greater than the criterion standard of $p < .05$. Overall, there are no differences among groups over time.

Thus, these results do not confirm Hypothesis #1 that the experimental method would lead to the most overall improvement for /r/. In fact, the control group (Group #3) which did not receive an intervention posted a lower mean percentage of errors for /r/, although the difference is only .01 of a percentage point. Group 4 appeared to improve slightly between Post-test 1 and 2, since the figures calculated were 16.41 and 16.38, respectively. However, the ANOVA showed that the difference within groups over time is not significant ($p=.144$, $df=2$, $F=2$); thus, the improvement can be ignored and, therefore, Hypothesis #2 is not supported for /r/.

/v/

Table 4.5 presents the mean percentage of errors for Groups 1-4 during the Pre-test and Post-tests 1 and 2 when pronouncing /v/.

Table 4.5

MEAN PERCENTAGES OF ERRORS IN THE PRONUNCIATION OF /v/
AMONG/WITHIN GROUPS OVER TIME

Group #	n=	Pre-test (mean % of errors)	Post-test 1 (mean % of errors)	Post-test 2 (mean % of errors)	Total mean % of errors(WG)
1	8	24.31	20.62	17.86	20.93
2	12	21.76	18.75	37.5	26
3	10	26.11	28	27.14	27.08
4	6	3.7	20.83	50	24.85
Total mean % of errors (AG):	36	20.52	22.08	32.34	24.98

Table 4.6

A 2-FACTOR REPEATED MEASURES ANOVA FOR /v/

Source	df:	Sum of squares	Mean square	F-test:	P- value
Group (A)	3	564.68	188.23	.25	.8637
Subjects within groups	32	24500.84	765.65		
Repeated measure	2	2967.85	1483.93	4.86	.0108*
AB	6	6226.14	1037.69	3.4	.0056*
B x subjects within groups	64	19526.99	305.11		

As shown above, Group 4 posted the second lowest overall mean percentage of errors for the phoneme /v/ (in bold), which does not confirm Hypothesis #1. Furthermore, Group 4's performance disintegrated between the Pre-test and Post-test 2. Since the repeated measures ANOVA generated a p value of .0056 (df=6, F=3.4), the differences over time can be seen as significant. The mean percentage of errors at Post-test 2 with a value of 50% are much higher than the 20.83% posted at Post-test 1, but the Post-test 1 figure is much higher than the Pre-test mean percentage of errors of 3.7%. Therefore, Hypothesis #2 has not been supported for /v/. Possible explanations for this decrease in the test subjects' ability to articulate the phoneme /v/ will be investigated in the next chapter.

/f/

Table 4.7 presents the mean percentage of errors in the articulation of the phoneme /f/. Group 4 showed the lowest overall score (in bold) for mean percentage in errors in pronouncing the phoneme /f/. However, the score of 3.31% does not represent a large improvement over the lowest mean percentage of errors, recorded at

Table 4.7

MEAN PERCENTAGES OF ERRORS IN THE PRONUNCIATION OF /f/
AMONG/WITHIN GROUPS OVER TIME

Group #	n=	Pre-test (mean % of errors)	Post-test 1 (mean % of errors)	Post-test 2 (mean % of errors)	Total mean % of errors(WG)
1 (teacher)	8	3.91	10.79	10.8	8.5
2 (lang. lab)	12	13.02	7.2	9.09	9.77
3 (control)	10	10.62	5.91	8.64	8.39
4 (video)	6	3.12	3.79	3.03	3.31
Total mean % of errors (AG):	36	8.68	7.07	8.33	8.03

Table 4.8

ANOVA TABLE FOR A 2-FACTOR REPEATED MEASURES ANOVA FOR /f/

Source	df:	Sum of squares	Mean square	F-test:	P- value
Group (A)	3	518.4	172.8	1.38	.2663
Subjects within groups	32	4003.69	125.12		
Repeated measure	2	51.69	25.85	.36	.6989
AB	6	527.33	87.89	1.22	.3054
B x subjects within groups	64	4592.18	71.75		

Post-test 2, or the highest, recorded at Post-test 1. In fact, the range for the mean percentage of errors is 3.12 -3.79%, which appears more consistent than the range (5.91%-10.62%) generated by Group 3, the control.

The ANOVA administered for this phoneme showed that there was no significant difference among groups, within groups over the time of the Pre-test and Post-tests 1 and 2; nor was there any difference overall among groups over time. Neither Hypothesis #1 nor 2 are supported, therefore, for the general population for /f/.

“th”

Table 4.9 presents the mean percentage of errors for Groups 1-4 during the Pre-test, Post-test 1, and 2 when pronouncing “th”.

Here, Group 4 showed the second highest overall total score (in bold) for the mean percentage of errors for articulating “th”. Although the mean percentage of errors decreased between Post-test 1 and Post-test 2, thereby confirming Hypothesis #2, the mean percentage of errors for Post-test 1 was twice as high as the Pre-test, 50% rather than 24.24%.

