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Phonological awareness and its affect on second language acquisition

Mallory Ann Ruiz

PHONOLOGICAL AWARENESS AND ITS AFFECT ON SECOND LANGUAGE ACQUISITION

A Thesis

Presented to the

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ABSTRACT

The thesis examines phonological awareness and its affect on Second Language Acquisition (SLA). In order to better understand the reasons behind second language (L2) students' phonological improvements, phonological awareness was tested to see what affect, if any, it had on students' intelligible speech.

Six English as Second Language (ESL) college students participated in the study in which they provided three audio recordings of their English speech over the course of ten weeks. A panel of three English graduate students listened to the audio three times over the same ten weeks. They determined the students' levels of intelligibility as well as what words or utterances spoken by the ESL students were "unintelligible".

Half of the students were placed in an experimental group in which they received feedback as a means of making them aware of what areas in their speech needed improvements in order to sound more "intelligible". The other half of the students were placed in a control group in which they did not receive such feedback.

The findings indicate that phonological awareness can positively influence an L2 learner's speech in that he/she

can become more intelligible. However, the findings also conclude that phonological awareness does not guarantee that a student will improve in his/her speech. This suggests that other factors such as motivation, language attitudes, etc., may play a more influential part in a student's speech development.

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First and foremost I would like to give praise and thanks to my Lord and Savior Jesus Christ without whom none of this would have been possible. It has been a long road in getting to this point in my life and no matter how many doubts and fears I have had He has always been there, providing me with the wisdom and encouragement to work through.

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Lastly, I would like to dedicate this to my parents, two of the most important people in my life. Through everything, they have stood by me, guiding me, reassuring me, and loving me. Without the hard work and sacrifices they have made for me, I would cease to be the young woman

I am today. For their unconditional love and support, I am grateful.

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CHAPTER ONE

INTRODUCTION

Purpose of the Study

The purpose of my thesis is to explore the role phonological awareness plays in the second language (L2) classroom among English as Second Language (ESL) learners. In order to better understand the reasons behind students' pronunciation improvements, I believe it is vital to explore how the role of "awareness" plays a part, if any, in their language development in that they become more "intelligible" in their English pronunciation. By presenting what previous researchers have said about awareness as well as intelligibility within the field of second language acquisition (SLA) combined with the research I have collected, I think a clearer picture of these issues will develop. Not only will new insights within the field be gained from this thesis project, but I will have a better understanding of what my role as an ESL teacher will be in the future.

One of the core factors examined within this thesis project is intelligible speech and how it changes throughout a pronunciation course. A difficult matter in

examining this issue is the fact that the idea of intelligible speech or what is considered to be intelligible is not easily defined (Rajadurai, 2007). Much of what has been concluded from previous research suggests that intelligible speech depends upon the listener's role and his/her experience within the L2, whether that be familiarity with a particular L2 accent, contextual cues, etc., (Gass & Varonis, 1984; Kenworthy, 1987; Derwing & Munro, 1995). This suggests that a speaker's progress is measured differently according to who the listener is. This idea is important to keep in mind when determining conclusions from collected speech data samples in that the results may be highly subjective as they may only pertain to the particular listeners/panelists involved in the study.

Another important fact that is examined within this project as well as the field of SLA is the idea of awareness and what effect, if any, it has on an L2 learner's experience in the classroom. Awareness and what we know it to be consists in many forms whether regarded as direct input, speaking/writing activities, strategy training, metacognitive strategy instruction, feedback, etc. (Tarnolpolsky, 2000; Rivera-Mills & Plonsky, 2007;

Lam, 2009). There is also debate with regard to how feedback should be presented, how often, in what settings, etc. (Batstone, 2002)to most effectively promote awareness. However, one thing that a great majority of the research has concluded is that awareness often times positively affects a learner's progression within the target language in that they become more accurate in the specific language function they were made aware of (Schmidt, 1990; Leow, 1997). This idea is in fact what this study aims to examine; whether or not phonological awareness causes a second language learner to become more intelligible in their pronunciation of the English language.

Literature Review

Definition of Awareness

In an attempt to understand the larger issues at hand, a definition of certain terms is necessary. Allport (1988) includes three conditions that define awareness. First he notes that behavioral or cognitive change must occur from the individual as a result of being made aware of stimuli:

> . . . we might wish to consider one. . . broad *criterion* for the. . .everyday notion of perceptual awareness: that, is a criterion for deciding

> whether person or organism *O* was aware of event or situation *X*, under some description of *X*. *O could, in principle, act directly on (that description of) X, do something about X.* The sense of this criterion is…indexed to a *behavioral disposition*, a conditional readiness to act on the object of awareness. (p. 165-166)

In this definition, an individual's actions would change in response to their encounter with stimuli which could theoretically signify their awareness of the stimuli. For example, a learner who previously pronounced the letter /r/ as /l/ could be categorized as aware if he/she began pronouncing /r/ as /r/ after having received feedback in that particular type of pronunciation. In this scenario, the person acted directly on the event or object of awareness (in this case, the lesson in pronunciation) in that their behavior changed in response to it. Therefore, they can be categorized as aware.

A second condition Allport mentions is that an individual must be able to state that he/she was aware that the experience or event took place, "when such an entity is 'brought into consciousness'…it can be acted on or commented on" (p.166). Allport considers awareness to

include one's ability to report back what occurred during his/her encounter of the stimulus. For example, a learner should be able to report that he/she was aware of the /r/ sound for the letter /r/ at the time of his/her encounter with the stimulus. Although this second condition could categorize an individual as aware, it by no means is necessary as Allport points out "there is no requirement that the person or organism actually carry out such an action, or actually make such a commentary" (p.166). The criterion requires only that, in principle, they *can* do so.

A third condition Allport includes is a memory criterion in that the individual must be able to recall the experience of awareness at a later time, "the criterion is that the person be able to *remember* those events or activity later " (p.169). Not only should an individual be able to, theoretically, display changes in their behavior as a result of their experience with stimuli, as well as report what occurred during the experience, but he or she must also be able to display those same changes in behavior at a later time in order to be categorized as aware. For example, six months after a student first displayed their awareness of pronouncing /r/ as /r/, he/she must show those

same behavioral changes at a later time in order to remain classified as aware of the pronunciation.

Similar to Allport's definition, Schmidt defines awareness in terms of varying levels of consciousness: perception, noticing, and understanding. In the first level of awareness he notes that "perceptions are not always conscious" (p.132). Although the traditional idea of one perceiving stimuli implies that he or she had to do some type of reasoning or intellectual configuration of the stimuli, Schmidt points out that subconscious perception is possible.

His second definition of awareness is categorized as noticing in which one encounters stimuli through his or her subjective experience, "noticing thus refers to private experience" (p.132). In order to clarify the difference between noticing and perceiving he provides an example which illustrates that when reading, an individual notices the content of what is being read; they may not notice the syntactical features of the text. However, the reader may perceive those external stimuli subconsciously (p.132). Schmidt also notes that when one notices stimuli they should be able to articulate what was noticed although a lack of providing feedback does not necessarily mean the

individual was unable to notice or was unaware of the stimuli, "the lack of verbal report cannot be taken as evidence of failure to notice" (p.132).

In his final definition of awareness, he notes that understanding refers to one's ability to grasp or comprehend the important features of stimuli in that one "experience[s] insight and understanding" (p.132). An individual is aware of stimuli at this level in that he or she can make meaning in regards to what the stimuli consists of. He concludes that activities like problem solving belong in this categorization of awareness.

The first condition of Allport's definition is the main measurement I am using in determining the effect awareness has on L2 learners' speech improvement. If behavioral changes occur, i.e., speech improves in that it is intelligible based upon the panel's observations, then the students will have been classified as phonologically aware. On the other hand, according to Allport's definition, if no changes occur in the students' speech, then they will be classified as not phonologically aware regardless of what was presented to them as means of improving their speech.

