

TEACHING LINGUISTIC MIMICRY TO IMPROVE
SECOND LANGUAGE PRONUNCIATION

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This thesis tests the hypothesis that a whole language approach to ESL (English As A Second Language) pronunciation with emphasis on suprasegmentals through the use of linguistic mimicry is more effective than a focus on segmentals in improving native speakers perceptions of accent and comprehensibility of ESL students' pronunciation of English. The thesis is organized into seven chapters. Chapter 2 is a discussion of the factors that affect the degree of foreign accent in second language acquisition. Chapter 3 gives a background on current ESL pedagogy followed by a description of the linguistic mimicry approach used in this research in Chapter 4. Chapter 5 and 6 are discussion of Materials and Methods and Conclusions and Implications.

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PREFACE

As an English As A Second Language (ESL) instructor on the college level, I understand the frustration my students experience learning English because I too learned a second language in college. I began studying Spanish at eighteen as an exchange student one summer to Colombia. When I returned, I majored in Spanish as an undergraduate student and was quite successful in grades, but I could not speak the language. I concentrated on grammar and vocabulary and was reluctant to speak because of lack of confidence. In over thirty hours of Spanish instruction, pronunciation was never mentioned and therefore perceived to be less important.

Several years later, I enrolled in a German course at the Lozanov Learning Institute in Dallas which used Suggestopedia, a method developed by Dr. Georgi Lozanov in Bulgaria, that exposes students to large amounts of the target language. Through a stress-free environment of drama, games, puppets, and songs students learn a second language spontaneously. In the third week of the course, while talking to my instructor with a puppet on my hand, I said a word in German I did not remember learning. That moment was an epiphany for me; if I had been taught Spanish in that manner, perhaps I would have been a confident Spanish speaker when I graduated from college.

Soon afterward, I was teaching ESL in Mexico at the Ford Motor Company for the Lozanov Learning Institute. The Spanish-speaking engineers learned English very quickly because of the Suggestopedia method. During that time, I became particularly interested in pronunciation pedagogy for a personal reason. A friend mentioned that my Spanish pronunciation was not good. I had spent years trying to speak Spanish but had

not developed an ear for the language and thus had a heavy accent. Desperate, I began imitating Spanish speakers on the television, radio and gradually the people around me. In the process, I became a confident speaker of the language. For this reason, I believe that one can develop an ear for language if it does not come naturally, as in my case.

When I returned to the United States, a partner and I bought the Lozanov Learning Institute and began providing corporate language training nationwide. I trained teachers, developed curriculum and watched participants transform as they took on new identities, played games and acted like children while learning a language. This is when I learned the true power of drama to lower inhibitions when learning a language.

After selling the institute, I began training in accent reduction, or pronunciation training, for major corporations. As I researched pronunciation pedagogy and techniques, I found that pronunciation methodology did not work for my students. Now, as a ESL instructor of speaking and listening, I find that college materials and curriculum miss the point. Students are taught the daunting International Phonetic Alphabet which is very difficult for even teachers to learn and likewise hard to teach with focus on phonemes. Concentration on individual sounds, or segmentals, with boring, contentless drills do not teach a person how to sound like a native English speaker. The rhythm and music of language is what makes a person sound like a native.

I began experimenting with ways of teaching suprasegmentals that evolved to students mimicking English-speaking actors from television programs. Students imitate every body movement, gesture, rhythm, word and sound with the actor. I named this approach, Linguistic Mimicry, because spoken language uses the whole body not just the voice.

I think Linguistic Mimicry is a viable approach to pronunciation pedagogy and should be added to ESL pronunciation curriculum. This thesis is a pilot project that suggests that Linguistic Mimicry is at least as successful in reducing accent and increasing comprehensibility as going to a language lab and warrants further research.

CHAPTER 1

INTRODUCTION

In English As A Second Language (ESL) pedagogy, the current practice in pronunciation instruction primarily focuses on discrimination and production of opposing lexical segments through rote drills giving secondary attention to affective factors in pronunciation communication. This thesis is a preliminary study to test the hypothesis that a whole language approach to ESL pronunciation with emphasis on suprasegmentals is more effective than a focus on segmentals in improving native speakers perceptions of accent and comprehensibility of ESL students' pronunciation of English.

Two intermediate Speaking/Listening ESL classes at a community college in Dallas, Texas were taught the same curriculum with the exception of the following: one class worked in the language lab one to three hours per week to practice repetition of segmentals with a minimal amount of contextual instruction (listening and repeating phonological oppositions or minimal pairs like “ship” and “sheep”) while the other class was exposed to much broader contextualized language by memorizing scripts and imitating actors from a television show. These students mimicked the actors concentrating on suprasegmentals, gestures, and paralinguistic cues using an original approach, Linguistic Mimicry, designed and implemented for this research.

Students from each class were audio taped speaking extemporaneously about a series of illustrations (see Appendix A) at the beginning and end of a twelve-week period. Thirty native speakers of English from university linguistics and English courses listened to the recordings and rated each one based on perceived comprehensibility and accent to

determine if mimicking actors did indeed have more impact on pronunciation than practicing individual sounds.

Statistically, both groups produced the same perceptions of increased comprehensibility and diminished accent by native English evaluators over the twelve-week period; however, because Linguistic Mimicry teaches skills for imitating American English suprasegmentals, provides meaningful repetition of segmentals and suprasegmentals, exposes students to real life situations, and addresses the psychological barriers to taking on a new language in a low stress environment, this whole language approach is a more effective approach for pronunciation instruction.

This thesis is divided into seven chapters. Chapter 2 is a review of the most researched factors affecting the degree of foreign accent in second language acquisition: critical periods; linguistic aptitude; native language transference of segmentals and suprasegmentals; exposure to the second language; and psychological factors that impact accent. Next, a brief history of ESL pronunciation pedagogy is provided in Chapter 3 followed by a description of the Linguistic Mimicry Approach in Chapter 4. The materials and methods used in this research are in Chapter 5 with results and discussion in Chapter 6 and finally conclusions and implications for further research in Chapter 7.

CHAPTER 2
FACTORS AFFECTING DEGREE OF FOREIGN ACCENT
IN SECOND LANGUAGE ACQUISITION

For the last thirty years, the phenomenon of perceived foreign accent in the speech of second language (L2) learners has been investigated in a large number of increasingly detailed experimental studies. As Thompson (1991) points out, there are good reasons to study this phenomenon for it may help resolve theoretical issues important for second language pedagogy. In this chapter, factors that have received the most attention in the literature will be discussed: age-related critical periods, language learning aptitude, native language (L1) transference of segmentals and suprasegmentals to L2, exposure to the second language, and psychological factors that impact pronunciation.

The Critical Period

Lenneberg (1967) suggested a critical period of brain lateralization of speech when he noticed that most aphasia, the partial or total loss of speech due to a disorder in any one of the brain's language centers, became permanent after the age of puberty. This led to his conclusion that the brain loses its capacity to transfer the language functions from the left hemisphere to the nonverbal right hemisphere after puberty, a function that it is able to perform, to varying degrees, during childhood.

Krashen (1973) reviewed the aphasia studies of Lenneberg and concluded that the critical period of lateralizations was completed earlier, by around age five or six. Seliger (1978) and Walsh and Diller (1981), suggested that there is not one critical period affecting all aspects of language at the same time but "many critical periods, each closing

off different abilities.” They concluded that the ability to master a native accent in a foreign language was the first ability to be lost, around the onset of puberty.

Scovel (1988) argued that there are no clear-cut findings to suggest biological constraints on language acquisition except for pronunciation because “pronunciation is the only aspect of language performance that has a neuromuscular basis, requires neuromotor involvement, and has a physical reality” (p.101). He predicted that learners who start to learn a second language later than around age twelve will never be able “to pass themselves off as native speakers” and will “end up easily identified as nonnative speakers of that language” (p. 15). However, Scovel (1988) did allow for the possibility that there may be some “superexceptional” foreign language learners, only about 1 in 1,000 in any population of later learners, who are not bound by critical period constraints (p. 181). Ioup, Boustagui, Tigi and Moselle (1994) postulated that these rare late learners are not bound by critical period constraints because they have greater neurocognitive flexibility than most late L2 learners.

Long (1990) comprehensively reviewed the critical period research and concluded there was not sufficient evidence to disprove a critical period. He also stated that although “native-like morphology and syntax seem to be possible for those beginning before age fifteen, the ability to attain native-like phonology begins to decline by age six in many individuals and to be beyond anyone beginning later than age twelve, no matter how motivated they might be or how much opportunity they might have” (p. 280). He hinted that a lack of evidence against the existence of a critical period might be due to the fact that none of the studies had specifically targeted very advanced L2 learners. He suggested that future studies should include the very best L2 learners.

Klein (1995) argued that absolute biological barriers to the accurate perception and production of a new system of speech sounds by late learners do not exist. Massive and continued access to the L2 is necessary, but is not a sufficient condition for native-like attainment. This, he argued, can only be achieved if a learner has a very high level of propensity, a term Klein used for the “the different motivations that push a learner forward in the acquisition of a second language” (p. 261). If learners have sufficient access to L2 input and if it is of vital importance to them to sound like a native speaker of the language they are learning, it is possible that they will attain a native-like accent, in spite of a late start (Bongaerts, van Summeren, Planken and Schils, 1997).

Linguistic Aptitude

A comprehensive review of the literature conducted by Piske (2001) reveals that there is a dearth of studies examining factors that influence linguistic aptitude in a controlled manner and thus impossible to draw any strong conclusions regarding these factors. Musical ability (Tahta et al., 1981; Thompson, 1991; Flege et al., 1995) and the popular notion of a “good ear” for languages have yet to be operationalized as research variables in the study of L2 speech (Leather, 1999, p. 124). However, all studies reviewed by Piske except for one (Flege et al., 1995) identified mimicry ability as a significant predictor of degree of L2 foreign accent.

