PRONUNCIATION LEARNING STRATEGIES AND LEARNING STRATEGIES RELATED TO PRONUNCIATION ABILITY IN AMERICAN UNIVERSITY STUDENTS STUDYING SPANISH

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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ABSTRACT

In order to more fully understand the factors that influence pronunciation ability in adult students of a foreign language, this study investigated the relationship between pronunciation ability and learning strategies. In the first phase of this project, 11 students from three levels of university Spanish classes participated in either diary keeping or interviews designed to reveal the strategies they were using to learn or improve their Spanish pronunciation. This part of the investigation revealed 23 pronunciation learning strategies that had not been documented previously in the literature. Before proceeding with the larger, quantitative phase of the study, the Strategy Inventory for Language Learning (SILL) (version 5.1, Oxford, 1989) was modified to include 20 additional items focusing specifically on pronunciation learning.

The modified SILL was then given to 64 students from three levels of university Spanish, and the results were analyzed through factor analysis. Six factors emerged: authentic/functional practice strategies, reflection
strategies (regarding language knowledge and state of mind),
pronunciation and memory strategies, affective and memory
strategies, cooperation strategies, and factor six (which
could not be meaningfully named). The same 64 students also
engaged in a pronunciation task (reading aloud), which was
recorded and then judged by three raters on a scale from 1
(not at all nativelike) to 7 (completely nativelike).

The relationship between learning strategy use, as
measured by the six factors of the modified SILL, and
pronunciation ability, as measured by the three raters, was
investigated by means of scatter plots and correlation
coefficients. Two of the six factors were shown to have a
positive relationship with pronunciation ability:
authentic/functional practice strategies \((r=0.58)\) and
reflection strategies \((r=0.42)\).

Several variables of secondary importance were also
analyzed in terms of their relationship to pronunciation
ability. Side-by-side box plots showed pronunciation
ability to have a positive relationship with level of
Spanish, self-ratings of pronunciation ability, perceived
importance of pronunciation, and out-of-class exposure to
Spanish. Scatter plots also showed a strong positive
relationship between pronunciation ability and the cognitive
subscale of the original SILL \((r=0.61)\).
To God
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CHAPTER 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction to the Problem

The concept of foreign accent is a fascinating area for many people. Some accents may strike listeners as exotic and romantic, others as bothersome or even confusing. Accents are important because poor pronunciation has the potential to stigmatize and disadvantage a nonnative speaker. People often wonder why some individuals seem to pick up a language so easily, though others struggle with a thick, heavy foreign accent. This question is especially interesting for foreign and second language teachers. If many of the students in foreign and second language classes in America come from similar language backgrounds and began studying the language at around the same time, why do some sound so much like native speakers, yet others retain their very distinct accent? What can be done to help the poor pronouncers improve?
To shed some light on this question, researchers look to the important variables that have emerged in the field of second language (L2) acquisition that attempt to explain learner differences. Larsen-Freeman and Long (1991) list the major categories of variables as age, aptitude, motivation, attitude, personality (e.g., self-esteem, extroversion, anxiety, empathy), cognitive style (e.g., field independence/dependence, aural/visual), hemisphere specialization, learning strategies, and "other factors" (p. 203) such as memory and prior experience. Although not great in number, there have been studies investigating the effect of almost all of these factors on pronunciation ability (e.g., Conrad, 1991; Dowd, 1984; Elliott, 1995; Fish, 1984; Guiora, Brannon, & Dull, 1972; Oyama, 1976; Piper & Cansin, 1988; Suter, 1976; Taylor, 1969). There is, however, one variable that is surprisingly absent from the literature on predictors of pronunciation ability. This missing variable is learning strategies. Its absence from pronunciation learning research is surprising because of the widespread acknowledgment that students' use of learning strategies is important in explaining differential success in language learning.
Learning strategies have been defined as "the techniques or devices which a learner may use to acquire knowledge" (Rubin, 1975, p. 43). Research has identified numerous strategies students use to learn foreign languages. Just a few of these, as identified by Chamot (1987), are advance preparation, self-evaluation, repetition, note-taking, imagery, questioning for clarification, and cooperation. Ellis (1994) believes that research resulting in classifying learning strategies has made "considerable progress" (p. 539), and that research into other aspects of learning strategies is showing much promise (e.g., factors affecting the choice of strategies, the relationship between strategies and language learning, strategy training).

Research in the various areas of learning strategies is experiencing what Skehan (1991) calls an "explosion of activity" (p. 285). This is understandable considering the great value of knowing about student learning strategies. Oxford (1986) explains that "second language learning strategies are important because they improve language performance, encourage learner autonomy, are teachable, and expand the role of the teacher in significant ways" (abstract). Learning strategies can tell us a great deal about learners and learning and also
hold great promise for improving teaching. Indeed, learning strategy research has already done (and continues to do) just that in areas like foreign/second language learning in general and in specific skills like reading and listening. The unfortunate lack of strategy research in relation to pronunciation learning leaves a big hole in the profession's understanding of why learners pronounce the way they do. In order to have as complete a picture as possible of the factors that may influence pronunciation ability, the present study was undertaken.

Purpose of the study

This study attempted to find out what kinds of strategies adult students of Spanish as a foreign language are using to learn Spanish pronunciation and what learning strategies are associated with successful pronunciation. Specifically, the study examined three main areas. First of all, this study asked what pronunciation learning strategies exist among adult learners of Spanish at three different course levels. Secondly, and most importantly, this study looked for learning strategies associated with successful pronunciation learning. In addition, this project
investigated the way a number of other variables relate to pronunciation ability.

The research questions are as follows:

1. What pronunciation learning strategies do adult students of Spanish as a foreign language use?

2. Does the use of learning strategies (including pronunciation learning strategies) vary with respect to pronunciation ability?

3. What is the relationship between pronunciation ability and the variables of language level, sex, self-perception of pronunciation ability compared with peers, self-perception of pronunciation ability compared with native speakers, perceived importance of becoming proficient in the pronunciation of Spanish, amount of time spent outside of class in Spanish-speaking situations, and learning strategy use as measured by the original Strategy Inventory for Language Learning (Oxford, 1990).

Value of the Study

This study is important because of its basic and applied significance. As Ellis (1994) states, "the study of learning strategies holds considerable promise, both for language pedagogy and for explaining individual
differences in L2 learning" (p. 558). First of all, this study has generated more knowledge about learners and learning. The area of learning strategies is considered to be important in attempting to explain differing learning outcomes among learners. Something was already known about what learning strategies learners use in order to learn a foreign language in general, but this study is the first one to focus solely on the strategies that are being used to learn the pronunciation of that language. This line of inquiry can increase the profession's understanding of why some students can pronounce the target language (TL) better than others.

Besides finding out more about learners and the way they learn, this study has also been a first step in some day linking learning strategies and pronunciation pedagogically. Although research into the efficacy of learning strategy training (training students to use certain strategies associated with language success) has a long way to go, some researchers feel "that strategy training may be an important part of the solution" in finding "the best way to help students become optimally effective language learners" (Oxford, et al., 1990, p. 211). There has already been much material developed to train learners in the wise use of general language
learning strategies, and this study has contributed to the possibility of eventually training students to use pronunciation learning strategies effectively. At the very least, this study has suggested areas of strategy use that learners may want to consider for the purpose of improving their pronunciation.

Operational Definitions

**Holistic Grading Scale** - An instrument used to globally judge an individual's pronunciation ability. It is a seven-point scale ranging from 1.0 (not at all nativelike) to 7.0 (completely nativelike).

**Learning Strategies** - “Steps taken by students to enhance their own learning” (Oxford, 1990, p. 1).

**Modified SILL** - An amplified version of Oxford's SILL that includes additional items specifically focusing on pronunciation learning strategies. SILL modification (described later) was undertaken based on the results of the first phase of this study.

**Pronunciation Ability** - Subjects' overall quality of Spanish pronunciation as judged by the raters on the holistic rating scale.
Pronunciation Learning Strategies - Steps taken by students to enhance their own pronunciation learning (adapted from Oxford, 1990).

Raters - Three Spanish-speaking individuals trained to use the holistic grading scale in judging subjects' pronunciation ability.

Secondary Variables - Variables for which data were collected and that were of interest—but not the central focus of the study. They are language level, sex, self-perception of pronunciation ability compared with peers, self-perception of pronunciation ability compared with native speakers, perceived importance of becoming proficient in the pronunciation of Spanish, amount of time spent outside of class in Spanish-speaking situations, and learning strategy use as measured by the original SILL’s six subscales.


Assumptions

1. Students were willing and able to self-report the strategies they use. Oxford and Burry-Stock
(1995) have stated that "language learners are capable of remembering their strategies and describing them lucidly and in a relatively objective manner" (p. 2).

2. The modified SILL is a valid and reliable measure of strategy use. (Validity and reliability of the modified SILL are reported in the Results and Discussion chapter.)

3. The pronunciation elicitation task (described later) used represents a careful effort to avoid confounding from other abilities like grammatical ability.

Limitations of the Study

1. Only college-level (adult) learners of Spanish as a foreign language were studied. Other learner populations may have different strategy use.

2. The SILL and the modified SILL can tap into only the strategies that learners can identify. They are not able to measure unconscious strategies.

3. This study investigated learning strategies that learners believe they generally use to learn target language pronunciation. It did not propose to study
strategies of pronunciation use or communication strategies.

4. Because of a relatively large number of items on the SILL, strategies were examined in groups or clusters called factors. Hypothesis testing of individual items on such a long survey would not be appropriate.
Chapter 2

REVIEW OF RELATED RESEARCH

Definition of Learning Strategies

In one of the earliest studies on the subject, Rubin (1975) defined learning strategies as "the techniques or devices which a learner may use to acquire knowledge" (p. 43). Many similar definitions have been advanced since, though some confusion and disagreement over terms remains. Ellis (1994) outlines some of the problems with defining learning strategies.

First, one can distinguish between language learning strategies (attempts to master linguistic and sociolinguistic information) and skill learning strategies (attempts to become proficient in listening, speaking, reading, or writing). Another potential problem is whether strategies are considered primarily behavioral (observable) or mental. Rigney (1978) has suggested that learning strategies are mainly cognitive. Chamot and Kupper (1989) state that there are both
“non-observable and observable aspects of learning strategies” (p. 13).