Definition of Intelligibility

In the hope of establishing a universally accepted definition of "intelligible", many scholars have attempted to define the term based upon their research. Kenworthy (1987) defined the term "comfortably intelligible" to mean "being understood by a listener at a given time in a given situation" (p.13). For him, intelligible speech exists not only when the speaker has progressed to a certain level of understandability within the target language, but also depends on the listener's ability to comprehend what is being said. In this instance, the listener primarily holds the power in determining what can be considered intelligible speech; it does not solely depend upon a speaker's ability to produce a certain level of speech. In this definition, intelligible and unintelligible are primarily based upon the listener's role in regards to how well he or she understood the utterance spoken.

Kenworthy, Derwing and Munro (1995) also propose their definition of intelligible speech as "the extent to which a speaker's message is actually understood by a listener [even though] there is no universally accepted way of assessing it" (p.76). They too believe that intelligibility depends upon the listener and how he/she understands what

is spoken; intelligible speech does not necessarily depend on what level of L2 pronunciation (beginner, intermediate, etc.) they are at. Seeing how the researchers define intelligible speech based upon the listener's ability to understand what is spoken, it seems clearer as to why there is no universally accepted definition of the term seeing as it is subjective in that it depends a lot on the listener.

For this study, the term intelligible will be based upon these definitions. If two or more of the panelists are able to understand the utterances spoken by the L2 students, then the utterance in question will be considered intelligible. However, if two or more of the panelists are unable to understand the utterance or hear a word or phrase that is different than what the speaker intended to say, then the utterance in question will be considered unintelligible.

Theories of Awareness and Second Language Acquisition

Within the field of SLA, many researchers have developed their theories in regards to the role awareness plays in second language acquisition. One of the most popular hypotheses is Schmidt's "noticing hypothesis" in which he concludes that one's awareness of the intake they receive is vital for second language learners, "conscious

processing is a necessary condition for one step in the language learning process" (p.131). Remember, Schmidt's definition of awareness consists of three levels of consciousness: perception, noticing, and understanding. He argues that "if [something is] noticed, it becomes intake" (p.139). Intake as he defines is speech input that is stored and used for language construction (p.139). Because of this process of noticing intake and storing it in memory for later language use, awareness at the level of noticing contributes to one's second language development.

Further research that supports the idea that awareness contributes to second language speech improvements was conducted by Leow (1997) in which he examined 28 adult L2 learners of Spanish. In his research, he looked at how the students' developments in the second language changed with the use of think-aloud activities as well as the students' own assessment of how they performed in the activities (p.474-476). His conclusions indicate that there are different levels of awareness that lead to different ways in which students process L2 information, "level of awareness…appears to contribute significantly to what L2 learners take in as potential data for further processing" (p.493).

Given that there are differing levels of awareness, each that contribute differently to a student's progression in the target language, he further concludes that the more awareness a student obtains, the better chance they have at accurately noticing L2 language forms, "further analysis of the data to address the affect of level of awareness on the type of targeted form also revealed superior performances by learners who demonstrated higher levels of awareness" (p.493). His research indicates that the more a second language student is aware of the target language, the more likely he/she will successfully learn that specific language function within the L2.

Further support indicating that awareness positively affects an L2 learner's language development was also completed by Tarnolpolsky (2000). In his research he conducted multiple studies in which Russian college students were given language awareness activities that pertained to the particular L2 function they were currently learning; in this case, orally pronouncing the various forms of the English verb "to be" in an effort to see improvements in their spoken grammar (p.22). The two experimental groups in the study both performed almost three times better than the two control groups as they

produced less grammatical errors after having received language awareness activities, "the suggested critical language awareness-raising technique proved to be very effective in eliminating those errors that were due to L1 interference and in improving students' accuracy when speaking English" (p.23).

Although awareness in its multiple forms has been argued as being positively affective on an L2 learner's speech development, some research also displays how awareness can have its limitations. Lam (2009) examines awareness in the form of "metacognitive strategy instruction" (MCSI) and the effect it can have on a learner's performance of a certain language task as well as his/her strategy use. What is interesting about her findings is that first, her data shows that MCSI appears to be beneficial on a learner's language performance according to the self-reported data she collects from the subjects in the study. That is, the students who received MCSI believed they greatly improved in certain areas of their language performance. However, those who were observers of the students in the study did not find the same affect from MCSI, "there was evidence that the MCSI appeared to have an

impact on the self-perceived use and reported use though not the observed use of the whole sample" (p.143).

Although it was concluded from this study that overall, L2 learners performed better after having received MCSI, the idea of awareness and it's affect on a language learner can be misleading or provide a skewed interpretation when analyzed by the individual in question. Her findings indicate that when students are aware of a particular learning strategy that is believed to help them develop their language skills, they may more so believe it to be effective than it truly is. This in turn is detrimental to the actual progress that is made and raises the issue of how awareness strategies are presented and executed in the second language classroom.

What is also interesting from her findings is that although the students did not perform as well as they believed they had based upon third-party observers, they were still able to accurately identify the strategies they used when data was collected from oral interviews, "explicit focusing of strategies in the MCSI may have a pervasive impact on students' strategic awareness….thereby enabling students to identify and report the use of strategies in the interviews" (p.143). Although at this

level the students were unable to change their behavior as Schmidt categorizes awareness the fact that they can at least recall the awareness they received shows promise in that they may eventually perform the language task accurately.

Theories of Intelligibility and Second Language Acquisition

When looking at factors that determine L2 speech intelligibility, researchers have looked beyond the L2 user and have contemplated the influences of other factors involving the listener like language attitudes, experience within the second language, and semantic context(Kennedy & Trofimovich, 2008; Coetzee-Van-Rooy, 2009). The listener's role in regards to what constitutes intelligible speech is key not only when assessing language improvements but also in determining what kinds of measures need to be taken in order for such improvements to occur within the second language learner.

Coetzee-Van Rooy believes that in order to improve communication problems, like intelligibility, for L2 users, what first needs to be examined is how English is perceived by other English users:

> . . . this research project aims to contribute to the growing body of studies on the mutual intelligibility

> of different varieties of English [by]coming to some understanding of the overall perceptions of the English proficiency of speakers of different varieties of English. (p.16)

The findings from her study conclude that many factors involving the listener contribute to increased intelligibility on the part of the L2 user. For instance, she found that "a positive attitude towards speakers of English is a necessary, yet not sufficient, condition for intelligibility" (p.33). She also believes that regular contact between a listener and an L2 speaker increases the individual's intelligibility regardless of how high or low their proficiency may actually be (p.32). Her findings indicate that to an L2 user's intelligibility improvements depends a lot on the listener and his/her perception and experience of the second language. Regardless of what language level an L2 user may be at, it is the listener's perception and attitude toward the spoken English which predicts how intelligible the speaker may be.

In Kennedy and Trofimovich's research, they believed that in order to better understand how an L2 user's intelligibility was determined they needed to examine how a listener's experience within the second language speech as

well as semantic context influenced them in determining intelligibility. In their study, they found that the more semantic context available to the listener, the more L2 speech they were able to better understand and regard as intelligible (p.477). Their findings also concluded that listener experience positively affects the way in which the listeners measured intelligibility in that the speaker was found to be more intelligible (p.478).

In this case, not only does semantic context help in understanding and measuring intelligible L2 speech, but listener experience also plays a big role in that it too helps with comprehending what an L2 speaker is attempting to communicate. Regardless of how inexperienced or advanced an L2 learner may be, what seems to be important in determining his or her intelligibility level is how experienced the listener is or is not as well as what contextual clues are available for language assessment.

In Hays-Harb, Smith, Bent, and Bradlow (2008), they examined the intelligibility of Mandarin-accented English speech for native English and native Mandarin listeners. From their research, they found that there was an "interlanguage speech intelligibility benefit" for native Mandarin listeners as they were "more accurate than native

English listeners at identifying words produced by Mandarin talkers" (p.675). However there was no evidence of an "interlanguage speech intelligibility benefit" for talkers in that native Mandarin listeners did not find Mandarin-accented English speech more intelligible than native English speech (p.675). Both forms of speech were equally intelligible.