Research by Yvonne Stapp (1999) concerning a critical period of neural plasticity and language aptitude using mimicry tasks supports critical period limitations on L2 learners; however, this constraint does not apply to individuals with a talent to mimic. Stapp states:

An assumed relationship between neural plasticity and the ability to mimic raises two important problems. First, not all young children are good mimics but statistically, young children do outperform older children and adults in L2 pronunciation over the long run. Second, some adolescents and adults are good mimics. However, since the type of neural plasticity that accounts for superior L2 pronunciation in early childhood actually declines with age, it is unlikely that such plasticity is responsible for the outstanding mimicry skill exhibited by relatively few mature individuals. (p. 2)

It is the opinion of this writer that while there are most likely age constraints on acquiring native-like pronunciation for adults, a high level of comprehensibility is obtainable by motivated adult learners who can mimic a second language. For talented late learners, mimicry ability is available throughout life because the ability is not dependent on age. For adult learners who are not gifted with the talent of mimicry, the Linguistic Mimicry approach designed for this research provides strategies to improve the learners' abilities to mimic the pronunciation of a second language, even as those who can't sing can be taught skills through singing lessons.

Native Language Transference of Perception and Articulation of Segmentals

Flege (1987) argues that one of the main causes of foreign accents is the tendency of L2 learners, once they have established phonetic categories for their L1, to perceive L2 sounds in terms of the categories of their L1. This happens particularly in the case of L2 sounds that share a considerable portion of the phonetic space with their L1 counterparts. The greater the similarity between an L2 sound and the closest L1 sound, the more likely the learner will not notice the subtle differences that exist between the two sounds. This hinders the creation of new phonetic categories for the L2.

Similarly, Kuhl and Iverson (1995) refer to phonetic categories as phonetic prototypes. A phonetic prototype assimilates non-prototypical members of the same category, shrinking the acoustic-phonetic space toward it. As prototypes are language-specific, for L2 learners there is a native-language magnet effect: L1 prototypes constrain adult learners' abilities to perceive contrasts in L2 by the pulls they exert. Thus, in experiments with six-month old infants in Sweden and the U.S, American infants demonstrated a significantly greater "perceptual magnet" effect than Swedish infants for stimuli with acoustic structures close to an English vowel prototype, while the Swedish infants reversed this perceptual pattern. Kuhl hypothesized that language experience even in the first six months of life shapes infants' phonetic perception.

Scovel (1988), Walsh & Diller (1981), Wode (1989) contend that adult L2 learners face neurological or motor skill constraints, such as restricted perceptual targets for phonetic categories mentioned above and entrenched articulatory habits that inhibit the production of new sounds. These constraints render the possibility of pronunciation at a native-like level as highly unlikely or impossible.

To address the limitations caused by L1 transference to segmentals, the Linguistic Mimicry approach provides necessary meaningful repetition of perception and production of segmentals. This is accomplished through memorization and imitation of L2 dialog in an entertaining, global context without the boredom of phonemic opposition drills.

Native Language Transference

Of Suprasegmentals

The overall melody or prosody of a language is synonymous with the term “suprasegmentals” and is defined by Kjellin (1998) to including the following:

- a) Stress: a combination of length, loudness, and pitch applied to syllables in a word
- b) Rhythm: the regular, patterned beat of stressed and unstressed syllables and pauses
- c) Adjustments in connected speech-modifications of sounds within and between words in streams of speech
- d) Prominence-speaker’s act of highlighting words to emphasize meaning or intent
- e) Intonation: the rising and falling voice pitch across phrases and sentences (p. 3)

Suprasegmental parameters are not perceived nor interpreted in the same way in relation to utterance meaning by speakers of different languages. Cues may vary across languages in terms of their relative salience (Dupoux, Pallier, Sebastian, & Mehler, 1997; Gandour, 1983; Gandour & Harshman, 1978) and their relation to lexical and grammatical units (Cutler, Dahan & van Donselaar, 1997). Moreover, in L2 learning, the relative weight given to suprasegmentals may be different from its relative importance either in the learner’s L1 or in the language use of native speakers of the L2 (Pennington and Ellis, 2000). Anderson-Hsieh, Johnson, and Koehler (1992), Munro (1995) found that suprasegmentals or prosody rated as affecting accentedness and perceived comprehensibility to a greater extent than other factors and suggest a shift of focus is the goals in L2 pedagogy from attention to segmental instruction to suprasegmental instruction. The Linguistic Mimicry approach reflects this shift by providing students a direct experience of L2 suprasegmentals as explained further in Chapter 3.

Exposure to the Second Language

Exposure to a second language is researched as two different variables in L2 pronunciation: the length of residence and the amount of interaction the L2 learner encounters in daily life. A study by Riney and Flege (1998) shows that living in an environment where the target language is the standard has a positive effect on older L2 learners' overall pronunciation. However, Flege (1987) states that after a rapid initial phase of learning, the length of residence does not affect the degree of L2 foreign accent in adults. Therefore, for highly experienced subjects, additional years of experience in the L2 appear to be unlikely to lead to a significant decrease in degree of L2 foreign accent.

Learners who live in a foreign country but interact primarily with speakers of their native language tend to have stronger accents than those who use their L2 less often (Flege, Frida and Nozawa, 1997). Smit (2000) argues that lack of personal experience with the target language and culture affects L2 motivation and thereby impedes progress. He advises students to spend time where the L2 is spoken exclusively (p. 10). For learners who do not have sufficient exposure to the L2, either for reasons of a short length of residence or low contact within the L2 culture, practicing pronunciation by mimicking L2 actors can provide solid contextual segmental and suprasegmental practice as well as vocabulary, grammar and idiomatic expressions.

Psychological Factors

Nonlinguistic factors related to an individual's personality and learning goals can also support or impede pronunciation production and are at present receiving more

attention in second language acquisition research. Acton (1984) found that preparing students psychologically is a necessary correlate to improving their pronunciation.

Personal Identity and Attitude Toward the L2 Culture

Pronunciation learning goes deeper than merely acquiring something new; it encompasses the whole being and has an impact on the learner's identity. Learners who wish to retain identification with their own culture or social category may consciously or unconsciously retain a foreign accent as a marker of in-group affiliation. Taking on a new accent implies a certain readiness for taking on a different identity revealing a high amount of “integrativeness,” as Gardner (1985) terms it; in the world of performing arts, the term used is “empathy” (p. 40). Similarly, Guiora et al. (1972) hypothesized that the ability to approximate native-like pronunciation in a second language is related to the flexibility or permeability of one’s ego boundaries. Daniels (1995) writes, “to speak an L2 like a native is to take a drastic step into the unknown, accompanied by the unconscious fear of no return... It seems to me to be very likely that an L2 learner, who protests his/her wish to pronounce it correctly, is doing just that. He/she is saying ‘I wish I could/would allow myself to pronounce it authentically’ and not ‘I want to pronounce it authentically’” (p. 6).

Self-Esteem, Cautiousness

Without a strong sense of self-esteem or self-confidence, being able to assume or add a new identity to one’s repertoire is difficult. Heyde (1977) found that there appears to be a predictive quality to the correlation between self-esteem and the ability to orally produce a second-language. Results indicate that students with high self-esteem received higher teacher oral production ratings than low self-esteem students. Without

assuredness in oneself, cautiousness pervades, particularly in adult learners; Scaie & Gribbin (1975) suggest there is a positive relationship between cautiousness and age of the adult learner.

Anxiety

Anxiety is common among second language learners and it is associated negatively with language performance. It often manifests itself in the physiological signs of the latter, with symptoms including perspiration, sweaty palms, dry mouth, muscle contractions and tension, and increases in heart and perspiration rates (Gardner, 1985).

Recently, Bailey, Onwuegbuzie, and Daley (1999) found that students with the highest levels of foreign language anxiety tended to have at least one of the following characteristics: older; high academic achievers; have never visited a foreign country; have not taken any high school foreign language courses; have low expectations of their overall average for their current language course; have a negative perception of their scholastic competence; and, have a negative perception of their self-worth. Much anxiety research examines the correlates of second language acquisition but does not address its direct impact on pronunciation. However, it can be assumed that students will not achieve a high level of pronunciation in an anxious state and that a low-stress learning environment, such as created by the Linguistic Mimicry approach, is beneficial.

Motivation

Gardner's (1985) socio-educational model on language learning focuses on language learning as a social psychological process. This model has undergone restructuring and enrichment resulting in a consensus that social components of the learning process now play a relatively smaller role than they did in Gardner's original

model of motivation, with the exception of pronunciation. This seems to imply that pronunciation learning is separate from language learning in general and involves distinctive motivation parameters (Crookes and Schmidt, 1989; Oxford and Shearin 1994; Dornyei, 1990; Tremblay and Gardner, 1995; and Gardner, Tremblay and Masgoret, 1997). Smit and Dalton (2000) adapted Gardner's model of motivation to include three components:

I. Subject-Related Factors (Pronunciation)

1. Integrativeness
2. Intrinsic motives—self-determination, stable over time, being something almost like personality traits
3. Extrinsic motives—variable over time depending on which external benefit the learner find important at a given moment (better pay, meeting syllabus requirements, getting along in a foreign society, and so forth.)

II. Learner-Related Factors (Pronunciation)

These four factors describe different parameters of the individual's affective and/or cognitive evaluative perceptions of their personal pronunciation learning process:

1. Language use anxiety; students' fears connected with having to use the L2
2. Cognitively based self-perception of L2 accent, i.e., the students' self-evaluation of their pronunciation in relation to others and the norm
3. Causal attribution—the reasons students put forth for (not) succeeding in attaining the learning goal
4. Self-efficacy; refers to an individual's beliefs that he or she has the capability to reach a certain level of performance or achievement.

III. Classroom Related Factors (Pronunciation)

1. Goals
2. Learning Strategies
3. Teachers' feedback and teaching styles

(Tremblay and Gardner, 1995)

Smit and Dalton (2000) summarize that the most striking differences of language learning motivation in general can be found among the subject-related ones above. “While extrinsic and intrinsic motives are part and parcel of successful language learning as such, the learners’ type and degree of integrativeness has been described as particularly important for pronunciation learning” (p. 8).