Another controversy is whether learning strategies are conscious or unconscious. Some researchers refer to conscious acts as tactics (e.g., Seliger, 1984) and the unconscious, abstract ones as strategies. Stern (1983) uses the term strategies for a learner’s general tendencies and approach toward learning and “learning techniques” to refer to specific types of observable behavior that may or may not be conscious. Whether learning strategies have a direct or indirect effect on learning may also be debated. Oxford (1990) refers to some learning strategies as direct and others as indirect. Some definitions limit the purpose of learning strategies to learning, but others (e.g., Oxford, 1989) assert that they can have wider purposes like increasing enjoyment.

These issues will not be resolved easily. Oxford and Cohen (1992) discuss and then offer solutions to these types of disagreements, but even they do not necessarily abide by their own limiting recommendations in subsequent articles.

A review of the many proposed definitions of learning strategies suggests many more commonalities than
disagreements. Ellis (1994) seems to favor allowing a broad definition in his analysis of learning strategies (i.e., learning strategies can be seen as behavioral and/or mental, direct and/or indirect, etc.). Because Oxford's (1990) definition is broad and inclusive, and because her strategy assessment device is being used in this study, it seemed appropriate to adopt her definition for use in the proposed study: "Learning strategies are steps taken by students to enhance their own learning" (p. 1). Pronunciation learning strategies, then, are "steps taken by students to enhance their own [pronunciation] learning."

Methods Used to Investigate Learning Strategies

There are several primary methods that have been used to investigate learning strategies in research projects. Oxford and Burry-Stock (1995) describe the advantages and disadvantages of these methods. Observation can be accomplished easily in a classroom, but it cannot shed light on mental, unobservable strategies. The other methods involve self-reporting by subjects, and have usually proved more successful than observation. Interviews, note-taking, and diaries provide rich information about strategy use, but they can
be time-consuming (for students and teachers), and it is difficult to compare results across studies. Unstructured recollection can provide other helpful and related information such as about attitude and motivation, but students tend to forget the details of their strategy use. In think-aloud protocols, students provide detailed information about their strategy use during a particular task, like reading. They do not, however, provide the big picture of a student's general strategy use. Finally, although summative rating scales cannot provide as much detail as a think-aloud, they can cover a wide variety of possible strategies and tasks, and they are time-efficient, cost-effective, nonthreatening, and confidential. Researchers generally believe that these self-report methods of investigating learning strategies can be used successfully. As Oxford and Burry-Stock (1995) put it, "most language learners are capable of remembering their strategies and describing them lucidly and in a relatively objective manner" (p. 2).

**List-making**

The earliest learning strategy research focused on creating lists or inventories of learning strategies with
the aim of helping less successful learners. The two most widely cited lists are from Rubin (1975) and Stern (1975). They were based on a combination of intuition and informal observation. It is worth noting that subsequent research has tended to confirm these two lists (e.g., Naiman, Frohlich, Stern, & Todesco, 1978; Reiss, 1985). Rubin observed students in classrooms, observed her own learning habits, and talked to teachers about what strategies “good language learners” use. She listed seven strategies of good language learners:

1. The good language learner is a willing and accurate guesser.
2. The good language learner has a strong drive to communicate, or to learn from a communication.
3. The good language learner is often not inhibited.
4. In addition to focusing on communication, the good language learner is prepared to attend to form.
5. The good language learner practices.
6. The good language learner monitors his own and the speech of others.
7. The good language learner attends to meaning. (p. 45-47)

Stern’s (1975) list of nine strategies used by the good language learner was based on Rubin’s (1975) list as
well as language learning theory, his own experience as a learner and a teacher, and a review of relevant literature. He claimed that the good language learner had the following characteristics:

1. A personal learning style of positive learning strategies
2. An active approach to the learning task
3. A tolerant and outgoing approach to the target language and empathy with its speakers
4. Technical know-how about how to tackle a language
5. Strategies of experimentation and planning with the object of developing the new language into an ordered system, and revising this system progressively
6. Constantly searching for meaning
7. Willingness to practice
8. Willingness to use the language in real communication
9. Self-monitoring and critical sensitivity to language use (p. 311-315)

**Observations**

Naiman et al. (1978) employed classroom observation in addition to student interviews. They observed 12 classes of language students between grades 8 and 12 and found that observation alone was not very revealing:
"strict observation in language learning classrooms does not reveal language learning strategies or specific techniques other than fairly obvious indicators" (p. 99). They concluded that learner and teaching factors other than learning strategies cannot be ignored.

Cohen and Aphek (1981) studied 19 Americans learning Hebrew in Israel. Their classroom observations alone provided many more questions than answers, but follow-up discussions with students were more helpful.

Rubin (1981) used an observation schedule to observe English as a Second Language (ESL) classrooms in Hawaii. She found that "observing classroom activities is often not very productive" in terms of identifying which strategies students are using (p. 121). Observation of other activities, such as tutorials, however, was more helpful. She stated that directed diary reporting was found to be "extremely useful" (p. 120).

O’Malley, Chamot, Stewner-Manzanares, Russo, and Kupper (1985b) used an observation guide during 53 class observations. Few learning strategies were identified during the observations, "probably because learning strategies are not always accompanied by observable behavior" (p. 566). These researchers had more success with student and teacher interviews.
Chesterfield and Chesterfield’s (1985) research suggests that observations may be more successful with child learners. They systematically observed 14 Mexican American children in their bilingual classrooms in preschool and later in first grade. They found that, for young children in bilingual classrooms, use of learning strategies was very common and that learning strategies were involved with a large part of all their target language interaction. Interestingly, the Chesterfields determined through implicational scaling that there was a natural order for the children’s development of learning strategies. In addition, children with greater target language proficiency were able to use a wider variety of strategies.

Interviews and Thinking-aloud

Papalia and Zampogna (1977) investigated learning strategies of French and Spanish high school students in New York State. They used interviews to determine what kinds of strategies were being used in vocabulary learning. Some of the most popular strategies were associating vocabulary words with pictures, using flash cards, acting out words, and working with a partner. To investigate reading strategies, immediate verbal recall
was employed. Several strategies were brought to light, including looking for cognates, skipping unknown words, and guessing from context.

Naiman et al. (1978) interviewed 34 successful adult language learners, questioning them broadly about their language learning experiences. They found five learning strategies or approaches to be especially common among their subjects:
1. an active task approach
2. the realization that language is a system
3. the realization that language is a means of communication
4. the management of affective needs
5. the monitoring of target language performance

Three case-study students were further interviewed, and here the conclusion reached was that good language learners put forth considerable effort and “develop techniques and strategies appropriate to their individual needs” (p. 25).

Hosenfeld (1979) developed a technique known as thinking aloud, in which students engage in a language task and report, either during the task or after its completion, the strategies they use or used. She suggested that poor learning outcomes could be the result
of ineffective strategy use and recommended giving students opportunities to “perceive their own strategies, and discover and select new strategies” (p. 53) that might be more effective.

Cohen and Aphek (1981), as reported above, followed their somewhat inconclusive class observations with follow-up interviews. These interviews, especially when completed as soon after a particular learning event as possible, were revealing. Two strategies appeared to aid in learning communication skills: learning verb forms through creating associations and making up rules for how a language works.

Wenden (1981) interviewed 25 adult ESL learners about the learning strategies they were conscious of using in various social situations. Several strategies were prominent: coping, designating, discriminating, evaluating, planning, self-analyzing, and theorizing.

Wenden (1985) interviewed a Spanish economist who studied in England. She determined that his learning strategies could be placed into four categories: cognitive strategies, communicative strategies, global practice strategies, and metacognitive strategies.

O’Malley, Chamot, Stewner, Kupper, and Russo (1985a) used group interviews with 70 ESL students of high school
age. Students were questioned in groups of three or four about their oral language activities. An important outcome of this investigation was that the number of documented learning strategies that had been gleaned from a literature review was almost doubled. The study also found that students used cognitive strategies the most (53% of all strategy uses), followed by metacognitive strategies (30%), and socioaffective strategies (17%) (O’Malley et al., 1985b).

Abraham and Vann (1987) used interviews and think aloud tasks with one successful and one unsuccessful ESL learner. They noted not only the subjects’ responses about their learning strategies during the interviews, but also observed their actual use of strategies during the interviews. Both learners were concerned with communication, and in fact, the less successful (academically speaking) learner was a better communicator. But the student who was more successful academically was more concerned with form than the other learner. He used more monitoring and self correcting and asked to be corrected more. He also appeared to have greater variety and flexibility in his repertoire of learning strategies.
Gillette (1987) conducted unstructured interviews with two successful intermediate French learners. These students were successful communicators, though not necessarily the best of the class grade-wise. Interview results showed very individualistic styles being used, with the students using whatever strategies they felt worked best for them. Some commonalities between these two learners were that instinct, rather than rules, was preferred for monitoring; that hypothesis testing was used; and that lower-order, conscious strategies were not likely to be used.

Chamot and Kupper (1989) conducted a three-year project of three separate studies. Their descriptive study involved interviews with 67 high school students in first through sixth year Spanish classes. Results showed that students at all ability levels used learning strategies, and that many more cognitive than metacognitive strategies were used. A longitudinal study employed interviews and think aloud methods. It was found that more successful learners were able to use more strategies, and use them more often and more flexibly. Less successful students seemed to have access to fewer strategies and tended to use strategies that did not lead to successful completion of tasks.
Lennon (1989) interviewed four German university-level ESL students to find out about their language learning experiences in Reading (England). The open-ended questions produced "considerable concurrence among subjects in these retrospections" (p. 385). Some of the reported strategies were seeking out opportunities to hear the target language, guessing meanings from context, and being concerned more for communication than correctness.

Vann and Abraham (1990) reported results of a case study of two unsuccessful learners. The two different unsuccessful learners seemed to employ learning strategies with the same frequency and variety as more successful learners. Think-aloud methods were able to show that their problems seemed to stem from using their strategies in ways inappropriate for the task at hand. Also, they especially lacked metacognitive strategies. The authors suggested that case study methodology may be vital in learning strategy research because important differences between learners may be overlooked when using just simple strategy counting.

Mangubhai (1991) used think-alouds and immediate and delayed verbal retrospective reports to study five adults learning Hindi through Total Physical Response. The more
successful learners used a wider variety of strategies than the less successful learners, and they also made more use of repetition in practice. The less successful learners had a greater focus on content words and single words to determine meaning and relied on a “translation method that gave equal weight to each word in an utterance” (p. 268).