Their findings support Kennedy and Tromfimovich's work as they too conclude that "listener experience" is what leads to greater intelligibility among accented English, "native mandarin listeners...have more experience than native English listeners hearing Mandarin accented English speech and they may thus be better than native English listeners at making use of acoustic cues" (p.675). Because native Mandarin listeners have experience listening to Mandarin accented English more so than native English speakers, they are more familiar with the various sounds spoken in Mandarin accented English and therefore can accurately identify what is spoken.

The previous researcher reviewed here displays the multiple facets that encompass phonological awareness and intelligible speech production by L2 learners. The presentation of the study in the following chapter will

highlight these points in an effort to understand the connection between these two issues and how they work together in the second language classroom.

CHAPTER TWO

STUDY

Introduction

In this chapter I will present the study. I will first explain the methodology used for the project and then go on to explain the findings. In regards to the methodology, I will provide background information for the students who participated in the study as well as information about the panelists. The findings will point out what the panelists found to be unintelligible speech produced by the students. The observations made will be used to draw further conclusions between students' phonological awareness and overall speech improvement.

Methodology

Description of the Study

Data was collected fall 2009 within the intensive English program at a U.S. university. During fall 2009, I met with six international students a total of five times. Three of those meetings are referred to as "recording sessions" in which I asked each student to provide a speech sample that was audio recorded. Recording session one

occurred during week one of the fall quarter; recording session two occurred during week five; recording session three occurred during week nine of the quarter. During each session, each student read aloud from a small paragraph I provided from a novel and orally responded to a question I asked. Each student was given a number (1-6) in which he/she is referred to during the course of the study. Immediately following each recording session, I met three times with a panel of three English graduate students in meetings referred to as "panel sessions". The panelists were asked a series of questions in an effort to identify unintelligible speech in the students' speech samples. Each panelist was given a number (1-3) in which he is referred to during the course of the study.

Immediately following the first two panel sessions, I met with half of the international students in sessions referred to as "follow-up sessions". The three students in these sessions were the experimental group, students 2, 4, and 5. To signify these students as part of the experimental group throughout this study, their numbers will be underlined and in bold font. I told them the areas of their speech the panel recognized as unintelligible and provided them with instruction on how to improve in those

areas. The process of making them aware of their unintelligible speech was done in order to see if over the course of this experiment, those specific areas in their speech would change from unintelligible to intelligible based upon the panel's assessment. The three remaining international students were the control group. I did not tell them what areas of their speech the panel recognized as unintelligible.

The recording sessions as well as follow-up sessions were conducted in the classroom within the intensive English program. The panel sessions were conducted on the fifth floor of the university's library. In order for a word to be classified as unintelligible, at least two panelists had to regard the word as such. Unintelligible within this study was regarded as anything the panelist heard spoken from the participant recordings that they were unable to recognize or understand when spoken in English.

Description of International Students

The six students I worked with were all international students (one female, five males) enrolled in the Intensive English Program. Five of the students were from China; one was from Vietnam. These students were chosen as part of the study due to the fact that they volunteered to

participate. They were sought out due to their level of knowledge of English which was classified by IEP as intermediate to advance. I felt that students at an intermediate level would be able to participate more easily in the study with regards to reading and speaking aloud versus students at a beginner English level.
The students ranged between the ages of nineteen and thirty. Each student had been in the United States for about three weeks prior to our first session working together.

The students were enrolled in a pronunciation class that was designed for intermediate to advanced level English speakers. The students were in class one hour a day, twice a week. On average, the students said they spent nine hours a week outside of class practicing their English speaking skills. The average age these students began learning English was eight years old. All of the students claimed that they wanted to learn English in the pursuit of fulfilling their career goals back at home as well as being able to communicate with other English speakers.

Description of Panelists

The three panelists in my study were all English graduate students also enrolled at the university. All three were male, between the ages of twenty-five and thirty, and had ample experience in SLA from tutoring second language learners to enrolling in graduate courses specifically geared towards issues in SLA. These individuals were chosen to be panelists due to their familiarity to SLA issues regarding speech patterns, articulation, etc. Just as Kennedy and Trofimovich pointed out that listener experience helps with comprehending what an L2 speaker is attempting to say, it was my hope that the panelists would be able to listen and comprehend more of what was uttered from the students versus a listener less familiar with L2 speech.

All three of the panelists regarded English as their primary language but felt they were also semi-fluent to fluent in a second language. Two of the panelists believed they were fluent in a second language (Spanish and Korean) in that they both could speak it as well as understand it when spoken. The third panelist regarded himself as semi-fluent in a second language (Spanish) in that he could understand it when it was spoken to him but could not speak

it as fluently as compared to the other two panelists. On average, each panelist spent about fifteen hours a week listening to English spoken by a non-native English speaker.

Findings

In this section, the data collection, data analysis, as well as the results from the study will be discussed. In total, three recording sessions were conducted the first in which five students read aloud from the provided paragraph and one student chose to respond to a question. During recording sessions two and three, student #1 no longer participated in the study. The remainder of the students all read aloud from the paragraph provided, responded to a question, and also read aloud from a list of words the panelists identified as "unintelligibly" spoken by the students from the previous recording session. For example, the list of words the students read aloud during recording session 2 is the list of "unintelligible" words the panelists identified from recording session 1. The list of words the students read aloud during the last recording session was the list of "unintelligible" words the panelists identified from the second recording session.

The list of words spoken by the students in recording sessions 2 and 3 was read in order for the panelists to see if the students produced a more "intelligible" utterance for those particular words/sounds after having received specific feedback for those pronunciations "problems". Since the panelists clearly identified certain words as being "unintelligible", I thought it would be important to see not only if the students improved overall in certain speech sounds they produced but if their improvements also arose in the specific words the panelists identified as "unintelligible". My hope was to see if they applied the feedback they received to the specific words they were recognized by the panelists as having "unintelligibly" uttered. Table 1 provides the specific speech sample each student provided during each recording session.

Table 1. Student Recording Sessions

	Recording Session 1	Recording Session 2	Recording Session 3
Student 1	read paragraph	No longer in study	No longer in study
Student 2	read paragraph	read paragraph + words, responded to question	read paragraph + words, responded to question
Student 3	responded to question	read paragraph + words, responded to question	read paragraph + words, responded to question

Student 4	read paragraph	read paragraph + words, responded to question	read paragraph + words, responded to question
Student 5	read paragraph	read paragraph + words, responded to question	read paragraph + words, responded to question
Student 6	read paragraph	read paragraph + words, responded to question	read paragraph + words, responded to question

Recording Session #1

Data Collection. During recording session one, five of the six students (1,2,4,5, and 6) decided to read aloud a designated paragraph from the book *Davita's Harp* (find in Appendix B). Student #3 decided to respond to a question I asked (find in Appendix A). These two forms of speech samples provided the study with different monitored levels of how intelligible speech is produced by second language learners.

Panel Session #1

Data Analysis. During panel session one, the panelists were asked to first listen to the audio recording of each student and based on what they heard rate that student on a scale from 1 to 5. A rating of 1 recognized the student as being entirely unintelligible in that the

panelist did not understand anything the student said; 2, the student is somewhat unintelligible in that the panelist did not understand the majority of what was said; 3, the student is moderate in that the student was equally unintelligible and intelligible; 4, the student is somewhat intelligible in that the panelist understood the majority of what the student said; 5, the student is entirely intelligible in that the panelist understood everything that was said on the tape. They then listened to the recording a second time, this time reading along with the paragraph the students read from and rated them a second time on the same scale of 1 thru 5.