Table 4.9

MEAN PERCENTAGES OF ERRORS IN THE PRONUNCIATION OF "th"
AMONG/WITHIN GROUPS OVER TIME

Group #	n=	Pre-test (mean % of errors)	Post-test 1 (mean % of errors)	Post-test 2 (mean % of errors)	Total mean % of errors(WG)
1	8	22.73	22.27	26.39	23.79
2	12	34.09	32.81	31.48	32.79
3	10	41.82	40.31	40.55	40.89
4	6	24.24	50	38.89	37.71
Total mean % of errors (AG):	36	32.07	35.42	34.1	33.86

Table 4.10

A 2-FACTOR REPEATED MEASURES ANOVA FOR "th"

Source	df:	Sum of squares	Mean square	F-test:	P- value
Group (A)	3	4224.26	1408.09	1.32	.2847
Subjects within groups	32	34112.29	1066.01		
Repeated measure	2	204.97	102.48	.52	.5998
AB	6	1933.89	322.31	1.62	.1559
B x subjects within groups	64	12729.11	198.89		

The ANOVA administered for this phoneme showed that there was no significant difference among groups, within groups over the time of the Pre-test and Post-tests 1 and 2; nor was there any difference overall among groups over time. Neither Hypothesis #1 nor 2 are supported, therefore, for the general population for “th”.

Summary

The general question that this study hoped to answer is whether Japanese-speaking students of English would benefit more from watching a video of their speech performance and completing an activity requiring close attention be paid to phonological forms than from participating in more traditional teacher-fronted repetition exercises and language lab-type activities. The benefit to the subjects would be an improvement in their English pronunciation comprehensibility as judged by native speakers.

The two specific hypotheses that this study hoped to confirm were that Japanese speakers of English would score a lower number of errors in articulating the sounds /l/, /r/, /v/, /f/, and “th”, as judged by native speakers over a two-day period. In order to quantitatively evaluate the subjects’ pronunciation of the five sounds, the subjects took a Pre-test, participated in one of four conditions (teacher-fronted, language-lab, control, and experimental video self-monitoring), completed Post-test 1, and two days later, completed Post-test 2.

The quantitative data generated by the scoring of those three tests supported the hypotheses for only one of the phonemes: /l/. For all other phonemes, the hypotheses were rejected. In the case of /f/ and “th”, the null hypothesis, which assumed no statistical difference among groups, no difference among the Pre-test, Post-test 1 and Post-test 2 errors scored and no difference among groups over time, was supported.

Table 4.11, below, presents the relationship between phoneme and supported hypothesis.

Table 4.11

CONFIRMATION OF THIS STUDY’S HYPOTHESIS #1 AND HYPOTHESIS #2

	/l/	/r/	/v/	/f/	“th”
Hypothesis #1 supported?	YES	NO	NO	NO	NO
Hypothesis #2 supported?	YES	NO	NO	NO	NO

Possible explanations for these results will be discussed in the next chapter.

CHAPTER V

DISCUSSION

The purpose of this study, a partial replication of earlier research by McDonald, Yule and Powers (1994), was to determine whether a self-monitoring video activity would foster a greater improvement in the pronunciation of certain target phonemes -- /l/, /r/, /f/, /v/, and “th”-- among Japanese learners of English. Native-speaker judges of approximately the same age and background were asked to determine whether phonemes spoken in sentences read by the subjects during a Pre-test, Post-test 1 and Post-test 2 (administered 2 days after the Post-test 1) approximated the judges’ standard of “native-speaker-like” proficiency. Scores of the participants in the video self-monitoring activity were then compared to those received by participants in the teacher-fronted activity (Group #1), language lab-type situation (Group #2), and by a control group (Group #3).

The study’s aim was to test two hypotheses: 1) that the participants in the video self-monitoring activity (Group #4) would score fewer errors on the Pre-test, Post-test 1 and Post-test 2, which would have illustrated the possibility that this type of activity was more beneficial to the language student than the more traditional teacher-fronted and language-lab approaches; and 2) to show that the participants in the video self-

monitoring (Group #4) remained consistently better in pronunciation of the target phonemes over the course of both Post-test 1 and Post-test 2. In other words, the video self-monitors would become better understood by native-speaker judges, because of their improved articulation of the phonemes /l/, /r/, /f/, /v/ and “th”, and they would remain at a higher level of improvement than the other subjects.

Although the hypotheses were unconfirmed quantitatively for all of the target sounds with the exception of /l/, as shown in Chapter 4, the results of the study still merit discussion. In fact, the quantitative results raise interesting questions concerning the design of this study.

In order to explore those questions, this chapter will examine the following considerations: the effect of the research design on the results, the training of native-speaker judges, possible limitations occurring due to this particular design, and cultural considerations. The final sections of this chapter include recommendations for future research and a discussion of implications for TESOL instructors.