LoCastro (1994) held group discussions with successful Japanese ESL learners to discuss the strategies they used to learn in large class situations. The main strategy reported was memorization. Other strategies used were listening to radio, television, and movies; doing reading aloud; and memorizing grammar and vocabulary.

**Diaries, Note-taking, and Written Retrospection**

For five weeks Rivers (1979) kept a diary of her experiences learning Spanish, her sixth language. Her diary was published without analysis or conclusions, but her use of numerous learning strategies was evident. Among the strategies she reported using were studying reference books out-of-class, listening “hard,” using mnemonic devices, seeking to amuse or please listeners,
reading newspapers and advertisements, and seeking out individuals to meet affective needs.

Howell-Richardson and Parkinson (1988) studied 74 full-time ESL learners. The learners kept diaries for 7 to 10 days about their language learning experiences. Although the authors do not report the study's results in terms of specific learning strategies, strategies were revealed by the diaries, and the diary method was recommended as being useful for conducting basic research.

Lennon (1989) used retrospective reports in addition to interviews (described above). There was "a considerable degree of concurrence" (p. 375) between the written reports and (oral) interviews. Subjects also had a high degree of concurrence with each other in terms of learning strategies and experiences.

**Questionnaires and Structured Surveys**

Bialystok and Frohlich (1978) and Bialystok (1981) used a closed questionnaire to study three learning strategies in French as a Second Language high school classes. The three strategies chosen were practice, monitoring, and inferencing. Results showed that monitoring and inferencing were used more frequently than
practice. Only one significant difference in strategy use between oral and written modalities was found: inferencing was used more for written than oral material. Overall, functional (as opposed to formal) practice proved to be significantly related to achievement. In grade 12, inferencing was influential, and formal practice had a significantly negative result.

Politzer (1983) used a questionnaire to study 90 American students learning several different foreign languages. She determined that there was a relationship between language learning strategies and language success as measured by grades and teachers’ evaluations. The study also revealed some of the variables (e.g., teaching method) that may have an impact on which strategies learners choose to employ. Politzer suggested that these variables would interact with and possibly obscure the learning strategy/language success relationship.

Politzer and McGroarty (1985) gave a questionnaire to 37 university-level ESL students, and the results were related to measures of English proficiency. Which strategies were “good” varied depending on proficiency level and frequency of use. Also, the strategies that fostered success on discrete linguistic competence
measures were very different from those that were associated with communication-oriented measures.

Reiss (1985) set out to investigate the strategies suggested by Rubin (1975). She used questionnaires with 98 college-level foreign language students. Rubin’s strategies were generally reaffirmed. The most used strategy for successful learners was monitoring.

Horwitz (1987) used a questionnaire—the Beliefs About Language Learning Inventory—to study three ESL classes. Students stated that they believed that using audio tapes (75% of the subjects) and doing a lot of repeating and practice (95%) were of great importance.

Ramirez (1986) studied 105 students of French in grades 7 through 10 in rural and urban schools. Results obtained through survey methodology showed that strategy usage varied with different tasks, namely a communicative task, a cloze test, and a multiple-choice test. Years of study also influenced strategy usage.

strategies, and input-seeking strategies. Various factors such as sex, major, motivation, years of study, required versus elective course status, rewards, and skills proficiency showed significant relationships to one or more of the five areas.

Chang (1990) used the SILL to study the learning strategies of 50 Chinese students studying at the University of Georgia. Overall, these students used compensation strategies the most and affective strategies the least. There was also a difference between students with high oral proficiency and those with low oral proficiency: the high group used social strategies significantly more than the low group.

Phillips (1991) studied the learning strategies of intermediate and advanced Asian ESL learners at the university level in the United States. These students had a rather high level of strategy usage. Metacognitive and social strategies were used the most. Proficiency level affected amount of strategy use, with students at the middle-proficiency level having the greatest strategy use.

Oxford, Park-Oh, Ito, and Sumrall (1993) used the SILL to study 107 students learning Japanese by satellite television. These students exhibited overall strategy
use in the lower medium range. Cognitive strategies were used most and memory strategies least. Frequency of strategy usage was a significant predictor of success in learning Japanese.

LoCastro (1994) used the SILL in addition to interviews with successful Japanese ESL students. Results indicated that overall, strategy usage was in the medium range. Metacognitive strategies were used most and memory strategies least. LoCastro’s main concern after doing this research was the discrepancies found between data generated by the SILL and by the interviews. Oxford and Green (1995) responded in another article that the purposes of surveys and interviews are different and that some differences in results are to be expected.

Oxford and Ehrman (1995) used the SILL to study adult learners’ use of learning strategies and their relationship to other factors such as proficiency, motivation, aptitude, and learning style. Overall learning strategy use was found to be moderate. Using cognitive strategies correlated significantly and positively with evaluative proficiency ratings.

Pickard (1996) used a questionnaire with 20 successful German ESL students to find out about their out-of-class learning strategies. In addition, half of
these students participated in a follow-up interview. The vast majority of strategies reported were for the receptive skills of listening and reading. The most prevalent sources of out-of-class reading were novels, newspapers, and magazines. Students felt that these materials were readily available and seemed to read them for recreational purposes. The most frequently used out-of-class strategy for improving listening skills was listening to the radio, followed by watching television. The higher use of receptive skills material seemed to be due to the kinds of materials that were easily accessible in a foreign (as opposed to second) language setting.

Training studies

Given that helpful learning strategies can be identified, it follows that perhaps these can be taught. For some time, research projects have been undertaken to study the effects of training learners to use learning strategies. The earliest strategy training experiments in second language learning used a mnemonic method, the keyword method. The keyword method for vocabulary learning involves, first, associating the target-language word with a native-language word that sounds similar in some way and, then, forming a pictorial association.
between the target word’s meaning and the native-language word’s image.

Atkinson (1975) and Raugh and Atkinson (1975) report results of several experiments with keyword method instruction in laboratory settings using a computer. Most of the keyword training produced significant benefits for learners (e.g., a stunning 88% correct responses for an experimental group as compared to 28% correct for the control group in one experiment), but not all were significant. Atkinson (1975) discusses several issues in training implementation that could be expected to impact experimental results, for example, whether it is the experimenter or the student who supplies the keyword and the imagery link.

Levin, Pressley, McCormick, Miller, and Shriberg (1979) conducted a series of experiments involving teaching of the keyword method to child and adult students in classroom settings. Results must be classified as mixed. Although some of the experiments showed significant and even dramatic benefits of keyword-method training, others produced no significant results. The researchers suggested that results of this kind of strategy training vary tremendously according to the specific purposes, populations, and procedures involved.
Cohen and Aphek (1981) provided training to students of Hebrew in making associations to aid vocabulary learning. Results indicated that associations were successful in helping students learn vocabulary words. All students, however, regardless of whether they used associations or just memorization, retained about the same number of words (75%) after several weeks.

In 1982, Henner-Stanchina (cited in Oxford, 1986) used oral texts in teaching listening comprehension. She diagnosed some of the causes of student errors and then taught inferencing and self-correction strategies. She reported that students were able to use these strategies successfully to improve their listening comprehension.

O’Malley, et al. (1985b) studied 75 high school ESL students divided into three groups. One group received training in metacognitive, cognitive, and socioaffective strategies. Another group received training in only cognitive and socioaffective strategies. A third group served as the control and received no strategy training. Results were mixed. Strategy training proved to be of significant benefit on a speaking task, but not for a listening or a vocabulary task.

In 1985, Russo and Stewner-Manzanares (cited in Oxford, 1986) provided strategy training to military
personnel learning ESL. The researchers reported that strategies were teachable, but that a complex interaction of factors like ethnicity and tasks made interpretation difficult. Hispanics reported enjoying strategy training, but Asians did not. The strategy training was more effective for speaking than for listening tasks.

Chamot and Kupper (1989) reported a study in which four ESL instructors provided training to their students in several listening, reading, and speaking strategies. No statistical or correlational results are reported. The authors concluded that teachers, and not only researchers, are capable of implementing strategy training in the classroom. Success of the training is expected to vary based on factors such as teacher interest, techniques, and student motivation.

Oxford, et al. (1990) described several different strategy training situations as case studies. The types of training, languages involved, and the student populations were varied, but the researchers found a commonality: students had positive reactions to their strategy training experiences.

Chamot (1993) reported on student attitudes about and use of certain language learning strategies three to four months into an ongoing study of strategy training.
Seventy-nine beginning language students provided information about their attitudes toward and use of certain strategies in class and at home. Students reported that most of the strategies taught were being used at school and also, to a lesser degree, at home. The specific strategies that were most well received by students were directed attention, selective attention, contextualization, imagery, and language transfer.

Cohen, Weaver, and Li (1995) examined strategy-training in university-level French and Norwegian foreign language classrooms. Of 55 subjects, 32 received instruction on a wide range of learning strategies as an integrated part of their language course. The other 23 served as the comparison group and received no special strategy training. After the course, the students participated in a battery of three speaking tasks to assess their speaking ability. The experimental training group significantly outperformed the comparison group on one of the three speaking tasks (describing a city).

Categorization of Learning Strategies

One of the most accomplished areas of second language learning strategy research is that of categorization of learning strategies (Ellis, 1994). The
two main schemes of categorization found in the literature are that of O’Malley and Chamot on the one hand (e.g., Chamot, 1987) and that of Oxford (e.g., 1990) on the other.