Results. Table 2 lists the average level each student, except 3, was ranked at on the scale of 1 thru 5 based upon what the panelists heard from the first audio recording. At this point, all of the students were ranked relatively close in regards to their intelligibility level based upon the panel's observations. For instance, all but one of the students was ranked at a level of 3.0 or higher.

Table 2. Intelligibility Level for Recording Session 1

Student #1	Student #2	Student #4	Student #5	Student #6
3.0	3.6	2.3	3.6	3.6

Student #3 scored a rating of 3.0 during the first recording session. His results were not included in table 2 due to the fact that he did not read aloud from the same paragraph as the rest of the students but instead chose to respond to the question. His intelligibility level during the first recording session is still important to take into consideration as it is used as the beginning level with which his other two intelligibility levels will be compared to in order to see signs of improvement or lack thereof in regards to his overall speech improvement.

Data Analysis. The panelists were then asked to listen to the recording a second time while reading a transcript of what the student said aloud. While doing this, they were asked to list any words from the paragraph they believed the student had uttered unintelligibly on the tape. If the student provided their speech sample as the response to the question, the panelist was asked to transcribe to the best of their abilities any words or utterance they believed the student was unintelligibly saying. Finally, the panelist wrote down recommendations for areas they believed the student needed to improve on based upon the unintelligible utterances the panelist pointed-out.

Results. Of the students who read aloud from the paragraph during recording session 1 (1, 2, 4, 5, and 6), the panelists identified 8 unintelligibly spoken words: curiously, stoopball, paused, trees, suits, wind, wore and neighboring. From student #3's response to the question, the panelists identified 4 "unintelligibly" spoken words: music, want, search, and hobbies". The panelists noted that issues that they believed contributed to the students' "unintelligible" speech was: certain vowel pronunciations, final consonant deletion, r-less pronunciation, l-less pronunciation, and the rhythm in which some of the words were pronounced. A breakdown of which words the students said is listed in table 3 in the International Phonetic Alphabet (IPA) to point out how the student pronounced the word.

Table 3. Unintelligible Words for Recording Session 1

Student #1	Student #2	Student #3	Student #4	Student #5	Student #6
Curiously kyʊəriəsli	Trees trɛz	*Music myuɪk	Suits ʃuts	Stoopball styubɔ	Stoopball stɒpbɒʊ
Stoopball stʌmbɔn	Stoopball sutbɔl	*Want wɔn	Stoopball stoʊ bɔɳ	Paused pɒʊs	Neighboring nɛbər ɳ
Paused paʊzd		*Search sʌʧ	Wind weɪ	Wore wɒ	
		*Hobbies hæpi			

*Word was uttered from the response to the question; not from the paragraph

Of the words unintelligibly spoken from the paragraph, students 1, 4, and 5 pronounced 37.5% (3 out of 8) of the words unintelligibly while students 2 and 6 pronounced 25% (2 out of 8) of the words unintelligibly.

Follow-Up Session #1

Data Collection. Immediately following the first panel session, I met with half of the students (experiment group) in the first follow-up session. The purpose of each follow-up session was for the experimental group to receive feedback regarding their speech as a means for them to become aware of areas in their speech that needed improvement. The first follow-up session lasted about twenty to twenty-five minutes. Students 2, 4, and 5 were part of the experimental group. Students 1, 3, and 6 were the control group.

I first presented them with the list of the unintelligible words the panelists complied from their speech recordings. We practiced pronouncing each word about five times. I then addressed the particular issues the panelists noted as the source for the unintelligible pronunciation. For instance, with the words "want" and "wind", I told them how some of the pronunciations heard from the recordings did not include the final consonant

sound of /t/ or /d/. We then practiced as a class how to pronounce these particular sounds as well as the rest of the consonant sounds in the alphabet. Then the students practiced pronouncing words with the inclusion of the final consonant sound, like "want", "wind", "stand", "list", etc. The same process was conducted for the remainder unintelligible words: particular issue was addressed (r-less pronunciation, l-less pronunciation, vowel pronunciation); practice pronouncing the particular sound(s); placing particular sounds within the context of words.

Recording Session #2

Data Collection. During recording session two, the same procedure was conducted as before where the students read aloud while I recorded their responses. This time more data was collected as the students read aloud from the same paragraph, but also responded to a new question I asked (see Appendix B). The students also read aloud from the list of unintelligible words the panelists compiled from the first recordings session (see Appendix B). For the second recording session, student #1 withdrew his participation in the study.

Panel Session #2

Data Analysis. During the panelists' second session, the same procedure was conducted as before in which the panelists first listened to the students' recorded responses and then rated them on the same scale of 1 thru 5. For a second time, they listened to the recording in which they were able to read along with the paragraph the students read from as well as listen to their responses to the questions. The panelists then rated the students again on the scale of 1 thru 5.

Results. Table 4 lists the average level each student was ranked at from the scale of 1 thru 5 based upon what the panelists heard from the second audio recording.

Table 4. Intelligibility Level for Recording Session 2

Student #2	Student #3	Student #4	Student #5	Student #6
4.6	3.5	3.8	4.0	5.0

Based upon the table 4's data, all of the students showed improvements compared to table 2 as all of them scored an average intelligibility level of higher than their initial rating.

From the data, the panelists identified 9 "unintelligible" words: wore, curiously, stoop, paper, clubbing, suites, paused, search, and festivals. From the students' responses to the question, the panelists only identified 1 word as unintelligible: time. Table 5 shows the list of words each student unintelligibly pronounced.

Table 5. Unintelligible Words for Recording Session 2

Student #2	Student #3	Student #4	Student #5	Student #6
	Wore roʊ	Suits ʃuts	Wore woʊrn	
	Curiously kɑrsərli	Paused pɔst tɛd	Curiously kyʊəriəsleɪ	
	Stoop stɒp	Search sʌʧ	*Festivals fæktəvəlz	
	Paper pɛər			
	*Clubbing kʌbɳ			
	*5Time taɪ			

*Word was uttered from the response question; not the paragraph.

After recording session #2, students 2 and 6 did not pronounce any words unintelligibly that at least 2 panelists could agree on; students 4 and 5 pronounced 33% (3 out of 9) of the unintelligible words; student #3 pronounced 55% (5 out of 9) of the unintelligible words.

Follow-Up Session #2

Data Collection. Immediately following the second panel session, I met with the same students in the experimental group as before (2, 4, and 5) for the second follow-up session. The session lasted about twenty to twenty-five minutes. The same procedure was conducted as before in which we practiced pronouncing the list words the panelists identified as unintelligible from the second recording session.

I then addressed the particular issues the panelists noted as the source for the unintelligible pronunciation. This time, the issues remained the same (final consonant deletion, r-less pronunciation, l-less pronunciation, and vowel pronunciation). We then practiced as a class how to intelligibly pronounce particular sounds within these issues. Then we placed the sounds within the context of words and practiced pronouncing the words.

Recording Session #3

Data Collection. During recording session three, the same procedure was followed in which the students read aloud from the same paragraph as before as well as a list of the unintelligible words the panelists identified from the previous recording session (see Appendix B). The

students also responded to another question I asked (see Appendix B) while I recorded their speech.

Panel Session #3

Data Analysis. During the panelists' third session, the same procedure was conducted as the previous two panel sessions.

Results. Table 6 lists the average level each student was ranked at from the scale of 1 thru 5 based upon what the panelists heard from the third audio recording.

Table 6. Intelligibility Level for Recording Session 3

Student #2	Student #3	Student #4	Student #5	Student #6
4.1	3.6	3.6	4.6	4.8

Based upon table 6's data, half of the students (2, 4, and 6) drop in their intelligibility level compared to how their scored during the second session. However, the other two students (3 and 5) improve in their intelligibility level during the third session compared to the second.

From the data collected, the panelists identified 11 unintelligible words: stoopball, paused, regard, curiously, wore, clubbing, suits, then, moment, trees, and festivals. From the students' responses to the question, the panelists

identified 2 words as "unintelligible": sad and thing. Table 7 shows the list of words each student unintelligibly pronounced.