Regarding the impact of motivation on foreign language accent, Oyama (1976) and Thompson (1991) found no evidence that motivation affects the degree of accent. Conversely, studies by Suter (1996), Purcell & Suter (1980) and Elliott (1995) identified strength of concern for L2 pronunciation accuracy as a significant predictor of degree of L2 foreign accent. Flege et al (1995) identified factors designated “integrative motivation” and “concern for L2 pronunciation” as significant predictors of degree of L2 foreign accent. Bongaerts, van Summeren, Planken and Schils (1997) tested advanced late learner native speakers of Dutch learning English and concluded that they had identified a few late learners that performed at the level of native speakers because they were highly motivated professionally. However, this was an exceptional phenomenon and not the norm. They did not use their research design on languages less closely related than Dutch and English and suggested that further studies were needed.

To summarize, affective factors that impact pronunciation acquisition are not dependent on biological constraints. Attitude toward the target language, culture, and native speakers; degree of acculturation (including exposure to and use of the target language); personal identity issues; and motivation for learning

can all support or impede acquisition. Pennington (1995) claims that work on pronunciation “needs to be tied in with work on the individual’s value set, attitudes and socio-cultural schemata,” and that targets for pronunciation teaching should be appropriate for the particular sociological context in which the teaching takes place (p. 104).

Linguistic Mimicry addresses psychological factors of pronunciation through the use of dramatic techniques that offer a low-stress environment to diminish students’ anxiety and enhance empathy, or integrativeness. Through Linguistic Mimicry, students stay motivated, as Seaver (1993) contends, when they are taught the body and emotions of language learning.

CHAPTER 3
ESL PRONUNCIATION PEDAGOGY
HISTORY

During the late 1960s and the 1970s questions were asked about the role of pronunciation in the ESL/EFL curriculum, whether the focus of the programs and the instructional methods were indeed effective. Pronunciation programs until then were “viewed as meaningless noncommunicative drill-and-exercise gambits” (Morley, 1991, p. 45). Krashen (1982) claimed that the factors affecting L2 pronunciation are chiefly variables, which cannot be affected by focused practice and formal rules. Similarly, Purcell and Suter (1980) concluded that the factors, which most affect the acquisition of L2 phonology (native language, aptitude for oral mimicry, interaction with native speakers and motivation) “seem to be those which teachers have the least influence on” (p. 285). “Teachers and classrooms,” Purcell and Suter claim, “seem to have very little to do with how well our students pronounced English” (p. 285). The enormous influence of these arguments is evidenced by the virtual disappearance of pronunciation work in “communicative” course books in the 1970s and 1980s (Jones, 1997). The resurgence of pronunciation instruction in the classroom in the 1990s and present is discussed further in the next section.

Castillo (1990) stated that the role of pronunciation in the different schools of language teaching have varied widely from having virtually no role in the grammar-translation method to being the main focus in the audio-lingual method where emphasis is on the traditional notions of pronunciation, minimal pairs, drills and short conversations. Celce-Murcia, Brinton & Goodwin (1996) found that pronunciation

instruction tended to be linked to the instructional method being used. Morely (1994) traced the history of ESL pedagogy via instructional methods as follows:

Table 1

History of Pronunciation Pedagogy by Method Morley (1994)

Grammar-translation and Reading-based approaches	Viewed pronunciation as irrelevant.
Audio-lingual approach	Pronunciation was very important. The teacher modeled, and the students repeated; however, the teacher had the assistance of a structurally based teaching device: the minimal pair drill.
Cognitive code approach	Emphasized pronunciation in favor of grammar and vocabulary because the conventional wisdom of the late 1960s and early 1970s (Scovel, 1969) held that native-like pronunciation could not be achieved anyway. And, by extension, it was argued by many that pronunciation should not be taught at all.

Note: Table adapted from Morely (1994).

H. D. Brown (1994) gives a chronological synopsis of the history of ESL pronunciation pedagogy:

Table 2

Chronological History of Pronunciation Pedagogy	Brown (1994)
The 1960s	Language was viewed as a hierarchy of structures with pronunciation (the articulation of phonemes) as the base of the structure. This is known as bottom-up processing.
The 1970s	Approaches to language teaching became concerned with authenticity, real-world tasks and naturalness. Phonology became an afterthought.
The 1980s	Approaches moved toward a balance between fluency and accuracy, with greater emphasis on grammatical structures. Pronunciation was a key to gaining full communication competence.
The 1990s to Present	A top-down approach is taken with pronunciation, high priority being given to stress, rhythm, and intonation. Pronunciation is a part of a communicative, interactive, whole-language view of human speech.

Current Perspectives of ESL Pronunciation Pedagogy

From the 1990s to the present, there has been a shift to a communicative approach in ESL pronunciation instruction which requires teaching methods and objectives that include ‘whole-person learner involvement’ (Morely, 1991, p. 501) with a greater emphasis on teaching competent pronunciation to develop functional intelligibility, communicability, increased self-confidence, the development of speech monitoring abilities and speech modification strategies for use beyond the classroom. Pronunciation instruction has often concentrated on merely the mastery of segmentals through discrimination and production of target sounds via drills consisting of minimal pairs, “techniques of the past which have never yielded very good results” (Celce-Murcia, 1987, p. 5).

Wong (1987) and Anderson-Hsieh, Johnson, and Koehler (1992) found that teachers’ auditory ratings of the goodness of their students’ pronunciation were inversely correlated with the prevalence in their speech of deviant suprasegmental features, not segmental mistakes. Further, Munro and Derwing (1995),(1999) provide promising evidence in favor of suprasegmentals as a factor in the intelligibility of second language speech by native speakers, not individual sounds. Because suprasegmentals are necessary to be understood by L2 native speakers and they provide crucial context and support for segmental production, they are assuming a more prominent place in pronunciation instruction (Celce-Murcia et al., 1996; Gilbert, 1990; Morley, 1991).

Ur (1984) acknowledged the importance of suprasegmentals in comprehending spoken language but downplayed direct instruction: “I do not think there is much useful

teaching to be done in this field: the stress, intonation and rhythm patterns are so varied...it would be of dubious value to practice any more detailed models” (p. 13). Her answer was to create activities that make students aware of the elements of pronunciation, and then to give students “lots of exposure to informal native speech” (p.13). Similarly, Neufeld (1987) found that articulatory and prosodic features of a foreign language, including rhythm, could actually be discriminated and produced better when they were presented without any explicit instruction in the meaning or pronunciation of the utterances or the grammatical rules of the language. This view is corroborated by Taylor (1993) and Currie and Yule (1982) who believe that current accounts of intonation are not suitable for teachers or students because of detail, which is difficult and complex for all but highly trained phoneticians to grasp. A clear and usable overall picture of intonation cannot emerge.

Taylor (1993) states:

While one would hesitate to say that any aspect of intonation is not learnable, it certainly seems to be the case that some aspects at least are not teachable, in as much as any English intonation acquired by non-native learners seems in most cases to have been picked up naturally rather than learned as a result of any formal teaching. We must concentrate, then, on those aspects which can be presented clearly and understandably, in a way that makes sense to both teachers and learners and even many non-native teachers to grasp.
(p. 2)

Chela Florez (2001) suggests that rhythmic patterns should be the primary pronunciation units in a course because if attention is paid to any other phonological feature this might induce the learner to make unnatural pauses and break the rhythmic pattern. Attention is drawn just toward the pattern as a whole, without focusing on its parts. Other factors, such as syllable length, stressed syllables, full and reduced

vowels, pause, linking and blending sounds between words, and how words are made prominent by accenting syllables and simultaneously lengthening syllables will be easier to teach after having a certain control of rhythmic patterns.

Levis (1999) finds ESL teaching materials for suprasegmentals bears a strong resemblance to textbook treatments from 30-50 years ago despite tremendous advances in both theoretical and applied research on intonational description and the role of intonation in communication. “Present intonational research is almost completely divorced from modern language teaching and is rarely reflected in teaching materials, which continue to rely on outdated and inaccurate descriptions of intonational forms and functions”. (Levis, pg. 38) He proposes that there are two primary reasons for a lack of innovation in intonation teaching materials. First, current materials overemphasize intonation’s role in signaling grammatical relations and in conveying speakers’ attitudes and emotions. Second, teaching materials lack a communicative purpose focusing instead on sentence-level practice of intonational forms without context.

Jones (1997) finds that a large number of materials, while at first glance seeming more communicative, are actually just more elaborate forms of drilling, such as dialogue reading and highly structured pair practice. He states that in Gilbert’s (1993) pronunciation textbook, *Clear Speech* (used extensively at the Dallas County Community Colleges for intermediate Speaking and Listening courses), for example, “over a quarter of the activities are discrimination or repetition drills using decontextualized words, phrases or sentences, another 25% of the activities are reading tasks in which students read aloud printed words, sentences, dialogues, poem or paragraphs; only about 2% of the

activities in the book actually involve meaningful interaction and transfer of information beyond one or two sentences” (p. 121).

Bonner (1987), Frankfort and Dye (1994) show that suprasegmental exercises in modern ESL classes, in most cases, are predominantly segmental in their approach. An example of this is the instruction of pitch direction in questions and statement that are not only highly variable but which have been found to be “remarkably similar across languages and cultures” (Ohala 1983:1).

At the Dallas County Community College District and the Collin County Community College District, current textbooks for pronunciation in Listening and Speaking and Listening courses (beginning and intermediate levels) show a significant amount more of practice on segmentals than suprasegmentals, specifically training in the IPA (International Phonetic Alphabet). Suprasegmental instruction is limited to vowel and syllable stress, stress on content words, pitch direction of questions, and phrasing. These features are briefly introduced followed by listening discrimination exercises and sentence repetition. The opinion of this author is that current teaching materials still rely on segmental practice of minimal pairs and approach suprasegmentals using drills much the same way as segmentals.