Limitations of the Design

The Design’s Effect on the Results

The two hypotheses tested by this study involved the idea of self-monitoring, a concept that owes its foundation to Krashen’s Monitor hypothesis (1982, 1983, and elsewhere), which was conceived in reference to grammar but is applicable to this

discussion of pronunciation.

Krashen's hypothesis suggests that Monitoring can be applied when learners have the time, when the focus is on form, and when they know the rule (1982). The factor of time is an important one. Morley (1991), in talking about modified interaction and the conversational modifications that improve language production, suggests that it is not the clarification and confirmation requests that make the difference in second language acquisition but the extra time these modifications offer the listener trying to comprehend. In other words, the learner must be given enough time to comprehend the rules or new forms before a response is required. Scientific standards have not been set determining the length of time a learner needs to process information. It would seem, however, that the one chance for participation in each of the conditions might be enough time to *teach* the accurate pronunciation of the target phonemes but might not be enough time for the learner to *absorb and produce* the correct articulatory position.

In addition to the brief exposure to the different conditions, subjects of the fourth condition, which was hypothesized to be the most beneficial, were not presented with any rules of pronunciation or allowed time to practice with a coach or native speaker. Although Krashen (1979) proposes that good teachers provide clear rules for learning, it was the researcher's hope that the subjects' participation in the written activity (see Appendix E for grid) would raise their awareness of the different phonemes. This heightened awareness was supposed to carry over into a more

conscientious pronunciation of /l/, /r/, /f/, /v/, and “th.” However, without a model of native-speaker accuracy in pronunciation of the phonemes, the subjects performed erratically. The increase between 3.7% and 50% (mean percentage of errors) during the Pre-test and Post-test 2, respectively, for /v/ is an example of one surprising fluctuation that led to a non-confirmation of both hypotheses #1 and #2 for that phoneme (see Table 4.3).

Another part of the design that might require fine-tuning are the evaluations. In the case of the original MacDonald, Yule and Powers (1994) study, native-speaker judges evaluated the pronunciation of isolated words, which had been edited from the subjects’ total speech. These words were judged according to their approximation of native-speaker speech. In the current study, single sounds were evaluated as they occurred in whole sentences. The pronunciation of single sounds, however, are altered by the linguistic environment in which they occur.

For example, in a study conducted by Hung (1993), Fuzhou speakers in Malaysia have trouble pronouncing /m/ and /n/ in final position because these non-velar nasals only occur in initial and medial position in Fuzhou. German speakers usually substitute a /k/ for /g/ in final position for the same reason: /g/ does not occur finally in German (Swan, 1987).

Whether the contrasting rules of distribution for Japanese and English were taken into account in the test designing is unknown to the researcher, since Pre-test, Post-test 1 and Post-test 2 were taken from English pronunciation for Japanese

speakers (Dale & Poms, 1994). Even if the linguistic differences were considered, it would be difficult to establish that Post-test 2 is incrementally more difficult than Post-test 1 or the Pre-test. As Acton has written (1984), pronunciation improvement is difficult to evaluate. From Lado (1957),

Sometimes mispronunciation is not a matter of pronouncing these phonemes or these sequences but a matter of not recognizing a word. It's a vocabulary rather than a pronunciation problem. (p. 19)

In other words, it is difficult to create an instrument that distinguishes between vocabulary and pronunciation errors. The problems with creating a suitable evaluation are mirrored in the disparity of results among the native-speaker judges.

The Training of the Judges

Six native-speaker judges participated in this study. The judges were not specifically trained for this study. They were simply asked to evaluate the non-native speakers according to their own perception of English spoken with native-like proficiency. Somewhat surprisingly, there was a rather wide disparity between judges' ratings of the study's subjects. Inter-rater reliability ranged between a low of 59% and a high of 88% for the sample rated. These numbers seem rather low. (see Appendix F for presentation of results)¹ Although all of the judges were volunteers from a second language acquisition class at Portland State University, their differing life experiences

¹Inter-rater reliability was calculated by this formula: $\frac{\text{Agreements}}{\text{Agreements} + \text{Disagreements}}$.

(see Table 5.1) may have rendered their judging less than objective.

As shown in Table 5.1, three of the six judges had lived in Asia; three of the judges were familiar with an Asian language. Consequently, their familiarity with the background language and/or background culture of the subjects might have skewed their objectivity by increasing their comprehension of the subjects' spoken English.

Table 5.1

OVERVIEW OF NATIVE-SPEAKER JUDGES' LANGUAGE EXPERIENCE

Topics▶ Judges▼	First Language	Additional Languages	Spent time in Asia?	Education
A	English	Japanese Some French, Spanish	One year in Japan	B.A. in East Asia studies
B	English	Korean	One year in S. Korea	B.F.A in painting
C	English	Some Mandarin, French, Spanish, Korean	Two years in S. Korea	B.A.
D	English	Russian	No	Junior in college, major: Russian
E	English	French, a little Spanish	No	B.A.
F	English	Spanish	No	Senior in college, major: speech comm.