Table 7. Unintelligible Words for Recording Session 3

Student #2	Student #3	Student #4	Student #5	Student #6
	Stoopball stɑrpbrɔl	Suits ʃuts		*Festivals festɛvlz
	Paused pɜrs	Then lɛn		
	Regard rigrɛ	Moment mɛment		
	*Curiously kʌmrisrli	*Trees ʧiz		
	*Wore roʊ	*Wore woʊ		
	*Clubbing kʌ bigi	*Sad sæs		
		*Thing sɳ		

*Words were uttered from the response to the question

After recording session #3, students 2 and 5 did not pronounce any unintelligible words that at least 2 panelists could agree on; student 3 pronounced 54% (6 out of 11) of the unintelligible words; student 4 pronounced 45% (5 out of 11) of the unintelligible words; student 6 pronounced 9% (1 out of 11) of the unintelligible words.

CHAPTER THREE

CONCLUSION

Introduction

In this chapter, I will discuss the findings from my project in order to make some connections as well as draw some conclusions in regards to phonological awareness and speech improvement. The conclusions made will provide some insight in regards to the developments that can occur when an L2 learner is aware of his or her unintelligible speech. Limitations of the study will be addressed along with what further research needs to be done.

Discussion

Intelligibility Level

Looking back, the data demonstrates that all of the students involved in the study improved overall in their speech intelligibility. Whether or not their improvement is due to awareness is something that will be discussed in detail later. According to the intelligibility rate each student was measured by, each student shows great improvement between the first and last recording sessions. Students #2 and 3 improve by more than ½ a point between

the first and last recording sessions (3.6 to 4.1 and 3.0 to 3.6 respectively). Student #5 improves by 1 point between the first and last session (3.6 to 4.6) while students #4 and 6 improve by more than 1 point between the first and last sessions (2.3 to 3.6 and 3.6 to 4.8 respectively).

However, the improvement seen by each student is very little between the second and last recording sessions in that only student #5 has the biggest increase in his intelligibility rate (4.0 to 4.6). Student #3 improved in his intelligibility rate between the second and last recording sessions but only very slightly (3.5 to 3.6). All of the other students either slightly decreased in their intelligibility rate (student #4 went from 3.8 to 3.6; student #6 went from 5.0 to 4.8) or went down a significant amount in their intelligibility rate as student #2 went from 4.6 during the second recording session to a 4.1 rating by the last session.

Although the students show improvement in their speech intelligibility level over the course of the study, what is interesting is how the panelists rate all of the students as improving by at least half a point, in some cases by more than one point, between the first and second recording

sessions, but do not find that much improvement between the second and third recording sessions as more than half of the students decrease in their intelligibility level. For example, student #6 displays the biggest improvement between the first and second recording sessions in that he is first rated at 3.6 during recording session #1, then is rated with a perfect score of 5.0 by the second recording session (5.0 indicates that he was entirely intelligible to the panelists). Yet, he slightly decreases in his intelligibility by the third recording session as he rates at a 4.8 intelligibility level. The same is true for student #4 as she has the second highest intelligibility rate increase between the first and second recording sessions (2.3 to 3.8) yet slightly decreases in intelligibility by the third recording session to 3.6. Grant it, student #4 had the most room for improvement as she was rated with the lowest intelligibility level during the first recording session out of all of the students.

One explanation for the intelligibility ratings increasing more so between the first and second recording sessions versus the second and third recording sessions is that by the third session, practice and reinforcement of the awareness/feedback that was received during the first

follow-up session was what was being measured more so than the awareness itself as the experimental group was essentially already made aware of their phonological issues during the first follow-up session. During the second follow-up session, they were not receiving as much new information regarding their unintelligible speech as they had during the first follow-up session. Therefore, the panelists would not have seen a large change in their intelligibility level during the second and third recordings sessions as the experimental group was not uttering a large amount of words that had been brought to their attention during the second follow-up session as "new" feedback/awareness. They were more so exerting the practice of words they recognized as needing improvement from the first follow-up session.

With the intelligibility ratings increasing drastically between the first and second recording sessions, then slightly decreasing for more than half of the students (3 out of 5) between the second and third recording sessions, the panelists' ratings indicate that the students improved more so early on during the study between the first and second recording sessions. By the third recording session, the data indicates that the

panelists recognized that the students' intelligibility level remained relatively the same between the second and third recording sessions. Even though the panelists heard the audio recording at least three times if not more during the third panel session, the "experience" and "semantic context", as Kennedy and Tromfimovich argue (2008), with the students' speech samples did not cause them to hear the students' utterances as more intelligible as they did not rate the majority of students with a higher intelligibility level.

What is also interesting to point out based upon these findings is how the experimental group was rated in comparison to the control group. The findings indicate that half of the control group (student #6) was rated at a higher intelligibility level by the last recording session than the entire experimental group. Yet, the second half of the control group (student #3) was rated at an equal or lower level of intelligibility than the entire experimental group was by the third recording session.

The findings point out several things. The experimental group demonstrated behavioral changes in that their speech was recognized as having improved over the course of the study based upon the panel's observations.

Therefore, they are categorized as aware of their unintelligible utterances. And because of these improved behavioral changes, it can be concluded that such awareness of unintelligible speech caused the students to improve in their intelligible speech level.

However, considering that half of the control group also demonstrated improved behavioral changes regarding their intelligible speech level indicates that they too achieved awareness. Considering though that they never received any feedback regarding the areas of their speech that needed improvement like the experimental group did indicates that phonological awareness does not necessarily have to be part of the learning process in order for behavioral improvements to occur.

In terms of intelligibility, it must be noted again that what is regarded as intelligible speech is primarily based upon the listener's ability to understand as the research has pointed out. Having said that, I think two conclusions can be argued; one, awareness can contribute to an L2 learner's improvement in his or her intelligible speech, and two, because intelligibility is primarily based upon the listener's ability to understand, perhaps the findings are not entirely due to the students' access or

lack thereof of awareness and is more so due to the listener's ability or lack thereof in understanding what was spoken. In other words, no matter how much awareness the students obtained and how much they improved, that may not be relevant as the listener may still not understand what is uttered.

Diphthongs and Vowel Pronunciations

There are several interesting points to analyze in regards to the types of unintelligible words that were spoken by the students and how awareness played a part. First it is interesting to note that none of the students within the experimental group pronounced any words containing diphthongs during the first recording session. Student #1 and 6 (part of the control group) pronounced two words containing diphthongs, "curiously" and "neighboring".

By the second recording session, student #5 was made aware of the unintelligible words the panelists identified, like "curiously", during the first follow-up session. Yet during the second recording session, he was found to have unintelligibly pronounced "curiously" by the panelists. The data shows that by the third recording session, he did not unintelligibly pronounce any words which contained diphthongs.

Student #4 also received feedback regarding vowel pronunciations and yet was found to have unintelligibly pronounced a vowel sound during the third recording session as she uttered the word "moment". This was a "new word" in the fact that it was not part of the paragraph the students read aloud and none of the students had ever uttered the word during their response to the question I asked until student #4 said it during the last recording session during her response to the question I asked. Therefore, the experimental group had never received any feedback from me during the two follow-up sessions indicating that "moment" was a word that needed improvement or that the students needed to practice their pronunciation for this specific word as was done with previous words the panelists had identified as unintelligible. However, I did present information to the students regarding types of diphthongs and other vowel pronunciations in the English language that we went over and practiced pronouncing. So although, student #4 was aware of vowel pronunciations, the panelists found that she still unintelligibly uttered the first vowel sound in "moment".

In regards to how awareness played a role for the students' pronunciations of diphthongs and vowels, the data

appears to indicate that the feedback the students received was "semi-influential" in helping them improve their intelligible speech. I use this term because at some point during the study (recording sessions 2 and 3) at least half of the experimental group unintelligibly pronounced a word containing a diphthong after having been made aware of the more intelligible way to pronounce the specific sound.