Chamot (1987) presented a framework for describing and categorizing strategies designed by her and O'Malley, working under the information-processing model (Table 1). They classify learning strategies into three major categories. The first group, metacognitive strategies, are learner attempts to control language learning such as selective attention and self-evaluation. Cognitive strategies, like deduction and repetition, involve the processing of information in order to solve problems. Finally, social/affective strategies, such as clarification questions, involve learners' interaction with other learners and native speakers. Besides clearly illustrating O'Malley and Chamot’s notion of categories, their table provides useful definitions of many strategies.
<table>
<thead>
<tr>
<th><strong>Learning Strategy</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metacognitive</strong></td>
<td></td>
</tr>
<tr>
<td>Advance organizers</td>
<td>Making a general but comprehensive preview of the concept or principle in an anticipated learning activity.</td>
</tr>
<tr>
<td>Directed attention</td>
<td>Deciding in advance to attend in general to a learning task and to ignore irrelevant distractors.</td>
</tr>
<tr>
<td>Selective attention</td>
<td>Deciding in advance to attend to specific aspects of language input or situational details that will cue the retention of language input.</td>
</tr>
<tr>
<td>Self-management</td>
<td>Understanding the conditions that help one learn and arranging for the presence of those conditions.</td>
</tr>
<tr>
<td>Advance preparation</td>
<td>Planning for and rehearsing linguistic components necessary to carry out an upcoming language task.</td>
</tr>
<tr>
<td>Self-monitoring</td>
<td>Correcting one’s speech for accuracy in pronunciation, grammar, vocabulary, or for appropriateness related to the setting or to the people who are present.</td>
</tr>
<tr>
<td>Delayed production</td>
<td>Consciously deciding to postpone speaking to learn initially through listening comprehension.</td>
</tr>
</tbody>
</table>

(Table 1 continues on next page)

Table 1. Learning Strategy Classification. (Chamot, 1987)
Table 1 (continued)

<table>
<thead>
<tr>
<th>Learning Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-evaluation</td>
<td>Checking the outcomes of one's own language learning against an internal</td>
</tr>
<tr>
<td></td>
<td>measure of completeness and accuracy.</td>
</tr>
</tbody>
</table>

**Cognitive**

<table>
<thead>
<tr>
<th>Repetition</th>
<th>Imitating a language model, including overt practice and silent rehearsal.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resourcing</td>
<td>Defining or expanding a definition of a word or concept through use of</td>
</tr>
<tr>
<td></td>
<td>target language reference materials.</td>
</tr>
<tr>
<td>Directed physical</td>
<td>Relating new information to physical actions, as with directives.</td>
</tr>
<tr>
<td>response</td>
<td></td>
</tr>
<tr>
<td>Translation</td>
<td>Using the first language as a base for understanding and/or producing the</td>
</tr>
<tr>
<td></td>
<td>second language.</td>
</tr>
<tr>
<td>Grouping</td>
<td>Reordering or reclassifying and perhaps labeling the material to be learned</td>
</tr>
<tr>
<td></td>
<td>based on common attributes.</td>
</tr>
<tr>
<td>Note-taking</td>
<td>Writing down the main idea, important points, outline, or summary of</td>
</tr>
<tr>
<td></td>
<td>information presented orally or in writing.</td>
</tr>
<tr>
<td>Deduction</td>
<td>Consciously applying rules to produce or understand the second language.</td>
</tr>
</tbody>
</table>

(Table 1 continues on next page)
<table>
<thead>
<tr>
<th>Learning Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recombination</td>
<td>Constructing a meaningful sentence or larger language sequence by combining known elements in a new way.</td>
</tr>
<tr>
<td>Imagery</td>
<td>Relating new information to visual concepts in memory via familiar, easily retrievable visualizations, phrases, or locations.</td>
</tr>
<tr>
<td>Auditory representation</td>
<td>Retention of the sound or similar sound for a word, phrase, or longer language sequence.</td>
</tr>
<tr>
<td>Key word</td>
<td>Remembering a new word in the second language by (1) identifying a familiar word in the first language that sounds like or otherwise resembles the new word, and (2) generating easily recalled images of some relationship with the new word.</td>
</tr>
<tr>
<td>Contextualization</td>
<td>Placing a word or phrase in a meaningful language sequence.</td>
</tr>
<tr>
<td>Elaboration</td>
<td>Relating new information to other concepts in memory.</td>
</tr>
<tr>
<td>Transfer</td>
<td>Using previously acquired linguistic and/or conceptual knowledge to facilitate a new language learning task.</td>
</tr>
</tbody>
</table>

(Table 1 continues on next page)
The other major categorization of learning strategies is Oxford's (1990), and it is particularly important to the present study because the SILL is based upon it. Ellis calls Oxford's system "perhaps the most comprehensive classification of learning strategies to date" (p. 539). Oxford's system first divides all strategies into two "classes," either direct or indirect based on whether or not they make use of the target language. Then they are further divided into six "groups." Figure 1 shows these divisions. The direct
strategies, which necessarily make use of the target language, are grouped into memory strategies, cognitive strategies, and compensation strategies. Memory strategies help learners store and retrieve knowledge.

**Figure 1.** Overview of Oxford’s strategy system. (Oxford, 1990)

Cognitive strategies help learners to understand and produce language. Compensation strategies help learners make up for gaps in their language ability. The indirect strategies, which do not necessarily involve the target language, are metacognitive strategies, affective strategies, and social strategies. Metacognitive
strategies help students manage their learning process. Affective strategies help learners to meet their emotional, motivational, and attitudinal needs. Social strategies promote learning through interaction with other people.

Oxford's strategy system goes on to further delineate nineteen "sets," each belonging to a particular group, and then sixty-two strategies, each belonging to one of the nineteen sets. Figure 2 shows her conception of the sets and strategies.
DIRECT STRATEGIES

(Memory, Cognitive, and Compensation Strategies)

I. Memory Strategies
   A. Creating mental images
      1. Grouping
      2. Associating/elaborating
      3. Placing new words into a context
   B. Applying images and sounds
      1. Using imagery
      2. Semantic mapping
      3. Using keywords
      4. Representing sounds in memory
   C. Reviewing well
      1. Structured reviewing
   D. Employing action
      1. Using physical response or sensation
      2. Using mechanical techniques

II. Cognitive Strategies
   A. Practicing
      1. Repeating
      2. Formally practicing with sounds and writing systems
      3. Recognizing and using formulas and patterns
      4. Recombining
      5. Practicing naturally
   B. Receiving and sending messages
      1. Getting the idea quickly
      2. Using resources for receiving and sending messages
   C. Analyzing and reasoning
      1. Reasoning deductively
      2. Analyzing expressions
      3. Analyzing contrastively (across languages)
      4. Translating
      5. Transferring
   D. Creating structure for input and output
      1. Taking notes
      2. Summarizing
      3. Highlighting

III. Compensation Strategies
   A. Overcoming intelligently
      1. Using linguistic clues
      2. Using other clues
   B. Overcoming limitations in speaking and writing
      1. Switching to the mother tongue
      2. Getting help
      3. Using mime or gesture
      4. Avoiding communication partially or totally
      5. Selecting the topic
      6. Adjusting or approximating the audience
      7. Coining words
      8. Using a circumlocution or synonym

(Figure 2 continues on next page)

Figure 2. Oxford's strategy system. (Oxford, 1990)
INDIRECT STRATEGIES
(Metacognitive, Affective, and Social Strategies)

I. Metacognitive strategies
   A. Centering your learning
   1. Overviewing and linking with already known material
   2. Paying attention
   3. Delaying speech production to focus on listening
   B. Arranging and planning your learning
   1. Finding out about language learning
   2. Organizing
   3. Setting goals and objectives
   4. Identifying the purpose of a language task
      (purposive listening/reading/speaking/writing)
   5. Planning for a language task
   6. Seeking practice opportunities
   C. Evaluating your learning
      1. Self-monitoring
      2. Self-evaluating

II. Affective strategies
    A. Lowering your anxiety
    1. Using progressive relaxation, deep breathing, or meditation
    2. Using music
    3. Using laughter
    B. Encouraging yourself
       1. Making positive statements
       2. Taking risks wisely
       3. Rewarding yourself
    C. Taking your emotional temperature
       1. Listening to your body
       2. Using a checklist
       3. Writing a language learning diary
       4. Discussing your feelings with someone else

III. Social strategies
     A. Asking questions
        1. Asking for clarification or verification
        2. Asking for correction
     B. Cooperating with others
        1. Cooperating with peers
        2. Cooperating with proficient users of the new language
     C. Empathizing with others
        1. Developing cultural understanding
        2. Becoming aware of others' thoughts and feelings
Pronunciation Ability, Language Level, and Learning Strategies

Learning Strategies and Pronunciation

There does not appear to be any published research with the primary focus of investigating strategies that are used to learn the pronunciation of a second language. There is, however, a handful of studies in which pronunciation strategies are one among several types of strategies revealed.

Naiman et al. (1978) reported many techniques used by students to aid in their learning of different language skills. The following techniques were associated with pronunciation learning: repeating aloud after a teacher or native speaker, repeating aloud after tapes, reading aloud, using phonetic symbols, listening carefully, repeating silently, talking aloud, acquiring knowledge of phonetics, doing exercises to acquire target language sounds, practicing sounds first in isolation and then in context, listening to pronunciation errors made by target language speakers speaking your native language, and imitating the overall target language sound with native language words.
Rivers' (1979) diary of learning a sixth language was published without analysis, but numerous strategies that focus specifically on pronunciation learning can be found: reading reference material about pronunciation rules, saying things over and over to oneself, seeking out models for sounds, purposely avoiding producing native language sounds, noticing mouth positions, concentrating intensely, imitating native speakers, seeking out individuals to correct one's pronunciation, having a sense of humor about mispronunciations, listening to particular sounds, and repeating after a taped model.

O'Malley et al. (1985a) stated that in their interviews, students reported using numerous strategies for pronunciation learning. The article did not, however, state which strategies were used specifically for pronunciation learning.

**Learning Strategies and Language Level**

Bialystok (1981) found some differences between 10th and 12th graders in the strategies they used to learn French. In fact, the main effect of grade level was significant in her study. In 10th grade, achievement was associated with overall strategy use. In 12th grade,
however, it was individual strategies that proved to be more influential.

Pollitzer (1983) found that learning strategy use was related to course level. Also, the degree to which strategy use correlated with successful grades varied for different grade levels and languages.

O’Malley et al. (1985a) found one important difference in strategy use between the beginning, intermediate, and advanced level ESL students they studied. Intermediate students used metacognitive strategies more than beginning students did. The authors suggested that achieving some level of proficiency may enable learners to finally focus more on certain metacognitive activities.

Ramirez (1986) studied French I, II, and III students in high schools using a survey to assess language learning strategy use. He found that number of years studying the language had a significant influence on strategy use. There were 9 out of his 52 possible strategies that accounted for this difference between levels. Also, different strategies appeared to be more or less helpful at different stages of learning French.

Phillips’ (1991) study of Asian college-level ESL students revealed differences between the high, medium,
and low proficiency groups. The middle group reported significantly more strategy use than the high or low groups. The low group reported greater use than the high group on five specific strategies; one was a memory strategy, one was metacognitive, one was social, and two were affective. The high group reported significantly greater use of three strategies than the low group; two were cognitive strategies, and one was metacognitive.