As a further indication of how increased familiarity affects evaluation

objectivity, Table 5.2 compares the researcher's scoring of a selection of subjects with that of two of the judges. It is worthwhile to note that the researcher had studied Japanese, lived in Japan, taught Japanese students of English and had read Pre-test, Post-test 1 and Post-test 2 many times, therefore demonstrating a heightened familiarity, according to the factors of familiarity as defined by Gass and Varonis (1984). Due, perhaps, to this familiarity, the researcher noted many fewer errors than the judges. (In the Table 5.2, below, * stands in for "th" due to space limitations.)

Table 5.2

SAMPLE SCORING RESULTS OF JUDGES AND THE RESEARCHER
(*no. of noted errors*)

l	r	v	f	*	l	r	v	f	*	l	r	v	f	*	Judges (R=researcher)
11	4	3	3	1	2	10	2	1	8	8	1	1	1	1	E
10	2	4	0	4	3	4	0	0	3	5	2	3	0	2	F
3	1	0	4	1	3	3	0	3	0	4	0	0	1	0	R
9	5	3	4	4	2	7	3	1	7	12	12	4	7	8	E
3	3	1	3	5	4	6	7	0	8	4	7	6	2	5	F
2	1	0	1	0	1	3	3	0	3	6	1	0	3	2	R
0	6	0	2	5	0	12	2	0	7	4	7	3	0	5	E
0	5	4	1	4	0	11	4	0	13	4	5	1	2	1	F
0	2	0	0	2	2	2	3	0	2	1	0	0	0	2	R

As for the judges' impressions concerning their evaluations of the subjects, all of the

judges felt that the number of sentences they had to listen to and transcribe seriously undermined their ability to be objective. From Judge F:

Orthographic transcriptions took a long time, and it was often tedious listening to the same sentences over and over again....Objectivity was a key issue...After 200+ sentences, I think that there may not have been complete objectivity.

And a similar comment from Judge C:

Another big problem I had in judging, and a factor that could well have influenced the results, was fatigue and hearing sounds that may or may not have been present. After listening to eight or nine students say the same sentences my ears and brains just got tired...The other problem was hearing things that may or may not have been on the tape...Often, when the target sound was not present, my brain would sub-consciously fill in the sound.

Judge D concurs:

The data analysis was very time consuming and tiring, leading to possible shortcuts and hurrying of the analysis.

Obviously, one way to improve the judges' objectivity is to decrease the number of judgments each individual is required to make. Another solution is, of course, to enlist more judges, but even with less work for each judge, it might not be possible to determine the point beyond which judges are not objective. On the other hand, a solution might be to shrink the sample size, but this would not be advisable since differences between individuals would have a more significant effect on the quantitative analysis. It is possible that some of the widely fluctuating numbers (see the discussion above of Group 4's surprising performance for phoneme /v/) was due to Group 4's smaller sample size relative to the other groups. With only 6 members,

Group 4 was 50% smaller than Group 2.

To summarize, the brief time of each condition, the lack of a modeling of the correct articulation of the target sounds for the video self-monitoring group (Group #4), the random linguistic environment in which the phonemes appeared in the Pre-test, Post-test 1 and Post-test 2, and the overtaxing of the too few judges might have affected the quantitative analyses of this study, resulting in the non-confirmation of the two hypotheses for 4 of the 5 target phonemes.

Further Limitations of the Design -- Video

In addition to the issues discussed above which are specific to this particular study, there are two other factors to consider when discussing the use of video in the ESL classroom, in general. First, although video as presenter of an alternative text and as a self-monitoring technique can be recommended, the cost of such a program should be taken into account. Smith (1989) cautions that the recording and preparing of instructional materials for videodisc is a significant problem and requires a large amount of time and money. Although video recording is much less expensive and more accessible to the amateur enthusiast, the initial expense of camera, monitor, deck and continuing expense of videotapes must be acknowledged.

Secondly, "the capabilities of personalized and classroom interactive video are exciting, (however), the need for carefully considered instructional design based on sound theory lies at the heart of any instructional paradigm. Technology is a powerful

delivery medium; but by itself, it is only a vehicle” (Gale and Schneider, 1986, cited in Gale, 1989, p. 247). In other words, the use of video in the classroom can be beneficial, if in the hands of an experienced instructor with a structured curriculum.

Smith (1989) writes that both television and the language lab underwent a lengthy period of experimentation before being accepted as positive adjuncts to the teaching/learning process (p. 2). Although in its infancy, using a video recorder in the classroom has already been accepted. Without a doubt, continuing research can create a dialogue among videographers that leads to the “sound theory” necessary to generate an instructional paradigm.

Cultural Considerations of the Subjects

Beyond specific elements in the design of this particular study, and the more general factors of video use in the ESL curriculum, additional cultural differences between the Japanese and other language learners might also have been factors leading to the non-confirmation of the study’s two hypotheses.