The findings indicate that although feedback seemed to help some of the students improve in their speech/pronunciations of vowels it did not entirely help all of them. The feedback they received did not seem to be necessary for half of the control group (student #6) as he eventually improved in his pronunciation of diphthongs as the panelists did not find him to have unintelligibly pronounced such utterances after the second and third recording sessions.

Final Consonant Deletion

Another element the panelists noted as causing some of the words to sound unintelligible was the lack of final consonant pronunciation among some of the utterances. This was an issue for students 3, 4, and 5. The data shows that student #3 pronounced "want" as "wɔn" and "hobbies" as "hæpi". This remained an issue for him throughout the

study as he pronounced "time" as "tar" during session 2 and "paused" and "regard" as "pɜrs" and "rigrɛ" during recording session 3.

Student #4 also had issues with the final consonant sound as she pronounced "wind" as "wer" during the first recording session. During the second recording session, this issue seemed to have improved as she pronounced "paused" as "pɔst tɛd". In this case, it seems that she was able to pronounce /d/ after having first uttered /t/ and paused. Although the panelists still identified this word as unintelligible as they said the unusual rhythm in the pronunciation of the word confused them, the fact that she pronounced the final consonant sound displays that she was aware of the issue of final consonant deletion. Her awareness seems to have been maintained throughout the study as she continued to include final consonant sounds during the third recording session.

Student #5 also had issues with pronouncing final consonant endings as he pronounced "paused" as "poʊs" during recording session 1. He too was part of the experimental group and was aware of the more intelligible form of pronunciation. By recording sessions 2 and 3, the

panelists did not identify this as a problem with the intelligibility of his pronunciations.

The findings here support the previous research regarding awareness given the fact that the students who showed improvements regarding final consonant deletion were the one's who were made aware of the more intelligible pronunciation. This is further supported by the fact that the individual who did not improve (student #3) was not aware of the unintelligibility of final consonant deletion noted by the panelists.

"R-less" Pronunciation

R-less pronunciation was another issue that the panelists believed caused some unintelligible utterances. They found this to be a problem for students 4 and 5. During recording session 1, student #5 pronounced "wore" as "wɒ". This improved by recording session 2 as he pronounced "wore" as "woɔrn". Although the second pronunciation was regarded as unintelligible by the panelists as they were unsure if he was pronouncing "wore" or "worn", the fact that he included /r/ in his second pronunciation supports the idea that his improvements are due to his awareness of the more intelligible pronunciation.

R-less pronunciation was also an issue for student #4. During recording session 2, she pronounced "search" as "sʌʧ". This issue came up again for her during recording session 3 as she pronounced "wore" as "woʊ". In these two cases, awareness worked differently for the students. For student #5, awareness seems to have positively affected his speech development in that it can be seen that he pronounced the /r/ sound during the second recording session as he had not during the first. However, given the fact that student #4 was unable to improve in this area between recording sessions 2 and 3 indicates that her awareness did not influence her pronunciation.

"L-less" Pronunciation

L-less pronunciation was another issue the panelists identified as a source of unintelligible pronunciations. For instance, during recording session #2, student #3 was able to pronounce /l/ in the word "curiously" as he uttered "kɑrsərliy". However, he pronounced "clubbing" as "kʌbɳ" during the same recording session. This same pattern of pronunciation was seen during the third recording session as he again pronounced "curiously" as "kʌmrisrliy" and "clubbing" as "kʌ bigi".

What is interesting about this student's particular pronunciation is that he seems to only be able to pronounce /l/ in certain circumstances. For instance, when he produced /l/ for "curiously" in both the second and third recording sessions, the sound was produced as /rliy/. And yet for the word "clubbing", the /l/ sound was never produced between /k/ and /ʌ/. In his case, it seems that he can only produce /l/, a liquid voiced phoneme, when another liquid voiced phoneme like /r/ is produced before it. He seems not to be able to produce the liquid voiced phoneme of /l/ when a voiceless stop like /k/ is produced before it. For him it seems easier to produce and connect a voiceless stop like /k/ with the simple vowel, /ʌ/ without any interference of another sound in between the two. Given the fact that he was not aware of l-less pronunciations as a source of unintelligible speech, it is understandable as to why he did not improve in this aspect throughout the study.

What is important to note regarding the three previous examinations of the students' utterances (final consonant deletion, r-less production, and l-less production) is that these occurrences are common among native Chinese speakers. Celce-Murica, Brinton, and Goodwin (1996) note that L2

speakers who come from an L1 with a simpler syllable structure compared to English tend to not only drop off the final consonant sound but delete certain consonant sounds like /l/ and /r/, "learners from many Asian language backgrounds may delete final consonant clusters entirely. Since the articulation of /l/ and /r/ is often challenging for Asian speakers, these two sounds are frequently deleted in clusters (initial or final)" (p.83).

Seeing as how these are common pronunciation difficulties for individuals like the students in this study, it appears to be arguable that no matter how much awareness/feedback the students are given regarding these unintelligible aspects of their speech, they may simply never be able to change their level of intelligibility. This is seen for student #4 and r-less pronunciation as she was not able to produce utterances that included /r/ even though she was aware of the unintelligible pronunciation.

However, it could also be argued that perhaps her speech did not change in regards to pronouncing /r/ due to the fact that she might not have been provided enough time to practice her speech improvements or was not given enough instruction during the follow-up sessions. Considering that this study was conducted over a period of 10 weeks,

improvements might have been more noticeable had the study been longer. Also, improvements might have occurred more so had I provided more instruction on this particular type of pronunciation.

Overall Pronunciation Improvements

Based on the word charts presented in the second chapter, students 2, 5, and 6 show overall improvements in their intelligible speech based upon the fact that the number of unintelligible words identified by the panelists decreases over the course of the study; in some cases, there were absolutely no words identified during a recording session. For instance, student 2 only produced unintelligible words during the first recording session. By the second and third recording session, the panelists no longer found any unintelligible words he uttered. Considering that he was part of the experimental group, the data shows that awareness helped in his speech development.

The same is true for student #5 as the panelists no longer identify any unintelligible words produced on his part by the third recording session. The amount of unintelligible words produced by him remains the same as he produced 3 unintelligible words in both the first and second recording session. And although the words are

different between the two sessions, he shows improvement by the last recording session as he was not found to have produced any intelligible words. Given the fact that he too was part of the experimental group demonstrates that awareness also helped in his language development.

Another student that improved overall in his speech production was student #6. In the first recording session, he produced 2 unintelligible words. By the second recording session, the panelists could not find any unintelligible words on his part. However, by the last recording session, there was 1 word the panelists believed he pronounced unintelligibly. Considering the fact that he was part of the control group and was never aware of what the panelists identified as unintelligible supports the idea that factors other than awareness can contribute to a L2 learner's speech improvements.

Limitations of the Study

Although the conclusions made from this study are interesting and insightful in regards to second language learners speech intelligibility and phonological awareness, I think there are several limitations to it that are important to take into consideration. The first limitation I find in this study is the length of time that was used to

conduct it. Even though the entire 10 weeks of the fall 2009 quarter were used to collect data, looking back now I see how this length of time could have been limiting in regards to how long of an opportunity I had to find further changes in the students' speech. If I had had more time, perhaps I could have found more changes or improvements in some of the students' speech samples, like students 3 and 4.

Along those same lines, another limitation I find in the study is the amount of time that was given between the follow-up session and recording sessions. On average, 3 weeks passed between the feedback and the following recording sessions. 3 weeks was the maximum time available given the length of the study as well as the other sessions that needed to be held for the students and panelists (recording sessions and panel sessions). Had the experimental group been given more than 3 weeks to work on what they were aware of before we had to meet for the following recording session, I wonder if greater improvements in their utterances would have been identified by the panelists.