The Strategy Inventory for Language Learning (SILL)

The SILL (Strategy Inventory for Language Learning) (Oxford, 1989, reprinted in 1990) is the most widely used summative rating scale around the world for assessing language learning strategy use. This present study uses version 5.1, intended for native speakers of English who are learning another language. There also exists a version for ESL learners (Oxford, 1990), as well as several other adaptations (e.g., Chinese language version). Version 5.1 contains 80 items that assess the frequency with which numerous language learning strategies are used. Each item requires a Likert-type response: (1) never or almost never true of me, (2) generally not true of me, (3) somewhat true of me,
(4) generally true of me, and (5) always or almost always true of me. The SILL is organized into strategy groups called subscales based on Oxford’s strategy typology (Oxford, 1990). The subscales, which were defined earlier, are (a) memory strategies, (b) cognitive strategies, (c) compensation strategies, (d) metacognitive strategies, (e) affective strategies, and (f) social strategies.

Along with the SILL, student directions, a scoring worksheet, learning strategy profiles, graphs, and a background questionnaire are also available. The SILL is easily administered, and students can participate in the scoring and interpretation of results (Oxford, 1990).

Development

The SILL was originally developed in 1985 by Rebecca Oxford during the Language Skill Change Project sponsored by the Defense Language Institute Foreign Language Center and the Army Research Institute for the Behavioral and Social Sciences. The SILL was designed to cover nearly all possible learning strategies brought out by earlier research. Oxford based it primarily on her own strategy system (e.g., 1986) but also used lists developed by O'Malley, Chamot, and Rubin (Oxford, 1990). The SILL
began as version 1.1 in 1986 and has undergone over ten revisions (Mullins, 1992).

Psychometric Value

There have been over 50 major studies with upwards of 8,000 subjects to use the SILL (Oxford & Burry-Stock, 1995). In addition, "it [especially version 2.1] appears to be the only language learning strategy instrument that has been extensively checked for reliability and validity in multiple ways" (p. 4).

Internal consistency reliability was reported to be .96 using Cronbach’s alpha in a 1,200-subject study (Oxford & Nyikos, 1989). In 1986, Oxford reported it to be .95 in a study of 483 military personnel (cited in Oxford, 1990). Content validity, as reported by Oxford (1990), was established when independent raters blindly matched items on the SILL with a previously established comprehensive strategy taxonomy and obtained .95 agreement.

Concurrent validity of the SILL has been demonstrated by several studies. Oxford and Nyikos (1989) found significant relationships between proficiency, motivation, and strategy use measured by the SILL. Oxford and Ehrman (1995) reported that SILL
results correlated well with learning style, personality, and motivation. SILL results were also found to correlate significantly with degree of linguistic training (Ehrman & Oxford, 1989).

Social desirability response bias and degree of truthfulness are often discussed with validity. Oxford (1990) reported that 23 subjects in a clinical trial, 1,200 university subjects, and 483 field-test subjects were monitored for possible signs of social desirability response bias. There was no evidence of this bias in order to please the survey-givers in either statistical or ethnographic data. Oxford and Nyikos (1989) also reported that SILL results were "mutually supportive" (p. 292) of interview results in the 483-person study, thus pointing toward the truthfulness of the subjects' answers.
Chapter 3

METHODS

Population and Sample

Subjects

The subjects in both phases of this study were students taking Spanish classes at The Ohio State University. Students from beginning, intermediate, and advanced classes participated. The beginning students were enrolled in or recently enrolled in Spanish 101 (Elementary Spanish I). This is an introduction to Spanish—for true beginners only—that develops listening, reading, speaking, and writing skills. The intermediate students came from Spanish 104 (Intermediate Spanish II), a course that continues to develop basic skills in Spanish with a strong emphasis on reading and appreciating literature in the Spanish language. The advanced students were taken from 600-level Spanish classes (601, 603, 610, 650). Unlike the majority of
students in Spanish 101 and 104, students in 600-level Spanish classes are largely senior Spanish minors and majors. Most had been learning Spanish for at least several years, had taken at least several courses at the 400-level, and may have had a wide variety of language experiences (e.g., learning a third language, study abroad). All of the students participating in the study were native speakers of English who did not begin learning Spanish until at least the age of twelve. The literature has long suggested that there are differences between children's and adults' abilities to acquire language in general (e.g., Lenneberg, 1967) and even second language pronunciation in particular (e.g., Oyama, 1976), and this study examined only adult language learners. In order to ensure that only native-English-speaking adult learners of Spanish were considered in the analyses, all students were given a modified form of the background questionnaire that accompanies the SILL (Appendix C). In addition, the questionnaire provided a general picture of subjects' language-learning background, and it is appropriate to gather this type of background information on any study of language learners.
Raters

Three raters participated in this study. Two raters were near-native Spanish speaking graduate students. The other was a native-speaking undergraduate student. The three raters were trained in the holistic scoring procedure before judging began. Interrater reliability of at least 90% was required and achieved during rater training before actual scoring of subjects' pronunciation began.

Instrumentation

There are numerous comments in the literature about the difficulty of comparing research studies (in all areas of second language learning), one important reason being their use of differing instruments. Speaking specifically of learning strategy research, Oxford, Nyikos, Lezhner, Rossi-Le, and Eyring (cited in Mullins, 1992) comment that "studies are rarely replicated and . . . different instruments are typically used from one study to another, resulting in data that are not comparable from one investigation to the next" (p. 14). The instruments in the present study were chosen with the concern for comparability in mind.
Modified SILL

Strategy use was assessed using the SILL, version 5.1 (Oxford, 1990), modified as a result of the first phase of this study and the review of related research. Prior to modification, the SILL contains 80 items with Likert-scale responses: never or almost never true of me, generally not true of me, somewhat true of me, generally true of me, and always or almost always true of me. These items solicit information about the frequency and type of language learning strategies learners are using. Individual strategies are grouped into six subscales (memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, affective strategies, and social strategies.) An extended discussion of the SILL can be found in the Review of Related Research, and the SILL itself is found in Appendix A.

Because of the comparability issue, it was the intent of this researcher to modify the SILL as little as necessary to study pronunciation learning strategies. Therefore, no statements were removed or modified from the existing SILL. The only changes were the addition of 20 new statements focusing on learning pronunciation. These new statements were not viewed as a new subscale
(because they had never before been subjected to any kind of statistical procedures) or as holding together on their own (because a few important pronunciation learning strategies were covered by original SILL items); rather, they were thought of as necessary additions to the existing items of the SILL.

Another reason for not analyzing the pronunciation-oriented items alone is that it might be presuming too much about the importance of these pronunciation strategies or ignoring the importance of other, not-specifically-for-pronunciation strategies. The researcher knew it might well be that other strategies, not overtly related to pronunciation, could prove to be linked somehow to pronunciation learning. Viewing the modified SILL as a whole would ensure that any potentially related, but not obvious, strategy would not be excluded from consideration.

The new SILL items are discussed in the Results and Discussion chapter. Validity and reliability of the modified SILL are presented in the next chapter as well.

**Pronunciation Task**

In order to assess pronunciation ability, subjects created a tape-recorded sample of their speech during a
pronunciation elicitation task of reading aloud (found in Appendix F). The task elicited approximately one to two minutes of speech from the subjects, and the first one minute for each subject was chosen for judging by the raters. Speech samples of one or two minutes in length are considered of adequate length for assessing oral production and are the standard in several studies (e.g., Albrechtsen, Heriksen, & Faerch, 1980; Brown, Anderson, Shillcock, & Yule, 1984; Chalhoub-Deville, 1994; Fayer & Krasinski, 1987.)

The validity of the proposed pronunciation task was paramount during the selection of this task. It was important that pronunciation be the only skill assessed by the raters; other abilities, such as grammar, could not interfere with the raters’ judgments. Yager (1992) points out that "judges probably tend to downgrade even

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1 Originally, two pronunciation elicitation tasks were to be used in this study in order to address the concern of task variability (e.g., Tarone, 1983; Beebe, 1980). The second task, sentence repetition, was taken from a previous study (Maldonado, 1994, who had in turn taken the sentences from Sánchez and Matilla, 1986) and used recordings by several native speakers from different countries of origin. During the pilot study, however, it became evident that the repetition task was too difficult for beginning-level students; a tremendous confounding of abilities such as listening comprehension and grammatical ability appeared to be present. The subjects were merely uttering nonsensical sounds.
native pronunciation of a text when it contains obvious grammatical errors and inappropriate use of vocabulary" (p. 5).

Reading aloud was chosen as the pronunciation elicitation device. This task addressed the concern of skill confounding because subjects were not required to choose words, form syntax, worry about sociolinguistic appropriateness, etc. Another benefit of this task is that it could be administered under extremely standardized conditions, and all subjects read the same sentences aloud. Yet another advantage of the reading aloud task was that the text to be read was adapted from another research study. As stated above, this research project aimed to use instruments that make the study easy to compare to other studies. The reading-aloud text was adapted from Yager (1988), a study that concerned pronunciation. It consists of a paragraph of seven sentences, written by a native speaker of Spanish, about a real-life traumatic event she experienced involving an out-of-control car. Yager reported that the paragraph was modified slightly to ensure a wide range of Spanish sounds.
Rating Instrument

Huot (1990) suggests that the use of several raters and a scoring guide can help to objectify tests that tend to be subjective in nature. The rating instrument, found in Appendix E, involves the holistic judgment of pronunciation ability. Similar to Yager's (1992) and Maldonado's (1994) scales, it is a seven-point conceptual scale. Raters judged subjects' performance as ranging from 1.0, representing not at all nativelike pronunciation to 7.0, representing completely nativelike pronunciation. Raters were discouraged from using fractional numbers (e.g., 3.5), but were permitted to do so if they deemed it necessary. Each subject received a rating that was the average of the three raters' scores.²

During rater training, instructions (found in Appendix D) were read. Training and practice tapes especially emphasized listening for only pronunciation ability (not reading ability, not grammatical ability, etc.). The instructions also encouraged raters to make

² Originally, SPEAK test procedures using two main raters and a third for large discrepancies, as described by Sarwark, Smith, MacCallum, and Cascalloar (1995), were to be used. The statistical consultants for this study, however, advised using three scores because scores from all three raters had already been collected, and three scores were considered superior to just two.
up their own definitions or descriptions of the seven points on the scale during the training period in order to foster consistency in judging. Two of the three raters did this, one using something like letter grades, and the other writing brief descriptions of the speakers’ pronunciation errors. This appeared to be successful, as interrater reliability, calculated by means of Cronbach’s alpha, was very high at .97.