CHAPTER 4

LINGUISTIC MIMICRY APPROACH

Linguistic Mimicry is a term coined for a unique approach created for this research to effectively teach suprasegmentals in L2 classrooms. Students memorize scripts from short segments of television shows via video and ultimately perform simultaneously with the video while linguistically mimicking the actor they are portraying. Mimicry in this context is defined as students imitating an actor's every segmental and suprasegmental utterance as well as every physical gesture and facial movement as exactly as possible. Linguistic Mimicry provides teachers with a method to teach students how to internalize suprasegmentals first; later factors such as vowel and syllable stress and phrasing can be introduced and analyzed. Additionally, through dramatic techniques, Linguistic Mimicry provides a non-threatening environment that lowers anxiety and inhibitions and creates a safe environment to integrate the pronunciation of the L2 into the student's personality. Finally, to reinforce learning, communicative exercises through role play while staying in character are used to allow practice of the acquired rhythm and movements of English.

It should be noted that the term "approach" is used in this case because the linguistic mimicry construct exceeds the use of simple techniques and can be adapted around a complete curriculum. Additionally, it can be utilized for teaching other aspects of ESL such as grammar vocabulary, idiomatic expressions and situational discourse.

Rhythm

Linguistic Mimicry starts instruction with rhythmic patterns as basic units, rather than sounds or words. Kaltenboeck (1994, p. 18) states “...the student learns from the beginning to deal with ‘fully fledged meaningful’ utterances and it reduces the problem of transfer from the segment or word to larger units...we can relativise the importance of the otherwise all too dominant segments which hamper people’s performance because—by concentrating too much on individual sounds—fluency, speech rhythm and intonation become completely distorted.” Taylor (1981) refers to rhythm as being perhaps the most widely encountered difficulty among L2 learners; that the difficulty appears to be common to all groups of learners irrespective of their native language and that this difficulty gives rise to a similar kind of incorrect rhythm in the majority of cases. In addition, it has even been found that once there is control of the second language rhythm, it is easier to teach segments (Abberton, Parker and Fourcin, 1978) and (Chela de Rodrigues, 1981).

Mimicry

It is the contention of this author that students can be taught through Linguistic Mimicry techniques to mimic the suprasegmentals of a second language by memorizing and performing short video scripts whether or not they have a talent for mimicking. This was discovered by the English-speaking author of this study who acquired a more native-like Spanish pronunciation years after studying the language when it was pointed out that she sounded like “una gringa” (an American woman) and perhaps she should start imitating Spanish speakers. Though this sounds very logical and simple, many L2 learners are focused on what they say and not how they say it and need instruction on

awareness and techniques for mimicry. (The definition of the verb *to imitate* is synonymous with *to mimic* but does not imply the exactness that mimicry does).

Most people, given sufficient input, can imitate other dialects of their first language as well as some foreign accents; however, there is usually a reluctance to do so as they can be perceived as rude. There are domains in which the use of these accents is permitted: in plays and jokes, for example. Even in these situations, however, their use is sensitive. In plays, dialects must be rendered very accurately, and in jokes their use can be demeaning. It is the job of the instructor to inform L2 students that imitating in L2 is not deemed rude and helps the listener. With an ability to mimic the L2, students can turn on and off the L2 accent to adapt to the situation in which they find themselves.

Drama

Linguistic Mimicry utilizes drama techniques that “has long been recognized as a valuable and valid means of mastering a language” (Hines 1973). Overcoming obstacles to mimicking and speaking a second language is similar to the barriers an actor must overcome in order to act. Actors and language learners must achieve empathy, or integrativeness, in order to give a convincing a meaningful performance.

Second language learners who are afraid of what others may think of their less-than-perfect command of the language will be inhibited in using it. This is especially true of adults. Several educators have found that drama creates a nonthreatening situation, which reduces and even eliminates sensitivity to rejection (Hines 1973; Via 1976; Early 1977). According to Via (1976), playacting is a natural activity of children and thus nonthreatening. Getting students to revert to childhood behavior, or “infantilization” in Lozanov’s Suggestopedia method (Lozonov, 1979), has proven very effective in the

language classroom. If role-play and mimicry can temporarily revive “the child” in adult L2 learners, then the child’s natural ability to acquire language might also be revived to some extent.

Moulding (1978) emphasized that drama in the classroom provides the context for a meaningful exchange in which participants see a reason to communicate, and focuses on “how to do things” with the language rather than on merely on “how to describe things.” As Seaver (1993) shows, language teaching has tended to kill motivation by divorcing the intellectual aspects of language (vocabulary + structures) from its body and emotions, limiting instruction to the former. Linguistic Mimicry restores the body and emotions to language learning through mimicry and role play.

Visual, Auditory and Kinesthetic Learning Modalities

Linguistic Mimicry also provides access to the three learning modalities: visual, auditory and kinesthetic. Students learn visually and auditorily by watching and listening to video clips, with help from the instructor, to identify what makes up the English suprasegmentals. By learning to mimic the actions and gestures of native English speakers, L2 learners are internalizing, or feeling English pronunciation.

Video

Use of the technology of videotapes presents to the learner the full communicative and cultural content of language. Learners can witness the dynamics of interaction of native speakers using different accents and paralinguistic cues (Foreign accent can be said to have a visual component: Markham (1994) found that people were able to identify their primary language and other familiar languages from visual information alone at rates above chance). Tuffs and Tudor (1990) point out, video provides a more

effective contextualization of language than any other aid since it represents complete communicative situations. Markham and Nagano-Madsen (1996) found that learners' rhythm in imitations of Japanese speakers improved when they saw the stimuli being produced and that this coincided with improvements in intonation and vowel quality. Hardison (1997) reported combined audio and visual training as being superior to audio-only training; again, perceptual training in her study resulted in a significant improvement in production.

The use of video also makes a task rewarding for the user according to Holloway and Ohler (1991). The notion of "rewarding" relates to affective aspects of the learning experience. It could be argued that the high level of enjoyment ascribed to video by students permits a low-anxiety learning context, something that is critical for effective language learning. (Gardner and MacIntyre, 1993; Horwitz and Young, 1991; Oxford, 1999).

Findings from a study conducted by White, Easton and Anderson (2000) to determine what kinds of affective evaluations are ascribed to video versus print sources for language learning are listed in Table 3. Twenty-six evaluators were asked open and closed questions about video use. Clearly video was perceived as invoking enjoyment and interest; to a lesser extent, it was felt to be stimulating, involving and relaxing.

Table 3

Affective Evaluations Related to Print and Video Resources

	Video	Print
Enjoyable	22	9
Relaxing	7	2
Overwhelming	1	4
Satisfied	2	11
Stimulating	11	12
Interesting	21	16
Being Involved	9	7

In the same study, White, Easton and Anderson (2000), listed the advantages and disadvantages of video by the same evaluators. (See Table 4 The advantages related to pedagogic, affective and practical aspects; the disadvantages related to pedagogic, pragmatic and quality aspects.)

Table 4

Advantages and Disadvantages of Video

	Advantages	Disadvantages
Pedagogic	<ul style="list-style-type: none"> • visual/aural learning • contextual clues • cultural learning • captions • intonation/pronunciation 	<ul style="list-style-type: none"> • limited reinforcement • lacks depth • not enough examples • limited coverage
Pragmatic	<ul style="list-style-type: none"> • possibilities for replay • easy to follow 	<ul style="list-style-type: none"> • access • cost
Affective	<ul style="list-style-type: none"> • motivating • humorous • interesting • provides relief • easy way to learn 	
Quality		<ul style="list-style-type: none"> • variable sound quality • poorer sound quality than audio tapes

In summary, Linguistic Mimicry provides instruction of L2 suprasegmental, using contextual video input while addressing the psychological factors that influence language learning such as anxiety, motivation, and integrativeness while encompassing all three learning patterns: visual, auditory and kinesthetic. In addition, substantial vocabulary and grammar will gradually sneak in for free through the back door, so to speak, as a sheer statistical mass effect. Much of the practiced dialogs will provide good idiomatic expressions and syntactical constructions that will be memorized as “chunks” (mental representations) of whole phrases as useful units for future performance.

Linguistic Mimicry Curriculum Design

The curriculum for this research was built on a framework that supports a communicative-cognitive approach to teaching pronunciation proposed by Celce-Murcia, Brinton, and Goodwin (1996) below. Linguistic Mimicry is consistent with this approach, however, material is presented in different order, see Table 5.

- Description and analysis of the pronunciation feature to be targeted (raises learner awareness of the specific feature)
- Listening discrimination activities (learners listen for and practice recognizing the targeted feature)
- Controlled practice and feedback (support learner production of the feature in a controlled context)
- Guided practice and feedback (offer structured communication exercises in which learners can produce and monitor for the targeted feature).
- Communicative practice and feedback (provides opportunities for the learner to focus on content but also get feedback on where specific pronunciation instruction is needed)

Table 5

Lesson comparison – Word stress

Communicative-Cognitive Approach	Linguistic Mimicry Curriculum Example
Description and analysis of the pronunciation of word stress (raises learner awareness of word stress)	Listen to video segment at least twenty times focusing on the music and rhythm of English
Listening discrimination activities (learners listen for and practice recognizing word stress)	Memorize script and mimic a character in the video. Watch for body movement when using stressed words.
Controlled practice and feedback (support learner production of word stress in a controlled context)	Listen to video again and mark word stress in the sentences on the script: analyze, mimic. Role-play situations where student stays in character.

CHAPTER 5

MATERIALS AND METHODS

This preliminary study of the viability of the Linguistic Mimicry Approach tests the hypothesis that a whole language approach to ESL pronunciation with emphasis on suprasegmentals is more effective than a focus on segmentals in improving native speakers perceptions of accent and comprehensibility. The method of research involved two intermediate Speaking and Listening ESL classes at a community college in Dallas, Texas. Both ESL classes were taught exactly the same curriculum with the exception of the following: one class practiced segmentals in the Master Pronunciation component of the Ellis Pronunciation Lab approximately one to three hours per week while the other class practiced linguistically mimicking actors from a television show one to three hours per week to study suprasegmentals.