Another limitation to the study regarding the student participants is the manner in which they provided oral

data: reading aloud from a paragraph. Before the study was conducted, it was brought to my attention that individuals are more conscious of how they pronounce certain sounds or words when reading a piece of text versus spontaneously speaking aloud. This attention to speech may cause them to be more phonetically intelligible on purpose rather than more intelligible due to actual phonetic improvements. Although this was a great cause of concern for me, I felt that it was still one of the best ways to see if intelligible speech developed over time due to the fact that the panelists would be able to measure consistent utterances as the students' speech samples would include the same words during the three separate recording sessions.

Having said that, I realize now that perhaps the students became very familiar with the paragraph they read and were able to show improvements in their speech not because of actual improvements they had made with particular sound patterns but because they had memorized how to pronounce certain sounds in the words from the paragraph. A truer measure of their intelligibility improvement, or lack thereof, would have been to measure the same sound patterns they pronounced in the paragraph

but in the form of different words than what they previously pronounced.

I also see limitations in the students' spontaneous speech samples. After realizing how limiting the paragraph might be for this study, I decided to allow each student to not only read aloud from the paragraph but also provide a spontaneous answer to the question I asked during the second and third recording sessions. Although I found that this option did in fact provide a wider range of speech utterances to the data, it also was limiting in the fact that the students might have only been uttering English words that they were very familiar with. For example, in talking with the panelists during their sessions, they noted how the students sometimes sounded more intelligible during the answer portion of the question versus when reading the paragraph. This made me realize that perhaps the students sounded more intelligible to the panelists because the students were only saying words he/she was familiar with when speaking in English. They were not uttering words they were unfamiliar with or had trouble pronouncing. This in turn might have affected the data collected in that the students were more likely uttering words that they already sounded highly intelligible

producing versus uttering words they are less familiar with.

Although many of the limitations in this study primarily involve the students, there are a few limitations involving the panelists that are also important to address. One of these issues is how familiar the panelists became with the paragraph the students were asked to read aloud. During each panel session, the panelist heard the paragraph spoken aloud at least twice by each student. This in turn calculates to 12 times in which the panelist heard the paragraph for panel session #1. By the second and third panel sessions, they again listened to the paragraph at least twice by each student which calculated to them listening to it at least another 10 times during the second and third sessions. This in turn caused them to become very familiar with the paragraph. This makes me wonder if the panelists truly found improvements in the students' speech samples by recognizing that the students had more intelligible speech or did they understand what the students said because they had heard the paragraph several times over the course of the study.

A final limitation to the study in regards to the panelists' roles is how familiar they were with L2 speech

patterns. It was vital for this study that the panelists be familiar not only with second language speech patterns but that they also be familiar with the terms and definitions used in second language acquisition in order to properly assess each student. After doing this study, I thought about how the panelists' exposure to second language speech patterns affected the way in which they measured and identified the students' intelligibility. If the panelists were less familiar with second language speech patterns I believe the outcome of the students' intelligible speech would have been measured very differently compared to what was concluded in this study.

This is an important point to consider given the fact that the L2 speakers in the study will encounter other English speakers who are less familiar with their accented English. Therefore, when we think of speaker intelligibility and the ways to improve in that area, it is also important to take into consideration the listener's role as the previous research has pointed-out. It can be problematic when an L2 speaker thinks of improving their English or sounding more intelligible given the fact that the idea of improving in English depends on who the L2 speaker is speaking with. Kennedy and Trofimovich

contemplate this exact question, "if a teacher is able to generally understand an L2 speaker's speech and judges that speaker to be understandable, would a non-teacher do the same?" (p.460). Given the fact that other individuals an L2 speaker encounters may not be able to understand L2 speech, I find it important that a learner also be aware of the fact that the idea of intelligibility is subjective and is not the same for every English speaker.

Further Research

In order to further develop the research on phonetic awareness and its influences on second language speech development, I think a longer study needs to take place; one where researchers examine how long such awareness lasts; are the changes permanent or are they only temporary? It would be interesting to see if the students that were in this study still maintained the same speech improvements, say in 6 months or a year. Because it has been well established that awareness can play a positive role in a student's speech development, it would be interesting as well as beneficial to see if the speech changes made by a student permanently stay with an L2 learner. Not only would this provide insight in regards to how effective awareness is in SLA, but it would also show

teachers how well their efforts are at helping students improve in their speech.

Another means of further development within the field would be to see how awareness works for individuals of different languages. In this study, the 5 remaining students all spoke Chinese. Perhaps these findings are typical of Chinese speakers; perhaps not. What would be interesting would be to see if awareness works or does not work for speakers of say Russian, or Spanish, or Urdu or any other type of language in order to understand if awareness only works for particular English learners.

What is also important to address in the field of SLA are the instances when awareness does not influence a second language learner. Factors like motivation, language attitudes, exposure to the target language, etc., all need to be examined as these factors may offer an explanation in times when awareness does not seem to positively affect a language learner. For instance, although student 4 was part of the experimental group and was aware of areas of her unintelligible speech, she lacked improvement in producing the phoneme /r/ in certain words. In this case, it can be assumed that other factors are influencing her learning processes, like motivation or articulation of

speech. What needs to be examined are these types of influences and how they can also play a role in one's second language development.

Conclusion

Overall both the experimental and control groups improved over the course of the study in that they all improved in their intelligibility ratings between the first and last recording sessions. Given the fact that the control group also improved without having received feedback or was not aware of what the panelists identified as unintelligible points to the possibility that their improvements occurred because of the pronunciation class they were enrolled in during the study. This suggests that although the awareness/feedback the experimental group received during the study was helpful for their language development, it was not necessarily needed for improvements in speech to occur as the control group also displayed improvements without having been made aware of areas they needed to improve on.

The findings from this study support the idea that awareness can positively influence one's development when learning a second language. The fact that the students who were aware of areas of their unintelligible speech improved

overall in those specific instances along with the previous research displays that awareness can be vital to one's language learning process.

Although it was not anticipated, the findings from this study also showcase the major role the listener plays in an L2 user's learning process. Although it can be assumed that being intelligible is the goal of all language users, what has been uncovered from this study is that a large part of what intelligible speech consists of primarily depends on the listener and not so much the language user. Yes, the language user is the one to produce intelligible speech. However, it is primarily the listener who determines if and how the speech uttered from the L2 user is intelligible or not. Seeing that awareness helps produce intelligible speech and intelligible speech depends a lot on the listener, language learning can be thought of as a two-way street in that both the speaker and listener have to learn as well as work together in producing successful communication.

APPENDIX A

TRANSCRIPTS OF STUDENT RESPONSES TO QUESTIONS

During Recording Session #1, student #3 provided his personal response to the following question, "Can you describe a time in your life in which you were scared, happy, nervous, and/or sad?" His response is listed below:

> My life uh all my life I I want such err beautiful wife. And uh in my future is the same too. And I my happiest is study, and uh listen some rock music. Thank you, that's all. Student #3 (personal communication, September, 2009)

During Recording Session #2, the students provided their personal responses to the following question, "Can you describe a time in your life in which you were happy?" Their responses are provided below:

> Uh, I think it's my birthday. In in my life….my birthday have time have a party uh with my friend and we go to uh I remember a a clubbing to dance and err uh some special show. Yeah, that's all. Student#3 (personal communication, October, 2009)
>
> Uh my happy life is when I was a kid. Uh I played video game with my friend and and that's it. Student #2 (personal communication, October 2009)
>
> Uh when I was a child uh I often play game with my with my partners and uh my neighborhood. And yeah,

very happy. Student #4 (personal communication, October, 2009)

Um my happy time was when I stayed with my family. We we celebrate my birthday and some festivals together. Student #5 (personal communication, October, 2009)

When I was a cald-college student seven years ago um I have I had a wonderful time there because I made a lot of classmate and uh made a lot of good friends there and we enjoyed a party every weekend and so this is my happy hour. Student #6 (personal communication, October 2009)