Procedures

Phase One

During the Spring and Summer 1996 quarters, qualitative data about what kinds of strategies are being used to learn Spanish pronunciation were elicited. Eleven subjects participated in this phase of the study. Six of these subjects (two from Spanish 101, two from 104, and two from 610) participated during the Spring 1996 quarter, and five subjects (one from Spanish 101, three from 104, and one from 650) participated during the Summer 1996 quarter.

The spring-quarter subjects, who were paid volunteers, did three things: (a) For two to three weeks, the subjects kept a diary of anything they noticed
themselves doing to learn or improve their pronunciation in Spanish. In addition, the subjects also wrote down anything they remembered themselves doing at any time in the past to help their pronunciation. The researcher provided each subject with instructions (Appendix G) and a notebook for this diary and telephoned the subjects approximately twice per week to remind them about their participation in the study. (b) At the end of the three-week period, each subject wrote a one-page summary (introspective report) of their observations. This helped to provide one more opportunity for remembering any pronunciation learning strategies and also served to bring what students believed to be the most important strategies to the forefront. (c) After subjects turned in their diaries and summaries, they also participated in a brief interview with the researcher to gather personal background data and clarify their writing where necessary. Interview notes were written immediately in the diaries’ margins.

The completed diaries and additional researcher notes were rated by the researcher. Each new mention of a pronunciation learning strategy was recorded, though the primary purpose of the diaries was to identify any new strategies not identified in the literature. A
second individual, who was a graduate student in the field of second language education, also rated the diaries, and any differences were resolved through discussion.

The summer-quarter subjects, who also were paid volunteers, participated in interviews with the researcher. There were three interviews, one for each language level. There were two individual interviews—one with the beginning and one with the advanced student—and one group interview with three intermediate-level subjects. The researcher followed procedures similar to those used by O’Malley et al. (1985a) concerning the interview procedure. The interview question was very open ended, with subjects receiving a brief definition of learning strategies and then being asked to think of any learning strategies they use or have used to learn Spanish pronunciation.

The interviewer also had at the interview a list of possible pronunciation learning strategies based on a review of the literature and the spring-quarter data. The strategies on the list were used to aid in clarifying subjects’ comments if necessary and in prompting the subjects when they were not saying much.
The tape-recorded interviews were transcribed and rated by the researcher. Each time a strategy was mentioned, it was noted. A second researcher (the same graduate student who co-rated the diaries) independently rated the transcribed interviews, and any differences were resolved through discussion. All pronunciation learning strategies mentioned were noted, though the primary goal of the interview was to identify any new strategies not identified in the literature.

The researcher used the Phase One data, along with pronunciation learning strategies identified in the literature, to generate, first, a list of pronunciation learning strategies and, second, new items to add to the SILL.

In order to ensure the content validity of the new items, another individual (not the same one that had rated the diary and interview transcripts) examined the list of pronunciation learning strategies to confirm that they were covered by the modified SILL, either by original or new items. This individual agreed with the researcher that 42 of the pronunciation learning strategies would be adequately assessed by the modified SILL. The researcher also discussed the modification process and the modified SILL with two professionals in
the field of foreign/second language education/acquisition to assure its quality as an instrument before proceeding with Phase Two of the study.

Pilot Study

The modified SILL and pronunciation elicitation task(s) were piloted with several students prior to the collection of Phase Two data. The pilot study was very helpful in pointing out problems with the time required to administer the modified SILL and with refining the selection of pronunciation tasks. As a result, answer blanks were put next to each item on the SILL (resulting in a time savings of up to 15 minutes as opposed to answering on a separate answer sheet), and a proposed sentence repetition task was eliminated.

Phase Two

This was the quantitative phase of the study, and it generated data to be analyzed statistically. There were two primary procedures. The first was the administration of the modified SILL to six Spanish classes—two beginning (101), two intermediate (104), and two advanced (601 and 603). This took place during the seventh and
eighth weeks of the Autumn 1996 quarter. Each class took the modified SILL as a group during regular class time.

The second major procedure was the administration of the pronunciation task. This also took place during the same class period that the modified SILL was given because arrangements could not be made for students to record their voices in the language laboratory at a separate time. Students left the classroom one by one while taking the modified SILL and went to the hallway to record their voices on a tape recorder performing the reading-aloud task. This arrangement proved to be satisfactory, both in terms of sound quality and in terms of completing the SILL and pronunciation tasks during one class period. After all six classes had participated, the tapes were judged by the raters using the holistic scoring method described in the Instrumentation section of this report.

Variables (Phase Two)

**Primary Variables**

This study involves two primary variables. The first of these is pronunciation ability. It was measured on a continuous scale ranging from 1.0
(incomprehensible, completely nonnativelike pronunciation) to 7.0 (nativelike pronunciation). Raters were permitted, but not encouraged, to give fractional scores such as 2.5. The other primary variable is performance on the modified SILL. This instrument yielded a score from 1.0 (never or almost never true of me) to 5.0 (always or almost always true of me) on each of its 100 items. Students’ averages on the six factors identified through a factor analysis were analyzed.

Secondary Variables

There were several variables of interest, but lesser importance, that were analyzed in relation to pronunciation ability: (a) Level of Spanish consisted of three levels: beginning, intermediate, advanced. (b) Sex consisted of two levels: male, female. (c) Pronunciation self-rating compared with classmates had three levels: below average, average, above average. (d) Pronunciation self-rating compared with native speakers consisted of four levels: poor, fair, good, excellent. (e) Perceived importance of becoming proficient in Spanish pronunciation had three levels: not so important, somewhat important, very important. (f) Amount of out-of-class exposure to Spanish consisted of three levels:
very little, some, a lot. (g) Performance on the
original SILL was measured by students' average scores on
the standard six subscales: memory, cognitive,
compensation, metacognitive, affective, social.

Data Analysis

Phase Two's quantitative data were analyzed using
three different procedures. (a) The results of the
modified SILL were subjected to a factor analysis using
the SAS PROC FACTOR program with varimax rotation. (b)
The relationship between SILL factors and pronunciation
ability was explored by means of scatter plots with
Pearson correlation coefficients. Scatter plots are
useful to roughly show the direction and degree of
relation between paired observations on two variables.
Pearson product-moment correlation coefficients are often
used to more precisely investigate the degree and
direction of a relationship. (c) Data regarding the
secondary variables described above and their
relationship to pronunciation ability were subjected to
exploratory analysis through the interpretation of side-
by-side box plots and scatter plots with Pearson
correlation coefficients. Side-by-side box plots show
the distribution of a univariate variable across another
variable. They display the median, the twenty-fifth quartile, the seventy-fifth quartile, the largest value, and the smallest value.
Chapter 4

RESULTS AND DISCUSSION

Phase One

Prior to collecting Phase One data, the findings of Naiman et al. (1978) and Rivers (1979) regarding pronunciation learning strategies were compiled into the following list of 21 strategies:

- using phonetic symbols or one’s own codes to remember how to pronounce something
- imitating native speakers or a teacher
- repeating aloud after a teacher or native speaker
- repeating aloud after tapes ³
- repeating silently
- talking aloud to oneself
- saying things silently to oneself
- reading aloud

³ The wording of the original 21 strategies remained generally unchanged as a result of the Phase One data, but “repeating aloud after tapes” was expanded to include television and movies. It seemed more appropriate to expand this strategy from the literature than to create a separate, new strategy just for television and movies.
- doing exercises/practicing to acquire target language sounds
- practicing sounds first in isolation and then in context
- imitating the overall target language sound with native language words
- listening to pronunciation errors made by target language speakers speaking one’s native language
- noticing mouth positions, watching lips
- concentrating intensely on pronunciation while listening to the target language
- acquiring a general knowledge of phonetics
- reading reference material about target-language pronunciation rules
- seeking out models for sounds
- seeking out individuals to correct one’s pronunciation
- purposely avoiding producing inappropriate native language sounds
- deciding to focus one’s listening on particular sounds
- having a sense of humor about mispronunciations

“New” strategies that emerged as a result of Phase One’s diary keeping and interviews were added to this list.
Pronunciation Learning Strategy Diaries

Two beginning, two intermediate, and two advanced students wrote in their pronunciation learning strategy diaries for a period of approximately two weeks. Typed transcriptions, which were evaluated by the primary researcher and a graduate student in language education, revealed the use of 30 different pronunciation learning strategies, 18 of which were new. Results of the diary study are reported below for each level of Spanish.

The two beginning students’ diaries showed use of the following 16 strategies. The first 6 listed (italicized) were mentioned in the literature, and the last 10 are new.

-repeating aloud after tapes, television, or a movie
-talking aloud to oneself
-saying things silently to oneself
-doing exercises/practice to acquire target language sounds
-concentrating intensely on pronunciation while listening to the target language
-purposely avoiding producing inappropriate native language sounds
-asking someone else to correct one’s pronunciation
- forming and using hypotheses about pronunciation rules
- trying to recall how one’s teacher pronounced something
- trying to recall and imitate one’s teacher’s mouth movements
- practicing words using flash cards
- listening to tapes/television/movies/music
- talking with others in Spanish
- studying with someone else
- deciding to focus one’s learning on particular sounds
- having fun with pronunciation

The two intermediate students’ diaries showed use of the following 15 strategies. The first six listed (italicized) were found in the literature, and the last nine are new.
- repeating aloud after a teacher or native speaker
- talking aloud to oneself
- reading aloud
- doing exercises/practicing to acquire target language sounds
- noticing mouth positions, watching lips
- concentrating intensely on pronunciation while listening to the target language
- asking someone else to correct one's pronunciation
- listening to tapes/television/movies/music
- talking with others in Spanish
- concentrating intensely on pronunciation while speaking
- speaking slowly to get the pronunciation right
- practicing saying words slowly at first and then faster
- noticing contrasts between Spanish and English pronunciation
- deciding to focus one's learning on particular sounds
- having fun with pronunciation

The two advanced students' diaries showed use of the following 21 strategies. The first 10 listed (italicized) were found in the literature, and the last 11 are new.
- imitating native speakers or one's teacher
- repeating aloud after a teacher or native speaker
- repeating aloud after tapes, television, or a movie
- repeating silently
- talking aloud to oneself
- saying things silently to oneself
- reading aloud
- doing exercises/practicing to acquire target language sounds
- noticing mouth positions, watching lips
- deciding to focus one's listening on particular sounds
- asking someone else to correct one's pronunciation
- practicing words using flash cards
- listening to tapes/television/movies/music
- talking with others in Spanish
- recording oneself to listen to one's pronunciation
- noticing or trying out different dialects of Spanish
- practicing saying words slowly first and then faster
- asking someone to pronounce something
- studying with someone else
- deciding to focus one's learning on particular sounds
- tutoring, teaching, or helping someone else with the language

Interviews

One beginning, three intermediate, and one advanced student participated in interviews in which they tried to tell the researcher about all the pronunciation learning strategies that they use. Typed transcriptions, which were evaluated by the primary researcher and also the graduate student that had rated the diaries, revealed the
use of 29 different pronunciation learning strategies, 15 of which were new. The results of the interviews are reported below for each level of Spanish.