The Ellis Pronunciation Lab uses a segment-based approach, with emphasis on individual sounds using minimal pair practice involved in the elicitation of individual sounds and syllables without content. The Linguistic Mimicry approach focused on larger units or chunks incorporating stress, intonation and rhythm.

The Linguistic Mimicry curriculum evolved through the course of time, trial and error. Originally, the students were to choose an American actor they admired and would want to emulate; clips from movies involving their admired actors would be used in the course. Due to time constraints, it was not possible for students to work individually; a technique had to be developed so that the entire class could work on the same script/clip. It was determined by watching several situational comedies that *Seinfeld* characters use much more dialog than other sitcom characters and, as it is widely popular, it was chosen

for the class. Two *Seinfeld* segments were used from one 30-minute show. The particular show was chosen because the actors used many gestures and actually imitated one of the other characters.

First, the entire 30 minute show was shown to the class to introduce characters and for the students to understand the context of the separate parts they would be mimicking as perfectly as they possibly could. Most of the students laughed at the show and understood the humor. The next day students were given scripts with text and International Phonetic Alphabet (IPA) transcription because it is taught in the Speaking and Listening courses. Though this is not recommended because of its complexity, IPA instruction was required by the college's curriculum. Additionally, the students were studying "reductions" and the script provided an opportunity to hear how "we really speak." For example, many English speakers say "hafta" instead of "have to."

Students in the test group were given their own videocassette of the video clips from *Seinfeld* and instructed to start memorizing and mimicking their assigned parts. Female students imitated the character of Elaine while the male students imitated the character of George and Joe Mayo. The first graded assessment was to turn in an audiocassette recording of their imitations. The students who were motivated and worked hard did well on the audio test.

Next, the male students worked on a character named Joe Mayo while the female students played Elaine again, but with different dialog. The students were video recorded in class mimicking their character in front of a TV monitor. In other words, the students stood in front of the TV monitor and exactly mirrored the character they were mimicking. Students were graded on timing, pronunciation and gestures.

Audio samples were collected from ten students from the Language Lab class and the Linguistic Mimicry class at the beginning and end of the semester as they spontaneously spoke about a series of illustrations about the cycles of life from the *Oxford English Picture Dictionary* (Appendix A). Thirty evaluators from university linguistics and English classes listened to the recordings and rated each one based on comprehensibility and accent to determine if imitating actors did indeed have more impact on pronunciation than the language lab.

The assessment of the students' speech samples was modeled after Munro and Derwing, (1995), who conducted a variety of tests on accent and comprehensibility. In this study, two types of assessments were obtained: foreign accent rating and a perceived comprehensibility judgment using a 5-point Likert scale. Scalar judgments of have been used in a number of studies (Fledge, Munro, & MacKay, 1995; Munro and Derwing, 1995) of accent and perceived comprehensibility ratings with phonetic, phonemic, and a grammatical errors, and goodness of intonation ratings.

Speech Materials

Speakers

The ages of the Control Group (Language Lab) ten test subjects and the Test Group (Linguistic Mimicry) ten test subjects, with their respective median ages, follow:

Table 6

Ages of the Test Groups

Language Lab	Linguistic Mimicry
20	18
22	19
23	19
25	20
26	20
28	27
28	30
29	32
36	36
42	43
Median: 27	Median: 23.5

A recording was also made of one native speaker to determine if the evaluators would recognize native speech and rate it as such. All thirty evaluators rated the native speaker as “extremely easy to understand” and “no foreign accent”.

Recording

Individual recording sessions were held in an isolated room with a digital audio recorder. The speech samples in this experiment were elicited from illustrations from the *Oxford English Picture Dictionary*. The students were asked to describe a sequence of illustrations portraying the cycles of life, such as graduating, getting married, having children, and so forth. Minimal preparation was allowed. Students were given the illustrations prior to recording and given a few minutes to review the pictures and think about what they were going to say. The entire process took five minutes per student, with audio samples recorded ranging from 45 seconds to one minute in length. The samples were randomized and recorded on a compact disc.

Evaluators

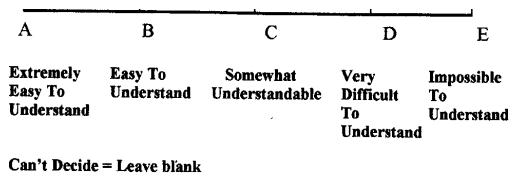
The 30 evaluators were native speakers of English enrolled at the University of North Texas and Southern Methodist University. All reported normal hearing and all had a basic knowledge of articulatory phonetics.

Procedure

There were two listening sessions. In each session, the illustrations and two Likert scales with five scaler units were handed to the evaluators. See Figure 1.

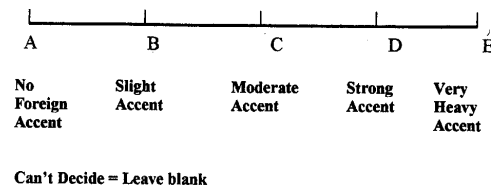
Figure 1

Scale used for rating



A.

Comprehensibility



B.

Accent

A. Comprehensibility Scaler Units

- A. Extremely Easy to Understand
- B. Easy to Understand
- C. Somewhat Understandable
- D. Very Difficult to Understand
- E. Impossible to Understand

B. Accent Scaler Units

- A. No Foreign Accent
- B. Slight Accent
- C. Moderate Accent
- D. Strong Accent
- E. Very Heavy Accent

Students rated each speaker for comprehensibility and accent. The evaluators were instructed to listen carefully but there was no discussion as to what constitutes an accent or comprehensibility. However, an example was given to illustrate the difference

between the two: In the movie “French Kiss” starring Kevin Klein and Meg Ryan, the character played by Mr. Kline has a very heavy French accent but he’s totally comprehensible. In other words, the presence of a strong foreign accent does not necessarily result in a reduced comprehensibility.

The speech samples were played on compact disc player in a quiet room. Before the beginning of the task, the evaluators were given a sample recording for clarification. There was a five second pause between each sample which was ample time to record the responses. The entire session lasted fifty minutes.

CHAPTER 6
RESULTS AND DISCUSSION
STATISTICAL ANALYSIS

Six cases were evaluated as to significant differences:

1. Accent – Language Lab – Before vs. After
2. Accent – Linguistic Mimicry – Before vs. After
3. Comprehensibility – Language Lab – Before vs. After
4. Comprehensibility – Linguistic Mimicry – Before vs. After
5. Accent – Language Lab vs. Linguistic Mimicry – Before vs. After
6. Comprehensibility – Language Lab vs. Linguistic Mimicry –After

For cases one through four, a small sample, difference between means, paired-data test of hypothesis was run to test for significance. Since the samples are not independent (before and after for the same test subject) and the sample size is ten for both samples, a t test is the appropriate test. We wish to reject the null hypothesis (H_0) and accept the alternative hypothesis (H_a). The hypothesis tested is $H_0: \text{Mean}=0$; $H_a: \text{Mean}>0$, where the mean is the mean of the differences of the pairs, and a positive difference denotes improvement over time. A 0.05 level of significance is used for all the tests since this is a typically used level. Were the consequences more critical, we would have used a smaller significance level.

Charts 1 – 4 show the net differences for each test subject and the overall net difference mean. Charts are based on data tables in Appendix D. The test statistic used is $t = \frac{\bar{X} - 0}{s/\sqrt{n}}$, where \bar{X} is the sample mean of the differences, s is the sample standard deviation of the differences and n is the sample size. We compare

the calculated value of t from the test data with the table value of t at the 0.05 level with $n-1=9$ degrees of freedom (1.833). Since H_a has an inequality sign pointed to the right, we will reject H_0 and accept H_a if the calculated value of t is greater than 1.833 (reject/critical region in the upper tail of the distribution). The following table shows the values of the sample mean differences, the sample standard deviation of differences, the calculated t value and the table t value.

Table 7

Cases 1- 4 Statistical Data

Case	X Bar	Standard Deviation	t (calculated)	t (table)
1	-.8	12.51	-.2	1.833
2	5.3	11.50	1.46	1.833
3	7.4	19.07	1.23	1.833
4	6.1	15.13	1.27	1.833

In all four cases we could not reject H_0 and accept H_a at the .05 level of significance, since none of the calculated t values were greater than the table value of 1.833. For case 1, (see Chart 1) there is no acceptable risk level where H_0 could be rejected since the calculated t value is so small. In case 2, (see Chart 2) H_0 could be rejected at 0.09 level of significance which is an acceptable risk level in some experimentation. For case 3, (see Chart 3) H_0 could be rejected at 0.13 level of significance. Relative to case 4, (see Chart 4) H_0 could be rejected at 0.12 level of significance. For cases 2 and 4, at a looser than 0.05 level of significance, we could accept H_a and say that the three months between February and May do produce an improvement in both accent and comprehensibility for the Linguistic Mimicry sample. For the Language Lab sample, the three months

produced an improvement in comprehensibility in only Case 3. Cases 5 and 6 were evaluated under the assumption of independence of the two samples from populations closely approximated by normal distributions with the same standard deviation. Since we are concerned with the effect of time on the two linguistic approaches, we used the “after” data from cases 1-4 above. We use the small sample difference between means test using the t statistic. Again, we wish to reject H_0 and accept H_a . The hypothesis tested is H_0 : Mean 1=Mean 2: H_a : Mean 1 > Mean 2 (Language Lab is 1 and Linguistic Mimicry is 2). H_a is constructed such that its acceptance means Linguistics Mimicry average score was less than that of Language Lab, with the convention that the lower the score the better. The critical region will again be in the upper tail of the t distribution, since the inequality sign in H_a points to the right. Again, a .05 level of significance is applied. The test statistic is the same as for cases 1-4, except we are not concerned with the individual test subjects, but rather the overall mean for all subjects. The following table shows the X Bar, standard deviation, calculated t value and table t value for Cases 5 and 6.