During Recording Session #3, the students provided their personal responses to the following question, "Can you describe a time in your life in which you were sad?" Their responses are provided below:

Uh the most sad thing in my life is I broke-up with my girlfriend last week. I just met her about two weeks ago and we just stay with only one weeks and she broke up with me. It's terrible things. Student #2 (personal communication, November, 2009)

I leave my country is uh uh is uh best uh is the sad thing. Um uh although the education system in America is very good mm but my family member my friend and uh

uh all I all I made is in China so I'm sad but uh mmm my parents want me to study better and I I, okay, okay. Student #4 (personal communication, November, 2009)

Uh in my deep memory uh is uh most uh the saddest uh time in my uh the saddest thing in my life is uh time when I uh when I prepared to uh to get get on the plane to America uh because it it mean I will I would uh say goodbye to my country and I won't be I w- I- wouldn't be stay with my family friends uh I won't I won't uh see see them for a long time. Uh I would be lonely yeah in a strange country. Student #5 (personal communication, November, 2009)

Okay well last august my parents uh they were waiting for a traffic light but uh unfortunately they was hitted by a car and and I went to the the when I went to the hospital I saw my fa- my my mother all blood on her face and I feel so sad and very angry and I want to find the driver and the police tell me told me the driver is drunk and at that time so mmm but right now my parents still alive and healthy so I'm not too sad right now. Student #6 (personal communication, November, 2009)

One time I when I in in California I am driving my car and uh come back our dormitory but I I had pulled over by police man. And err I I tell him I got license international job license but they they say "you cannot use it in in here". I say "why". They say "it's the law". I say "is so stupid". Student #3 (personal communication, November, 2009)

APPENDIX B

PARAGRAPH AND WORDS STUDENTS READ ALOUD

The following paragraph was read during all three recording sessions. Note: student 3 did not read the paragraph during recording session 1 as he chose to respond to the question. However, he did read it during the second and third recording sessions:

> I was sitting in my room at my open window, listening to the wind in the trees and reading. A black four-door car moved slowly up the street and came to a stop in front of our house. Two men got out. They wore dark suits. One of them looked at a paper in his hand and then at our house. Some boys playing a game of stoopball in front of the neighboring house paused to regard them curiously. The two men climbed up our front stoop. A moment later I heard the loud click of the downstairs door. (p.234)

Potok, C. (1985). *Davita's Harp.* New York: Ballantine Books.

The following list of words was read by students 2, 3, 4, 5, and 6 during recording session #2 in conjunction with the paragraph:

Curiously

Stoopball

Paused

Trees

Music

Search

Hobbies

Suits

Wind

Wore

Neighboring

The following list of words was read during recording session #3 by student 2, 3, 4, 5, and 6 in conjunction with the paragraph:

Curiously

Stoopball

Paused

Trees

Music

Search

Hobbies

Suits

Wind

Wore

Neighboring

Festivals

Clubbing

APPENDIX C

INFORMED CONSENT FORMS

CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

5500 University Parkway, San Bernardino, CA 92407-2397

COLLEGE OF ARTS AND LETTERS
Department of English
(909) 880-5824

INFORMED CONSENT FOR STUDENTS

This study will examine your language progression while enrolled in an English language class here at CSUSB. This study is being conducted by Mallory Ruiz under the supervision of Prof. Caroline Vickers, Assistant Professor of Applied Linguistics, California State University, San Bernardino and Prof. Parastou Feiz, Assistant Professor of Applied Linguistics, California State University, San Bernardino. This study has been approved by the Institutional Review Board, California State University, San Bernardino.

PURPOSE: The purpose of this research is to understand if and how your speech changes during your enrollment in a language program, that is, you sound more like a native English speaker(intelligible) or less like a native English speaker (less intelligible).

DESCRIPTION: I will interview you three times throughout the quarter. While I record our interview session, I will ask you to either read aloud a short passage from a novel or provide an answer to the following question "Can you describe a time in your life when you were happy, sad, scared, or excited." While you respond, I will record your response with a tape recorder. Each interview should take about fifteen minutes. After each interview, the speech sample you provide will be given to a panel of English graduate students who will make observations about your speech.

PARTICIPATION: If you choose to participate or not in this study, it will not affect your grade in the class. You can stop your participation at any time during the study.

CONFIDENTIAL: All of the information you provide will be kept private and will only be used for this study. Each audio recording you provide will be kept locked in a file cabinet to which only I have access to. Once all of the information is collected, the audio tapes will be destroyed.

DURATION: I will meet with you three times during the quarter; once during the first two weeks of the quarter; a second time during week 5 of the quarter; a final time during the last two weeks of the quarter. Each session should last no more than 15 minutes.

RISKS: If responding to the question might cause you to experience a good or bad emotional response, you can choose to read aloud the short passage.

BENEFITS: After you complete this study you might gain a greater awareness of your speech development of English.

AUDIO: I understand that this research will be audio recorded Initials___

CONTACT: If you have questions about the research and your rights involved with the study, you may contact Prof. Caroline Vickers, Assistant Professor of Applied Linguistics, California State University, San Bernardino at 909-537-5684 or cvickers@csusb.edu .

RESULTS: If you would like to find out the results of the study, they will be available to you at the CSUSB Pfau Library.

SIGNATURE: If you wish to participate in the following study and agree to the terms stated above, please sign below.

Signature _____ Date_____

CALIFORNIA STATE UNIVERSITY, SAN BERNARDINO
INSTITUTIONAL REVIEW BOARD COMMITTEE
APPROVED 09/25/09 VOID AFTER 09/24/10
IRB# 09026 CHAIR Antonio Ulloa, Ph.D

CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

Academic Affairs
Office of Academic Research • Institutional Review Board

September 25, 2009

CSUSB INSTITUTIONAL REVIEW BOARD
Expedited Review
IRB# 09026
Status
APPROVED

Ms. Mallory Ruiz
c/o: Prof. Caroline Vickers
Department of English
California State University
5500 University Parkway
San Bernardino, California 92407

Dear Ms. Ruiz:

Your application to use human subjects, titled "Phonological Awareness and Its Effect on Second Language Acquisition" has been reviewed and approved by the Institutional Review Board (IRB). The attached informed consent document has been stamped and signed by the IRB chairperson. All subsequent copies used must be this officially approved version. A change in your informed consent (no matter how minor the change) requires resubmission of your protocol as amended. **Your application is approved for one year from 09/25/2009 through 09/24/2010. One month prior to the approval end date you need to file for a renewal if you have not completed your research. The protocol renewal form is on the IRB website. See additional requirements of your approval below.**

The CSUSB IRB has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval notice does not replace any departmental or additional approvals which may be required.

Your responsibilities as the researcher/investigator reporting to the IRB Committee include the following requirements. You are required to notify the IRB of the following: 1) **submit a protocol change form if any substantive changes (no matter how minor) are made in your research prospectus/protocol, 2) if any unanticipated/adverse events are experienced by subjects during your research,** and 3) **when your project has ended by emailing the IRB Coordinator.** Please note that the protocol change form and renewal form are located on the IRB website under the forms menu. Failure to notify the IRB of the above may result in disciplinary action. You are required to keep copies of the informed consent forms and data for at least three years.

If you have any questions regarding the IRB decision, please contact Michael Gillespie, IRB Compliance Coordinator. Mr. Michael Gillespie can be reached by phone at (909) 537-7588, by fax at (909) 537-7028, or by email at mgillesp@csusb.edu. Please include your application identification number (above) in all correspondence.

Best of luck with your research.

Sincerely, Sharon L Ward, Ph.D.

Sharon Ward, Ph.D., Chair
Institutional Review Board

SW/mg

cc: Prof. Caroline Vickers, Department of English

909.537.7588 • fax: 909.537.7028 • http://irb.csusb.edu/
5500 UNIVERSITY PARKWAY, SAN BERNARDINO, CA 92407-2393

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