The interview with the beginning student showed use of the following 14 strategies. The first eight strategies listed (italicized) were found in the literature, and the last six strategies are new.

- repeating aloud after a teacher or native speaker
- repeating silently
- talking aloud to oneself
- reading aloud
- noticing mouth positions, watching lips
- reading reference material about target-language pronunciation rules
- deciding to focus one’s listening on particular sounds
- having a sense of humor about mispronunciations
- practicing words using flash cards
- listening to tapes/television/movies/music
- talking with others in Spanish
- asking someone to pronounce something
- noticing contrasts between Spanish and English pronunciation
- tutoring, teaching, or helping someone else with the language
The interview with the intermediate students showed use of the following 14 strategies. The first six strategies listed (italicized) were found in the literature, and the last eight are new.

- imitating native speakers or one's teacher
- repeating silently
- saying things silently to oneself
- doing exercises/practicing to acquire target language sounds
- imitating the overall target language sound with native language words
- concentrating intensely on pronunciation while listening to the target language
- practicing words using flash cards
- listening to tapes/television/movies/music
- talking with others in Spanish
- noticing or trying out different dialects of Spanish
- asking someone to pronounce something
- noticing contrasts between Spanish and English
- mentally rehearsing how to say something before speaking
- studying with someone else

The interview with the advanced student showed use of the following 20 strategies. The first 7 strategies
listed (italicized) were found in the literature, and the last 13 are new.

- using phonetic symbols or one’s own codes to remember how to pronounce something
- talking aloud to oneself
- saying things silently to oneself
- reading aloud
- doing exercises/practicing to acquire target language sounds
- noticing mouth positions, watching lips
- concentrating intensely on pronunciation while listening to the target language
- practicing words using flash cards
- listening to tapes/television/movies/music
- talking with others in Spanish
- recording oneself to listen to one’s pronunciation
- asking someone to pronounce something
- noticing contrasts between Spanish and English pronunciation
- studying with someone else
- deciding to focus one’s learning on particular sounds
- deciding to memorize the sounds (or the alphabet) right away
- tutoring, teaching, or helping someone else with the language
- choosing to memorize, rather than read, a presentation
- for a presentation poster, writing difficult words very large
- making up songs or rhythms to remember how to pronounce words

**New Pronunciation Learning Strategies**

A total of 23 new pronunciation learning strategies were identified during Phase One of this study, and they are listed below.

- asking someone else to correct one’s pronunciation
- forming and using hypotheses about pronunciation rules
- trying to recall how one’s teacher pronounced something
- trying to recall and imitate one’s teacher’s mouth movements
- practicing words using flash cards
- listening to tapes/television/movies/music
- talking with others in Spanish
- studying with someone else
- deciding to focus one’s learning on particular sounds
- having fun with pronunciation
-concentrating intensely on pronunciation while listening
-speaking slowly to get the pronunciation right
-practicing saying words slowly at first and then faster
-noticing contrasts between Spanish and English pronunciation
-recording oneself to listen to one’s pronunciation
-noticing or trying out different dialects of Spanish
-as asking someone to pronounce something
-tutoring, teaching, or helping someone else with the language
-mentally rehearsing how to say something before speaking
-deciding to memorize the sounds (or the alphabet) right away
-choosing to memorize, rather than read, a presentation
-for a presentation poster, writing difficult words very large
-making up songs or rhythms to remember how to pronounce words

Revised List of Pronunciation Learning Strategies

The 23 new strategies found during Phase One were added to the 21 strategies found in the literature, creating a new list of 44 pronunciation learning strategies. Table 2 shows this complete list, as well
as the categories to which the pronunciation learning strategies belong. The six categories, defined by Oxford (1990), are the same six used on the SILL.

<table>
<thead>
<tr>
<th>Strategy Group</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Memory</strong></td>
<td>-using phonetic symbols or one’s own codes to remember how to pronounce something</td>
</tr>
<tr>
<td></td>
<td>-making up songs or rhymes to remember how to pronounce words</td>
</tr>
<tr>
<td><strong>Cognitive</strong></td>
<td>-imitating native speakers or one’s teacher</td>
</tr>
<tr>
<td></td>
<td>-repeating aloud after a teacher or native speaker</td>
</tr>
<tr>
<td></td>
<td>-repeating aloud after tapes, television, or a movie</td>
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<td></td>
<td>-repeating silently</td>
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<td></td>
<td>-talking aloud to oneself</td>
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<td></td>
<td>-saying things silently to oneself</td>
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<td></td>
<td>-reading aloud</td>
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Table 2. **Pronunciation Learning Strategies.**
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<tr>
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<tbody>
<tr>
<td></td>
<td>- doing exercises/practicing to acquire target language sounds</td>
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<td></td>
<td>- practicing sounds first in isolation and then in context</td>
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<tr>
<td></td>
<td>- listening to pronunciation errors made by target language speakers speaking one’s native language</td>
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<tr>
<td></td>
<td>- noticing mouth positions, watching lips</td>
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<td></td>
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<td></td>
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<td></td>
<td>- recording oneself to listen to one’s pronunciation</td>
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<tr>
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<tr>
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<tr>
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<td>- practicing saying words slowly at first and then faster</td>
</tr>
<tr>
<td></td>
<td>- noticing contrasts between Spanish and English pronunciation</td>
</tr>
<tr>
<td></td>
<td>- mentally rehearsing how to say something before speaking</td>
</tr>
</tbody>
</table>

**Compensation**

- practicing a difficult word over and over

**Metacognitive**

- acquiring a general knowledge of phonetics
- reading reference material about target-language pronunciation rules
- seeking out models for sounds
- seeking out individuals to correct one’s pronunciation
- purposely avoiding producing inappropriate native language sounds

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<tr>
<th>Strategy Group</th>
<th>Strategy</th>
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<td></td>
<td>-deciding to focus one’s listening on particular sounds</td>
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<td></td>
<td>-deciding to focus one’s learning on particular sounds</td>
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<td></td>
<td>-deciding to memorize the sounds (or the alphabet) right away</td>
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<td></td>
<td>-choosing to memorize, rather than read, a presentation</td>
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<td>-for a presentation poster, writing difficult words very large</td>
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<tr>
<td><strong>Affective</strong></td>
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<td></td>
<td>-having a sense of humor about mispronunciations</td>
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<td></td>
<td>-having fun with pronunciation, such as imitating the overall target language sound with native language words</td>
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<tr>
<td><strong>Social</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-asking someone else to correct one’s pronunciation</td>
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<td></td>
<td>-talking with others in Spanish</td>
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<tr>
<td></td>
<td>-asking someone to pronounce something</td>
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<td></td>
<td>-studying with someone else</td>
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<td></td>
<td>-tutoring, teaching, or helping someone else with the language</td>
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</table>
SILL Modification

Once Phase One data were analyzed, it was possible to generate new items to add to the SILL. The original SILL does not focus on pronunciation learning, of course, but rather on general second language learning (though some items are related to pronunciation). The goal of adding new items was to ensure that a wide range of pronunciation learning strategies would be assessed by the modified SILL.

Two primary factors influenced how the new SILL items were generated. On the one hand, the researcher hoped to include most of the 44 known pronunciation learning strategies (revealed in the literature and in Phase One data). On the other hand, the modified SILL would still have to be administered during one class period, so it needed to be kept short enough. The original SILL, which contains 80 items, takes about 30 minutes to administer (Oxford, 1990), so this researcher decided that the maximum number of new items that could be added was about 20.

One by one the pronunciation learning strategies from the complete list were examined to see (a) if they might already be covered by any of the original SILL items or (b) if they could be logically combined with
other strategies and then added to the SILL. Only 2 of
the 44 pronunciation learning strategies were not covered
by or included at all in the modified SILL: “choosing to
memorize, rather than read, a presentation” and “for a
presentation poster, writing difficult words very large.”
These were excluded because they seemed quite narrow and
idiosyncratic compared to the other strategies and to the
nature of the SILL items.

To illustrate how the rest of the pronunciation
learning strategies were covered by or added to the SILL,
below are all the items of the modified SILL. (Items 81-
100 are new.) After each item covering a pronunciation
learning strategy, that strategy is listed in italics. 4

Part A

When learning a new word . . .

1. I create associations between new material and what I
   already know.

2. I put the new word in a sentence so I can remember
   it.

4 Note that the strategy “listening to tapes/television/
   movies/music” was covered to some degree by both items 24
   and 96. Item 24 does not mention tapes, and item 96
   mentions only tapes.
3. I place the new word in a group with other words that are similar in some way (for example, words related to clothing, or feminine nouns).

4. I associate the sound of the new word with the sound of a familiar word.

5. I use rhyming to remember it.
   - making up songs or rhythms to remember how to pronounce words

6. I remember the word by making a clear mental image of it or by drawing a picture.

7. I visualize the spelling of the new word in my mind.

8. I use a combination of sounds and images to remember the new word.

9. I list all the other words I know that are related to the new word and draw lines to show relationships.

10. I remember where the new word is located on the page, or where I first saw or heard it.

11. I use flash cards with the new word on one side and the definition or other information on the other.

12. I physically act out the new word.

When learning new material . . .

13. I review often.

14. I schedule my reviewing so that the review sessions are initially close together in time and gradually become more widely spread apart.