Thompson (1987) suggests that “eloquent, fluent speech is not highly rated in Japan; indeed, it is often distrusted. Tentativeness is preferred to assertiveness, hesitancy to momentum” (p. 212-213). If a polished way of speaking is not preferred in the speakers’ native tongue, it is quite possible that this perspective carries over into their studying of English. If that is the case, then the subjects are not motivated to adopt a native-like pronunciation, regardless of the instructional method.

Furthermore, pronunciation is more than the correct articulation of a language's phonemes. According to Ard (1989), phonemes alone do not account for the perception of native speakers. The suprasegmental factors of rhythm, pitch and intonation are equally important. Some researchers would argue that these suprasegmental factors are more important, especially in the comprehensibility of the Japanese student of English (Celce-Murcia, Brinton & Goodwin, 1996). In addition, the difference between the syllable-timing of Japanese and the stress-timing of English might be more of a barrier than mispronunciation of particular English sounds. Accordingly, it is interesting to note that there was no pattern to the judges' scoring, eliminating a discussion of how phonemic environment might have affected the judges' comprehensibility of the subjects.

Recommendations For Future Research

Studies that attempt to prove the superiority of a teaching method or activity in improving pronunciation are rarely successful. The results of the MacDonald, Yule and Powers (1994) study, which this research partially replicated, did not determine which of four methods was successful for improving pronunciation. In this study, it was shown that video self-monitoring was not *more* beneficial to the subjects in improving their pronunciation than the other treatments in which the other groups participated. However, like the earlier study, this study's results can lead to further research in outlining a curriculum for using video as an enhancement to self-

monitoring, and to further investigate how the “focus on form” activity represented by the written grid (Appendix E) might effect pronunciation improvement.

Time seems to be an important factor in all facets of this research. The subjects require longer exposure to each of the conditions to determine which might be most beneficial. On the other hand, judges need shorter exposure to subjects’ repeating a particular text in order to remain objective. Also, judges need to be given a “standard” by which to evaluate subjects.

Perhaps one cannot think of finding the *best* way to teach pronunciation. It seems from the inconclusive results that a *combination* of instructional methods might be most useful. Further studies can test these combinations. One possibility might be to take as a given the benefits of video self-monitoring and to combine it with teacher-fronted and language lab self-study to see which one of the two pairings works more to improve pronunciation.

Finally, a more accurate evaluation of pronunciation is necessary. This need brings the researcher back to one of this paper’s earlier questions: what is pronunciation? As psycholinguists continue to explore the cognitive processes underlying accurate pronunciation and sociolinguists study the effect of the first language and home culture on second language pronunciation, World-English theorists ask another question: what should pronunciation be? This second question makes arriving at a “standard,” by which native-speaker educators can evaluate non native-speakers, a complex proposition.

Implications For TESOL Instructors

Although a hypothesis relating to the effect of the teacher-fronted condition was not a part of this study, a non-scientific examination of the results for Group 1 (teacher-fronted condition) shows that the number of errors decreased for each of the phonemes, excepting /f/, between the Pre-test and Post-test 1. The conclusion is that the teacher is an important component in a student's learning of accurate pronunciation. The teacher's presence not only motivates the student through encouragement but also serves as a model of target language production.

This should serve to prompt teachers who do not focus on pronunciation in the ESL classroom to include it in the syllabus. Morley (1991) offers that ignoring students' needs for "reasonably intelligible pronunciation", if there is a realistic opportunity to offer it, is an "abrogation of professional responsibility" (p. 489).

It is the teachers in the classrooms who can serve as the best researchers. By combining, testing and expanding on the conditions outlined by this study and the MacDonald, Yule and Powers (1994) research, ESL educators can continue adding to the wisdom of how target pronunciation is acquired.

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APPENDIX A

PRE-TEST, POST-TEST 1, AND POST-TEST 2

APPENDIX A

PRE-TEST, POST-TEST 1, AND POST-TEST 2

The following tests (Dale and Pons, 1994) were presented to the subjects without the underscoring or numbers in the right-hand margins. The lines were indications of the presence of a target sound --/l/, /r/, /f/, /v/ and “th”—and the numbers represent the total number of target sounds for each sentence.

Pre-test

No.	Sentence	# of target sounds
1.	I'll get my bonus on the fourteenth of this month.	5
2.	Is Sixth Street a north-south street?	6
3.	Ralph was playing golf in Flagstaff.	7
4.	Whiskey comes in fifths, but not in sevenths or ninths.	6
5.	His parents arrive in Merrick tomorrow.	4
6.	He's vicious, vain and very violent.	6
7.	Leave the leaf on the far table.	7
8.	A clean crisp breeze blew the freighter to Florida.	10
9.	You'll leave yourself no alternative but to bluff your way out.	10
10.	Didn't Paul pour Beale a beer?	4

¹ Spaces within the words did not appear in tests to either subjects or judges but are included here for ease of counting.