Table 8

Cases 5 - 6 Statistical Data

Case	X Bar	Standard Deviation	t (calculated)	t (table)
5(LL)	110.2	10.04		
5(LM)	106.7	13.20	.67	1.73
6(LL)	86.4	16.08		
6(LM)	84.5	16.93	.26	1.73

In both cases we cannot reject H_0 and accept H_a at 0.05, since neither of the calculated t values are greater than the table value of 1.73. For case 5, we could reject H_0 and accept H_a at $\sim .25$ level of significance. With respect to case 6, there is no acceptable risk level where H_0 could be rejected. For all practical purposes, we conclude that, relative to improving accent and comprehensibility, Linguistic Mimicry is no more effective than Language Lab based on the sample data. It could also be pointed out, based on the above t test evaluation of the sample data, Language Lab is no more effective than Linguistic Mimicry relative to improving accent and comprehensibility.

Chart 1

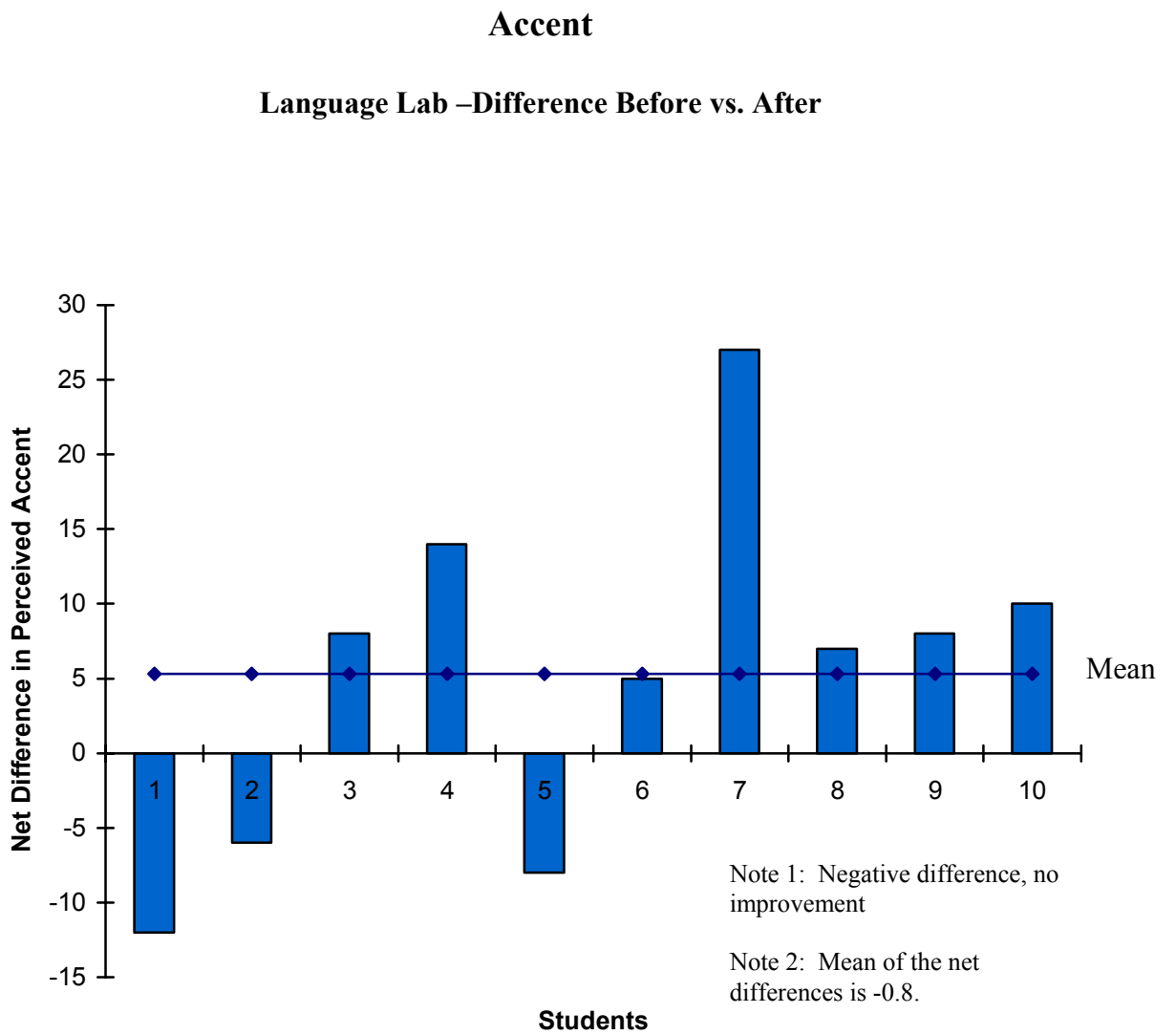


Chart 2

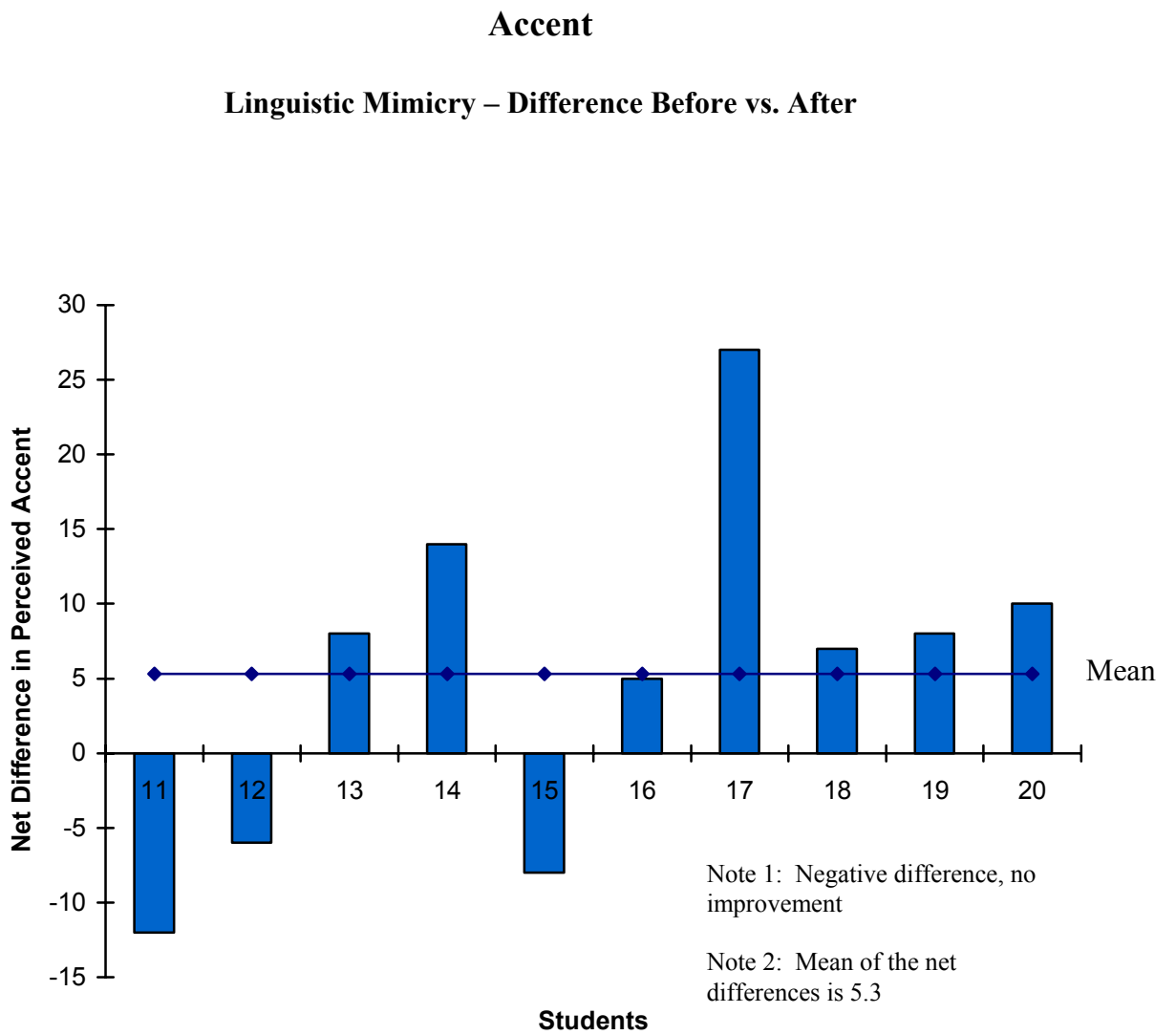


Chart 3

Comprehensibility

Language Lab – Difference Before vs. After

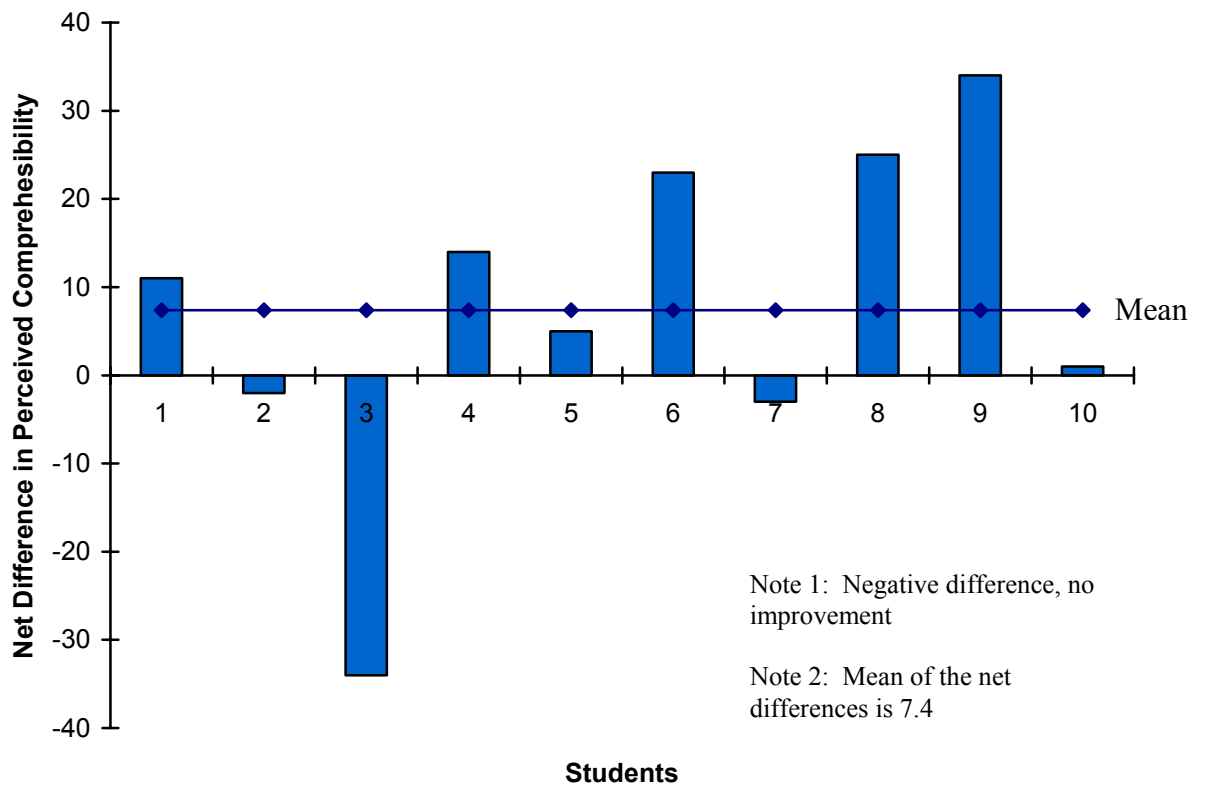
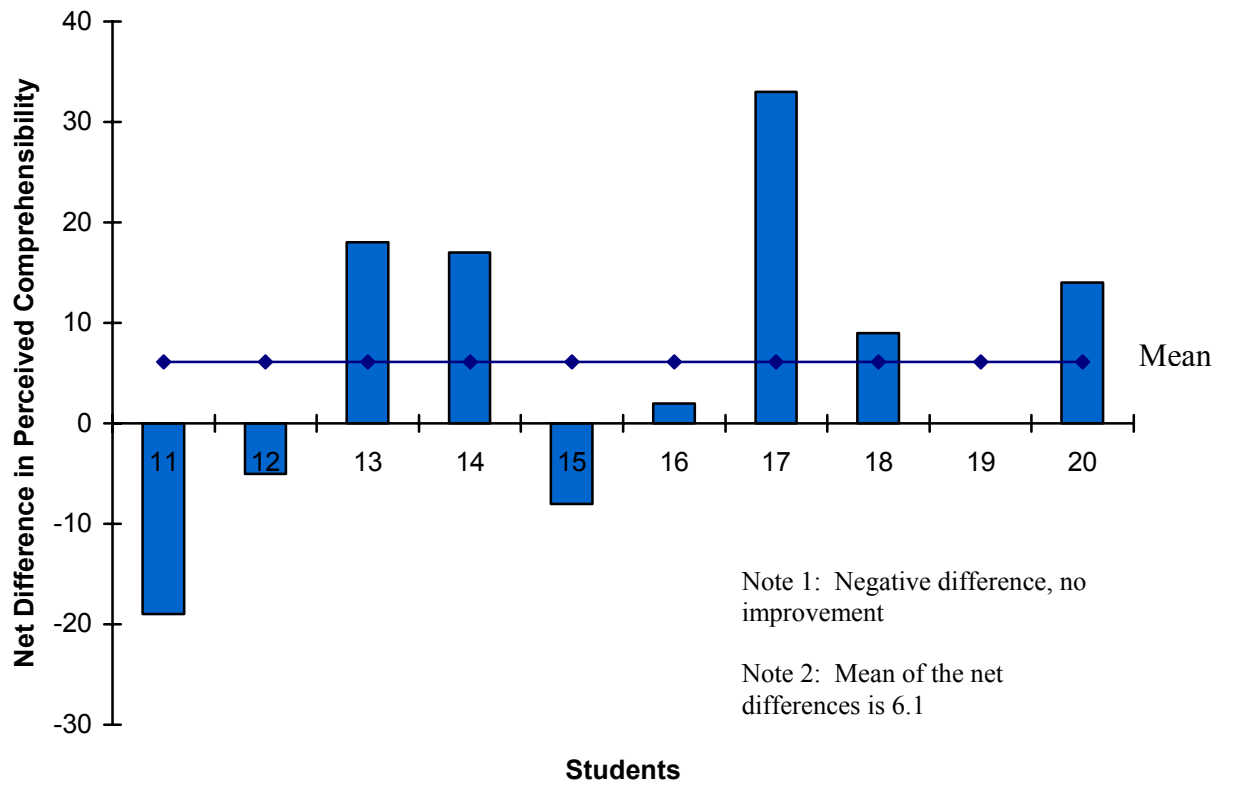


Chart 4

Comprehensibility

Linguistic Mimicry – Difference Before vs. After



CHAPTER 7
CONCLUSIONS AND IMPLICATIONS FOR
FURTHER RESEARCH

Statistically, Linguistic Mimicry with its concentration on suprasegmentals did not yield a conclusive advantage over the language lab. On the other hand, the language lab did not prove to be better than Linguistic Mimicry. This could be the result of many variables such as length of study; classroom time devoted to language lab and Linguistic Mimicry; the level of the students' English; and amount of evaluators used to rate the test audio samples.

The test period was only twelve-weeks, just less than a full college semester. Bongaerts et al (1997), looking for exceptional Dutch L2 late learners, followed students for over a year. In a community college setting, this researcher suggests a longitudinal study of a two-semester period beginning in September and ending in May. In addition, future research would need to take in account the phenomenon of "U-shaped learning" patterns "where students can produce linguistic constructions or correctly solve certain tasks; then later no longer produce these correct constructions, and later again perform them correctly" (Strauss & Stein, 1978).

Classroom time limitations in this research were restricted to only one to three hours per week for work on the language lab Linguistic Mimicry. This is sufficient time for students in language lab to practice segmental drills of minimal pairs but not for the skills required to develop Linguistic Mimicry. If the instructor had had more class time for Linguistic Mimicry, I think the results would show a significant diminished accent and increased comprehensibility over Language Lab.

It is recommended that future studies involve a higher level of Speaking and Listening classes than the lower intermediate classes used in this study. Students at the lower intermediate level are still acquiring vocabulary and grammar focusing more on communicating ideas rather than on pronunciation. At a higher level, students can pay more attention to pronunciation; Linguistic Mimicry could be an integral part of the curriculum as the listening component of the course diminishes as the students progress.