Post-test 1

No	Sentence	# of target sounds
1.	Is <u>th</u> ere a <u>th</u> reat of Wor <u>ld</u> War <u>Th</u> ree? We must be <u>th</u> ankful for peace.	13
2.	I dropped <u>Ruth</u> 's <u>thimble</u> on <u>Keith</u> 's <u>thick</u> <u>rug</u> .	7
3.	<u>MacDuff</u> has <u>grief</u> enough.	4
4.	Tomorro <u>w</u> Molly can collect <u>the</u> <u>corrections</u> .	5
5.	<u>Barry</u> 's <u>very</u> <u>sorry</u> he's <u>marri</u> ed.	5
6.	<u>The</u> <u>elephant</u> is <u>f</u> riendly and it's a <u>fact</u> <u>th</u> at an <u>elephant</u> <u>never</u> forgets.	14
7.	<u>Leave</u> <u>the</u> <u>yeal</u> and <u>gravy</u> in <u>the</u> <u>oven</u> . <u>Vicky</u> wants to keep it very hot.	12
8.	<u>Roads</u> <u>are</u> <u>rough</u> in <u>rural</u> <u>areas</u> . Be <u>very</u> <u>careful</u> when you <u>drive</u> your <u>car</u> .	14
9.	He's <u>single</u> , but I've a <u>wife</u> .	3
10.	They signed it <u>then</u> and <u>there</u> .	4

Post-test 2

No.	Sentence	# of target sounds
1.	<u>The</u> <u>long</u> <u>ride</u> <u>left</u> <u>Rita</u> a <u>little</u> <u>ragged</u> .	9
2.	Sam <u>thinks</u> <u>Thelma</u> <u>lives</u> on <u>Nor</u> <u>th</u> <u>Seneca</u> <u>Street</u>	8
3.	No <u>rough</u> <u>stuff</u> , <u>Cliff</u> .	5
4.	<u>Eric</u> 's <u>selling</u> <u>herring</u> in a <u>delicatessen</u> on <u>Barrow</u> <u>street</u> .	6
5.	He'll <u>prepare</u> a <u>final</u> <u>paper</u> on <u>Will</u> <u>Shakespeare</u> .	8
6.	<u>Vera</u> <u>forgot</u> to get <u>vitamins</u> , <u>figs</u> and <u>vinegar</u> .	8
7.	<u>Var</u> <u>ley</u> <u>finally</u> <u>visited</u> his <u>folks</u> in <u>Virginia</u> .	10
8.	Her <u>daughter</u> is <u>thirteen</u> and <u>still</u> <u>sucks</u> her <u>thumb</u> .	7
9.	Doesn't <u>Kale</u> <u>care</u> <u>that</u> <u>the</u> <u>affair</u> may <u>fail</u> ?	8
10.	<u>Lydia</u> 's <u>roommate</u> <u>retired</u> to <u>listen</u> to <u>records</u> in <u>the</u> <u>lounge</u> .	9

APPENDIX B

SUBJECT SURVEY OF ENGLISH LANGUAGE EXPOSURE AND
PRONUNCIATION STUDY

APPENDIX B

SUBJECT SURVEY OF ENGLISH LANGUAGE EXPOSURE AND
PRONUNCIATION STUDY¹

PART 1: Please fill in the blanks to complete the sentences.

1. I have studied English for _____ years,
2. I have studied English pronunciation in _____% of my classes in Japan.
3. Some of the ways I have tried to learn English pronunciation are:
4. I have studied English pronunciation in _____% of my classes in the U.S.

PART 2: Please circle the word that correctly completes the sentence.

Example: Salem is in Oregon California New York Washington

¹ This survey was filled out by subjects before beginning the study.

5. I think my English is poor fair good very good excellent
6. People understand me when I speak English 0 10 20 30 40
- 50 60 70 80 90 100% of the time.

7. I do don't want formal English pronunciation classes.

8. The best way to study English is to

- a. have a teacher help you.
- b. listen to tapes.
- c. watch yourself on video.
- d. _____??????????

(Please write your own reason above.)

APPENDIX C

LESSON PLAN USED IN THE TEACHER-FRONTED LESSON FOR

GROUP #1

APPENDIX C

LESSON PLAN USED IN THE TEACHER-FRONTED LESSON FOR GROUP #1

Sample lesson plan (from Gillette, 1994).

Pronunciation activities:

1. Write target words on the board.
2. Establish meaning (use pictures, drawings, etc.)
3. Teacher says target words several times. Students repeat. (Teachers must exaggerate sounds for students to hear.)
4. Teacher uses target words in a phrase. Students repeat.
5. Teacher uses target words in a sentence. Students repeat.

Reference was also made to English pronunciation exercises for Japanese students (Grate, 1974), specifically, the /l/, /r/ contrasts on 10-14, /f/, /v/ contrasts on p. 38-40; and p. 70 for work with the two phonemes of “th”.

APPENDIX D

EXERCISES USED IN THE “LANGUAGE LAB” LESSON FOR
GROUP #2

APPENDIX D

EXERCISES USED IN THE "LANGUAGE LAB" LESSON FOR GROUP #2

(GRANT, 1993)

1. Listen to the sentences with one of the words in parentheses. Mark the correct response/meaning.

a. It's a new (copy, coffee) machine.

___ That's why the copies are so clear.

___ That's why the coffee tastes so good.

b. It's a (fact, pact).

___ Do you have proof?

___ Is everyone in agreement?

c. That's the (chief, cheap) executive officer.

___ That's the big boss.

___ We never get raises.

d. She's driving (past, fast).

___ Did you see her go by?

___ She should slow down.

e. Excuse me. Where would I find (pans, fans)?

_____ In the housewares department.

_____ In the small appliances department.

2. Listen to the paragraph. Fill in the blanks with words that have the /f/ sound.

Videophones

In 1992, AT&T began _____ customers a Video _____, a _____ with a small color screen that allows callers to look at each other while they are talking.

_____ callers, however, _____ to be invisible, there is a special

_____ that will close the lens (*sic*) the camera. Now, in addition to the

popular _____ for your car and video _____ systems that

have become almost standard in the _____ of big businesses, you can plug

video _____ into standard _____ outlets in your home.

3. Listen to the word pairs. Which word of each pair has the /v/ sound – the first or the second? Close your books and write 1 or 2 on a piece of paper.

- | | | | |
|----------|-------|----------|-------|
| a. very | wary | h. very | berry |
| b. vie | why | i. volt | bolt |
| c. west | vest | j. boats | votes |
| d. veil | whale | k. ban | van |
| e. wheel | veal | l. leaf | leave |
| f. verse | worse | m. have | half |
| g. evoke | awoke | n. lover | lower |

4. Listen to the sentences with one of the words in parentheses. Mark the correct response/meaning (p. 200).

a. Where did you put the (veal, wheel)?

_____ In the freezer.

_____ On the bike.

b. What kind of (vine, wine) did you get?

_____ A dry, red wine.

_____ One with blue flowers.

c. They (evoke, awoke) her.

_____ They remind me of her.

_____ They didn't want her to oversleep.

d. What happened with the (vote, boat)?

_____ Our candidate won.

_____ The engine died.

e. He's (serving, surfing) in Hawaii.

_____ He's been in the navy for over two years.

_____ He loves to ride the waves.

5. Listen to the words with /θ/. Do you hear the sound at the beginning (B), in the middle (M), or at the end (E) of each word? Close your books and write B, M, or E on

a pieces of paper (p. 176).

- | | | |
|----------------|-------------|-------------|
| a. think | e. death | i. south |
| b. three | f. anything | j. length |
| c. bath | g. Thursday | k. birthday |
| d. mathematics | h. thirty | l. month |

6. Listen to the paragraph. Fill in the blanks with words that have /θ/ (p. 178).

What Makes You Thin

What makes you _____? Most people _____ that dieting is the answer, but researchers say that exercise is the best way to be _____. In one study _____ men who were sedentary were put on an exercise program. They walked, jogged, and ran _____ the one-year program. The first _____ the study showed was that the men who had exercised the most lost the most weight. The second _____ the study revealed was that the men who lost the most weight ate more too. The researchers _____ that fat people don't really eat a lot. Their problem is that they are inactive.

7. Listen to the word pairs. Which word of each pair has the /r/ sound – the first or the second? Close your books and write 1 or 2 on a piece of paper.

- | | | | | | |
|----------|-------|----------|-------|----------|-------|
| a. crowd | cloud | f. run | one | k. rice | lice |
| b. wrong | long | g. went | rent | l. pot | part |
| c. lead | read | h. here | heel | m. lawn | learn |
| d. erect | elect | i. halt | heart | n. sharp | shop |
| e. right | light | j. stale | stare | | |

APPENDIX E

SURVEY OF TARGET SEGMENTALS OCCURRING IN PRE-TEST

SURVEY OF TARGET SEGMENTALS OCCURRING IN PRE-TEST

(completed by Group #4)

Instructions to subject: Please read the sentences on the accompanying page (*here, Appendix A*) and make a tally each time the sound occurs.

occurrence→	Beginning	Medial	Final
sound ↓			
/l/			
/r/			
/f/			
/v/			
“th”			