Given the gift of hindsight in this research, the instructor would not have had the students turn in an audio recording for the first segment but rather have both segments acted out in front of the TV monitor, videotaping the student to provide feedback. Additionally, after mimicking the characters, the students would role-play situations while maintaining their characters' pronunciation. At the end of the course, a student questionnaire would be filled out for student feedback (Appendix C).

As this was a preliminary study, thirty evaluators rated the audio samples. Future studies would require more evaluators; it has been suggested that audio samples could be rated via the internet by a range of evaluators from students to ESL instructors and from people living in different regions of the United States.

As an approach to pronunciation pedagogy, the implications are that Linguistic Mimicry clearly offers a more whole language approach than simple drills of segmentals that offer no exposure to the language other than sounds. The factors that influence foreign accent as mentioned in Chapter 2 and the ways Linguistic Mimicry addresses them are listed below:

Table 13

Linguistic Mimicry and Factors Affecting Degree of Foreign Accent

Mimicry Skills	Students who missed critical periods of acquisition or who do not have a natural talent for mimicry can learn to more clearly hear variations in speech, notice overt and subtle physical gestures, spot cues from facial expressions and incorporate them into their L2 production.
Repetition	Students get necessary meaningful repetition of perception and production of segmentals and suprasegmentals through the memorization and imitation of L2 dialog in an entertaining, global context without the boredom of phonemic opposition drills.
Exposure to L2	Students are exposed to real life situations, with realistic exchanges between L2 natives containing natural L2 pronunciation as well contextual vocabulary, grammar, and idiomatic expressions.
Integrativeness	Students can learn how to take on a new personality of sorts by imitating the L2 at will, as an actor does.
Low-stress atmosphere	Through the use of drama techniques and playfulness students can lower their anxiety and inhibitions in language class.
Motivation	Students can be motivated by adding “body and emotion” to the L2 making the language come alive and thus are more successful in pronunciation. (Seaver 1997)

Linguistic Mimicry should yield better results than rote drill practice of segmentals given the factors above. It is predictable that with two semesters of instruction in Linguistic Mimicry in a higher level class, the approach would prove more beneficial than Language Lab.

As this thesis was a preliminary study to test Linguistic Mimicry as a viable approach, it is recommended for future research to test its effectiveness not only as a means for acquisition of suprasegmentals, but general language acquisition as well.