APPENDIX F

INTER-RATER RELIABILITY

APPENDIX F

INTER-RATER RELIABILITY

Judges	G	S	1A	1D	%	2A	2D	%	3A	3D	%
A, C	1	35	46	19	71	66	15	81	64	14	82
A, C	2	32	48	17	74	66	15	81	62	16	79
A, C ¹	3	37	55	10	85	55	26	68	65	13	83
A, C	4	34	55	10	85	64	17	79	61	17	78
B, D	1	24	53	12	82	63	18	77	57	21	73
B, D	2	18	55	10	85	68	13	84	69	9	88
B, D	3	30	48	17	74	66	15	81	61	17	78
B, D	4	33	44	21	70	67	14	82	67	11	86
E, F	1	1	53	12	82	60	21	74	65	13	83
E, F	2	2	45	20	69	68	10	87	46	22	59
E, F ²	3	12	42	23	65	65	18	78	57	21	73
E, F	4	7	50	15	77	67	81	83	63	78	81

Legend

- G = The number of the treatment group (1-4) in which the subject participated
- S = Subject number
- 1, 2, 3, correspond to Pre-test, Post-test 1 and Post-test 2
- A = # of agreements between judges
- D = # of disagreements between judges
- % = percentage of agreement between 2 judges, indicating inter-rater reliability

¹Pre-tests evaluations were done for all of Group #3 members (video self-monitoring condition) by Judges B and D for logistical reasons (transfer of the videotape).

APPENDIX G

SUBJECT AND JUDGE CONSENT FORMS

INFORMED CONSENT FORM
(prospective subjects for the study)

Dear ESL student,

I am a graduate student at Portland State University in Portland, Oregon. I am studying the effects of different types of instruction method in the EFL classroom. I am asking for volunteers to participate in either one of four conditions, as explained below.

- 1) working with an instructor to review specific words from the pre-test
- 2) listening to audiotapes of the words and repeating the same words
- 3) completing a written survey of target sounds in the written text and reviewing my reading of this written text on videotape.
- 4) looking over the sentences with no instruction whatsoever

Participation in this study is completely voluntary (your choice). If you do not wish to participate in this study, it will NOT have any effect on your grade for this course or your relationship with the researcher, the teacher or the institution.

If you decide to participate, your videotaped readings will be evaluated by native-speaker judges. The results of these evaluations will be available in the fall of this calendar year.

If you would like to take part in this study, please sign the attached consent form.

Thank you,

P.C. Noble.

If you have any concerns or questions about this study, please contact the researcher, P.C. Noble, at the following e-mail address: psu10078@odin.cc.pdx.edu, or you may call: (503) 243-6481. You may also contact the Chair of the Human Subjects Research Review Committee, Research and Sponsored Projects, 105 Neuberger Hall, Portland State University, (503) 725-3417.

INFORMED CONSENT FORM
(prospective subjects for the study)

I, _____, agree to take part in this research project, which P.C. Noble is doing in order to help teachers learn more about the effectiveness of different types of pronunciation instruction for Japanese students of ESL.

My participation in this study will require 1 ½ and 2 hours.

I understand that the study involves reading sentences while being videotaped on three different occasions, and that on one separate occasion, I will participate in either one of the following four conditions:

- 1) working with an instructor to review specific words from the pre-test
- 2) listening to audiotapes of the words and repeating the same words
- 3) completing a written survey of target sounds in the written text and reviewing my reading of this written text on videotape.
- 4) looking over the sentences with no instruction whatsoever

P.C. Noble has explained that the purpose of this study is to investigate the different effects of different treatments on English pronunciation.

She has explained that the videotapes of the three occasions of my reading the series of sentences will be edited into a master tape that will then be watched by several native-speakers. She has promised that my name will be kept confidential (secret). I understand that I **do not** have to take part in this study, **that I may stop my participation at any time**, and that this will not affect my course grade or my relationship with the researcher, my teacher or the institution. I have read and understand the above information and agree to take part in this study.

Date: _____ Signature: _____

If you have any concerns or questions about this study, please contact the researcher, P.C. Noble, at (503) 243-6481, or contact the Chair of the Human Subjects Research Review Committee, Research and Sponsored Projects, 105 Neuberger Hall, Portland State University, (503) 725-3417.

INFORMED CONSENT FORM
(prospective judges for the study)

Dear Applied Linguistics student,

I am a graduate student at Portland State University in Portland, Oregon. I am studying the effects of different types of pronunciation instruction in the EFL classroom. I am asking for volunteers to judge the intelligibility of certain sounds as spoken by low-intermediate Japanese EFL students.

Participation in this study will involve listening to audiotapes and one videotape and choosing whether examples of spoken /f/, /v/, /l/, /r/, / / are equal to that of a native-speaker.

Participation in this study is completely voluntary (your choice). If you do not wish to participate in this study, it will NOT have any effect on your grade for this course or your relationship with the researcher, the teacher or the institution.

X _____
(signature)

X _____
(print name here please)

If you have any concerns or questions about this study, please contact the researcher, P.C. Noble, at the following e-mail address: psu10078@odin.cc.pdx.edu, or you may call: (503) 243-6481. You may also contact the Chair of the Human Subjects Research Review Committee, Research and Sponsored Projects, 105 Neuberger Hall, Portland State University, (503) 725-3417.