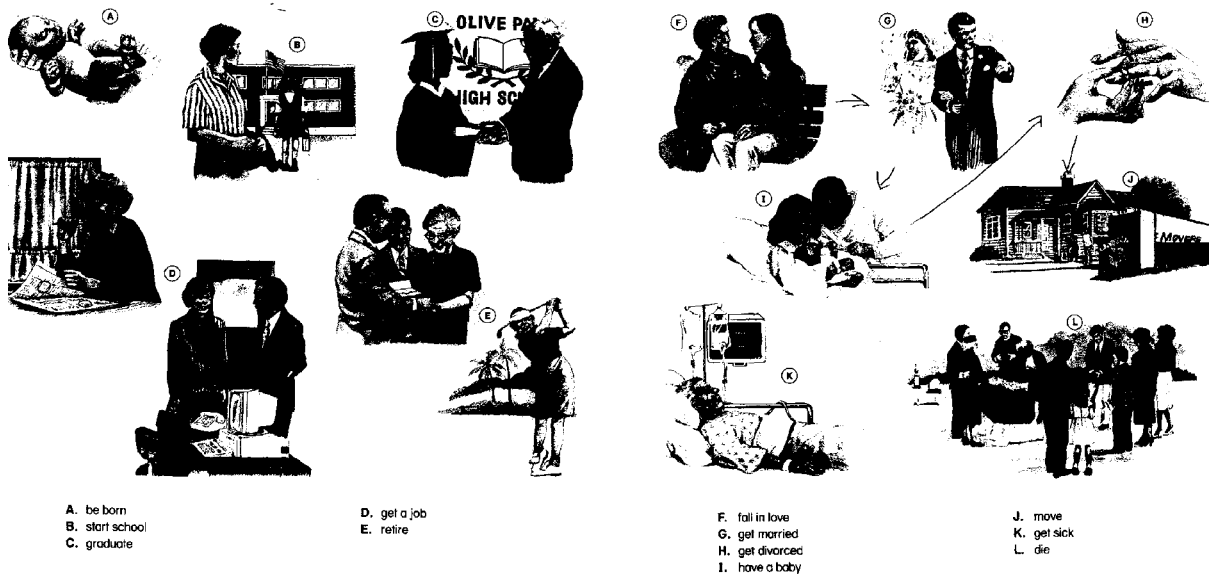
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APPENDIX A

APPENDIX A

Figure 2

Graphic of Life's Cycles from ESL Dictionary Life's Cycles



Legend:

A. be born
B. start school
C. graduate

D. get a job
E. return

F. fall in love
G. get married
H. get divorced

J. move
K. get sick
I. have a baby

APPENDIX B

APPENDIX B

Elaine and George – Script 1

Elaine: Oh,
I walked by Bloomingdale's the other day,
and I saw that massage chair
we want to get Joe Mayo
as an apartment gift.

George: An apartment warming gift?
We got to give presents to people for moving?
Birthdays, Christmas, it's enough gifts.
I would like one month off.

Jerry: Kramer said it's a perfect gift.
That's what we're gettin' him.

George: All right, but we're not buyin' it at Bloomingdale's.
I will buy it, you pay me back later.
I'll sniff out a deal. I have a sixth sense.

Jerry: Cheapness is not a sense.

Elaine: I can't stand Joe Mayo's parties.
You know, the second you walk in,
he's got you workin' for him.
'Hey, can you do me a favor?
Can you keep an eye on the ice,
make sure we have enough?' Uh...

Jerry: I had a great time at the last one.

I was in charge of the music.

I turned that mother out.

Elaine – Script 2

Newman enters Elaine's apartment.

Newman: So, to what do I owe this unusual invitation?

Elaine taking his coat and then throwing it on the floor.

Elaine: Come in, come in.

Newman: Ahh! This is very much as I imagined it to be.
Aside from this rattan piece, which seems oddly out of place.

Elaine: Please, sit down. Newman, um,
I wanted to talk to you about something.

Newman: This isn't about my opening your mail?

Elaine: What?

Newman: Because I don't, never have, anything I read was already open.

Elaine: Uh, yeah, uh, no. Newman, uh, I heard
that you found a fur coat in a tree.
And, I believe that it belongs to a
friend of mine, and I'd like to give it back to him.

Newman: Sorry. Climbers, keepers.

Elaine: You know, Newmie. Um, I know how you feel about me,
and I have to tell you, I'm quite flattered.

Newman: You are?

Elaine: Oh, yeah. I mean, of all the men that I know,
you're the only one who's held down
a steady job for several years.

Newman: Well, it's-it's interesting work, I don't mind it.

Elaine: Ha ha ha ha.

Newman: Don't you have a-a boyfriend? A, uh, burly, athletic type?

Elaine: Uh, don't worry, he's cool.

Newman: Cool?

Elaine: Very cool. So, what do you say? Can you do this one little Favor, Newmie?

Newman: Oh, how I've waited for this moment. But alas, my heart belongs to another man's wife, and I have given the coat to her

Elaine: All right, we're done here.

Newman: For I am in love with Svetlana, and I don't care if the whole world knows, except for Silvio, who would throw me out of the apartment, where I would be dancing on the sidewalk--

Elaine: Thank you, thank you, thank you very much.

Joe Mayo – Script 2

Joe Mayo: Hey, Jerry.

Jerry: Hey, Joe Mayo. Nice place.

Joe Mayo: Thanks. George, can you do me a favor and stay by the phone
in case anybody calls and needs directions?

George tossing his coat on a chair.

George: Love to.

Joe Mayo: Thanks. Jerry...

Jerry: Music?

Joe Mayo: Actually, can you keep an eye on the aquarium
and make sure nobody taps on the glass?

Jerry: But I could do that and the music.

Joe Mayo: Oh, no, don't worry about the music. Just... have fun!

Jerry: I was ready to get jiggy with it.

APPENDIX C

APPENDIX C

Student Questionnaire

Your reactions to the mimicry activities that you participated in this quarter would be very much appreciated. Please answer as thoughtfully and accurately as possible.

Part 1: Circle the number that most closely reflects your opinion.

1. SCENES FROM SHOWS (using script)

	Not useful	A little useful	Somewhat useful	Quite useful	Very useful
a) Improving pronunciation	1	2	3	4	5
b) Improving intonation and expression	1	2	3	4	5
c) Gaining self-confidence in speaking English	1	2	3	4	5
d) Becoming less inhibited, or less embarrassed when speaking	1	2	3	4	5
e) Increasing/enriching your vocabulary	1	2	3	4	5
f) Learning more about American culture	1	2	3	4	5

g) Did acting out scenes help you communicate more effectively in any other way?
Please explain.

2. IMPROVISATIONS BASED ON SCENES FROM SHOWS (without script)

	Not useful	A little useful	Somewhat useful	Quite useful	Very useful
a) Improving pronunciation	1	2	3	4	5
b) Improving intonation and expression	1	2	3	4	5
c) Gaining self-confidence in speaking English	1	2	3	4	5
d) Becoming less inhibited, or less embarrassed when speaking	1	2	3	4	5
e) Increasing/enriching your vocabulary	1	2	3	4	5
f) Learning more about American culture	1	2	3	4	5
g) Did it help you communicate more effectively in any other way? Please explain.					

PART II

1. Think back to when you were performing the improvisations, and try to remember how you felt about your ability to express yourself in English at that time.

2.

Overall I was displeased with my ability.
I felt very frustrated.

Overall I was pleased with my ability.
I was able to express myself with ease.

1 2 3 4 5

2. How difficult did you find it to understand the character you were playing?	Not at all difficult 1	A little 2	Somewhat 3	Quite 4	Very difficult 5
3. How nervous did you feel when participating in dramatic activities?	1	2	3	4	5
4. How difficult did you find it to identify with, or step into the role of the character you were playing?	1	2	3	4	5
5. How embarrassed did you feel when acting in front of the class?	1	2	3	4	5
6. How much did you enjoy participating in the following activities?					
a. scenes from shows (with script)	1	2	3	4	5
b. improvisation (without script)	1	2	3	4	5

PART III.

1. Would you like to participate in more dramatic activities?
 - a. scenes from shows (with script) YES NO
 - b. improvisations (without script) YES NO
2. Why or why not? (Please use back of sheet to explain your answer, and to add any other comments you may have about the dramatic activities you participated in this semester.)

APPENDIX D

Table 9

Accent - Language Lab - Difference Before vs. After – Raw Data

Student	Score-Before	Score-After	Difference (Xd-Xd Bar)^2	
1	101	105	-4	10.24
2	114	119	-5	17.64
3	102	119	-17	262.44
4	123	113	10	116.64
5	81	99	-18	295.84
6	97	106	-9	67.24
7	122	125	-3	4.84
8	116	100	16	282.24
9	114	97	17	316.84
10	124	119	5	33.64
SUM			-8	1407.6
X BAR			-0.8	
SAMPLE S.D.				12.51
<i>t</i> CALC.				-0.20
<i>t</i> TABLE				1.83

Table 10

Accent – Linguistic Mimicry – Difference Before vs. After –Raw Data

Student	Score-Before	Score-After	Difference (Xd-Xd Bar)^2	
11	86	98	-12	299.29
12	89	95	-6	127.69
13	107	99	8	7.29
14	126	112	14	75.69
15	109	117	-8	176.89
16	119	114	5	0.09
17	110	83	27	470.89
18	110	103	7	2.89
19	132	124	8	7.29
20	132	122	10	22.09
SUM			53	1190.1
X BAR			5.3	
SAMPLE S.D.				11.50
<i>t</i> CALC.				1.46
<i>t</i> TABLE				1.83

Table 11

Comprehensibility – Language Lab – Difference Before vs. After – Raw Data

Student	Score-Before	Score-After	Difference	(Xd-Xd Bar)^2
1	91	80	11	12.96
2	83	85	-2	88.36
3	74	108	-34	1713.96
4	109	95	14	43.56
5	86	81	5	5.76
6	87	64	23	243.36
7	109	112	-3	108.16
8	105	80	25	309.76
9	99	65	34	707.56
10	95	94	1	40.96
SUM			74	3274.4
X BAR			7.4	
SAMPLE S.D.				19.07
<i>t</i> CALC.				1.23
<i>t</i> TABLE				1.83

Table 12

Comprehensibility – Language Lab – Difference Before vs. After - Raw Data

Student	Score-Before	Score-After	Difference	$(X_d - \bar{X}_d)^2$
11	57	76	-19	630.01
12	76	81	-5	123.21
13	91	73	18	141.61
14	114	97	17	118.81
15	85	93	-8	198.81
16	95	93	2	16.81
17	86	53	33	723.61
18	79	70	9	8.41
19	110	110	0	37.21
20	113	99	14	62.41
SUM			61	2060.9
X BAR			6.1	
SAMPLE S.D.				15.13
<i>t</i> CALC.				1.27
<i>t</i> TABLE				1.83

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