15. I go back to refresh my memory of things I learned much earlier.

Part B

16. I say or write new expressions repeatedly to practice them.
17. I imitate the way native speakers talk.
   - imitating native speakers or one’s teacher

18. I read a story or dialogue several times until I can understand it.


20. I practice the sounds or alphabet of the new language.
   - doing exercises/practicing to acquire target language sounds
   - practicing sounds first in isolation and then in context

21. I use idioms or other routines in the new language.

22. I use familiar words in different combinations to make new sentences.

23. I initiate conversations in the new language.

24. I watch TV shows or movies or listen to the radio in the new language.
   - listening to tapes/television/movies/music

25. I try to think in the new language.

26. I attend and participate in out-of-class events where the new language is spoken.

27. I read for pleasure in the new language.

28. I write personal notes, messages, letters, or reports in the new language.

29. I skim the reading passage first to get the main idea, then I go back and read it more carefully.

30. I seek specific details in what I hear or read.

31. I use reference materials such as glossaries or dictionaries to help me use the new language.
32. I take notes in class in the new language.

33. I make summaries of new language material.

34. I apply general rules to new situations when using the language.

35. I find the meaning of a word by dividing the word into parts which I understand.

36. I look for similarities and contrasts between the new language and my own.
   - noticing contrasts between Spanish and English pronunciation

37. I try to understand what I have heard or read without translating it word-for-word into my own language.

38. I am cautious about transferring words or concepts directly from my language to the new language.

39. I look for patterns in the new language.

40. I develop my own understanding of how the language works, even if sometimes I have to revise my understanding based on new information.
   - forming and using hypotheses about pronunciation rules

Part C

41. When I do not understand all the words I read or hear, I guess the general meaning by using any clue I can find, for example, clues from the context or situation.

42. I read without looking up every unfamiliar word.

43. In a conversation I anticipate what the other person is going to say based on what has been said so far.

44. If I am speaking and cannot think of the right expression, I use gestures or switch back to my own language momentarily.
45. I ask the other person to tell me the right word if I cannot think of it in a conversation.

46. When I cannot think of the correct expression to say or write, I find a different way to express the idea; for example, I use a synonym or describe the idea.

47. I make up new words if I do not know the right ones.

48. I direct the conversation to a topic for which I know the words.

Part D

49. I preview the language lesson to get a general idea of what it is about, how it is organized, and how it relates to what I already know.

50. When someone is speaking the new language, I try to concentrate on what the person is saying and put unrelated topics out of my mind.

51. I decide in advance to pay special attention to specific language aspects; for example I focus [on] the way native speakers pronounce certain sounds.

52. I try to find out all I can about how to be a better language learner by reading books or articles, or by talking with others about how to learn.

53. I arrange my schedule to study and practice the new language consistently, not just when there is the pressure of a test.

54. I arrange my physical environment to promote learning; for instance, I find a quiet, comfortable place to review.

55. I organize my language notebook to record important language information.

56. I plan my goals for language learning, for instance, how proficient I want to become or how I might want to use the language in the long run.

57. I plan what I am going to accomplish in language learning each day or each week.
58. I prepare for an upcoming language task (such as giving a talk in the new language) by considering the nature of the task, what I have to know, and my current language skills.

59. I clearly identify the purpose of the language activity; for instance, in a listening task I might need to listen for the general idea or for specific facts.

60. I take responsibility for finding opportunities to practice the new language.

61. I actively look for people with whom I can speak the new language.

- talking with others in Spanish

62. I try to notice my language errors and find out the reasons for them.

63. I learn from my mistakes in using the new language.

64. I evaluate the general progress I have made in learning the language.

Part E

65. I try to relax whenever I feel anxious about using the new language.

66. I make encouraging statements to myself so that I will continue to try hard and do my best in language learning.

67. I actively encourage myself to take wise risks in language learning, such as guessing meanings or trying to speak, even though I might make some mistakes.

68. I give myself a tangible reward when I have done something well in my language learning.

69. I pay attention to physical signs of stress that might affect my language learning.

70. I keep a private diary or journal where I write my feelings about language learning.
71. I talk to someone I trust about my attitudes and feelings concerning the language learning process.

**Part F**

72. If I do not understand, I ask the speaker to slow down, repeat, or clarify what was said.

73. I ask other people to verify that I have understood or said something correctly.

74. I ask other people to correct my pronunciation.
   - seeking out individuals to correct one’s pronunciation
   - asking someone else to correct one’s pronunciation

75. I work with other language learners to practice, review, or share information.
   - studying with someone else

76. I have a regular language learning partner.

77. When I am talking with a native speaker, I try to let him or her know when I need help.

78. In conversation with others in the new language, I ask questions in order to be as involved as possible and to show I am interested.

79. I try to learn about the culture of the place where the new language is spoken.

80. I pay close attention to the thoughts and feelings of other people with whom I interact in the new language.

(New SILL items):

**Part G**

81. When first learning another language, I use phonetic symbols or my own codes to remember how the sounds are pronounced.
- using phonetic symbols or one’s own codes to remember how to pronounce something

82. When first learning another language, I decide to learn the sounds or the alphabet right away.

- deciding to memorize the sounds (or the alphabet) right away

83. I have fun with pronunciation, for example, speaking English with a Spanish accent.

- having fun with pronunciation such as imitating the overall target language sound with native language words

84. I keep a sense of humor when I mispronounce something.

- having a sense of humor about mispronunciations

In order to improve my pronunciation . . .

85. I repeat (out loud or silently) after my teacher, a native speaker, tapes, or a movie.

- repeating aloud after a teacher or native speaker
- repeating aloud after tapes, television, or a movie
- repeating silently

86. I talk to myself (out loud or silently) and listen to my pronunciation.

- talking aloud to oneself
- saying things silently to oneself

87. I read out loud.

- reading aloud

88. I notice a teacher or native speaker’s mouth positions and pronunciation and try to imitate them.
- noticing mouth positions, watching lips
- trying to recall how one’s teacher pronounced something
- trying to recall and imitate one’s teacher’s mouth movements

89. I concentrate intensely on pronunciation while listening.
- listening to pronunciation errors made by target language speakers speaking one’s native language
- concentrating intensely on pronunciation while listening to the target language

90. I concentrate intensely on my pronunciation while speaking.
- concentrating intensely on pronunciation while speaking
- speaking slowly to get the pronunciation right
- mentally rehearsing how to say something before speaking

91. I work with flash cards.
- practicing words using flash cards

92. I record my own voice to hear my pronunciation.
- recording oneself to listen to one’s pronunciation

93. I notice or try out different kinds of accents or dialects.
- noticing or trying out different dialects of Spanish

94. I practice pronouncing words that are difficult for me.
- practicing saying words slowly at first and then faster
- practicing a difficult word over and over

95. I do extra reading about pronunciation rules.
- acquiring a general knowledge of phonetics
- reading reference material about target-language pronunciation rules

96. I do extra work with language tapes.
- listening to tapes/television/movies/music

97. I decide to focus on particular sounds that I will try to learn or listen for.
- deciding to focus one’s listening on particular sounds
- deciding to focus one’s learning on particular sounds

98. I ask a teacher or native speaker how they pronounce something.
- seeking out models for sounds
- asking someone to pronounce something

99. I teach, tutor, or help someone else to learn the language.
- tutoring, teaching, or helping someone else with the language

100. I purposely try to avoid producing English language sounds.
- purposely avoiding producing inappropriate native language sounds

The complete modified SILL, exactly as it appeared to the subjects, is found in Appendix B. It is worth noting again here that, because some pronunciation learning
strategies are covered by the original SILL, it was not logical to consider the new items by themselves for purposes of data analysis. The new items cannot stand alone, and although they were all placed at the end of the SILL, they may be best thought of as additional items to be placed within the existing SILL subgroups.

Phase Two

Factor Analysis

For both statistical and theoretical reasons, six was the number of factors chosen on the factor analysis. The first five of these could be given appropriate and meaningful names and also all had reasonably high reliability based on Cronbach’s alpha. Their Eigenvalues were all higher than 1.0 (a typical criterion for factor retention). The sixth factor did not appear as reliable as the others, and a unifying, meaningful name could not be given to it. Table 3 contains a list of the six factors with their names, Cronbach alpha coefficients (an indicator of reliability), and Eigenvalues.
<table>
<thead>
<tr>
<th>Factor Number</th>
<th>Cronbach alpha</th>
<th>Eigenvalue</th>
<th>Factor Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>.94</td>
<td>19.74</td>
<td>Authentic/functional practice strategies</td>
</tr>
<tr>
<td>Two</td>
<td>.88</td>
<td>6.69</td>
<td>Reflection strategies (regarding language knowledge and state of mind)</td>
</tr>
<tr>
<td>Three</td>
<td>.80</td>
<td>4.94</td>
<td>Pronunciation and memory strategies</td>
</tr>
<tr>
<td>Four</td>
<td>.77</td>
<td>3.87</td>
<td>Affective and memory strategies</td>
</tr>
<tr>
<td>Five</td>
<td>.81</td>
<td>3.39</td>
<td>Cooperation strategies</td>
</tr>
<tr>
<td>Six</td>
<td>.57</td>
<td>3.07</td>
<td>Factor six</td>
</tr>
</tbody>
</table>

Table 3.  Names and Alpha Coefficients of the Six Factors.

Table 4 presents all of the modified SILL's items as they loaded onto one of the six factors. The SILL item number, loading value, and a brief description are provided for each item.
SILL
Item Loading  Brief Description of Item

**Factor One--Authentic/functional practice strategies**

25 .79 thinking in the TL
24 .77 watching TV/movies in the TL
27 .75 reading for pleasure in the TL
26 .73 attending out-of-class events in the TL
23 .70 initiating conversations in the TL
21 .68 using idioms/routines in the TL
28 .65 writing notes/letters in the TL
52 .64 investigating good language learning
60 .64 finding opportunities to practice the TL
99 .62 teaching/tutoring someone else in the TL
61 .61 looking for people to speak the TL with
51 .61 deciding to focus one’s learning
79 .58 learning about the TL culture
17 .58 imitating the way native speakers talk
56 .56 planning language goals
78 .50 trying to be involved in a TL conversation
46 .50 using synonyms or circumlocution
93 .45 trying out different accents/dialects
20 .45 practicing the TL sounds/alphabet
100 .44 avoiding English language sounds
32 .42 taking notes in class in the TL
88 .38 noticing and imitating TL mouth positions
89 .37 concentrating on pronunciation while listening
43 .36 anticipating during conversations
90 .32 concentrating on pronunciation while speaking
86 .31 listening to one’s own pronunciation
70 .27 keeping a diary about one’s feelings about language learning

**Factor Two--Reflection strategies**

40 .62 making and revising TL hypotheses

(Table 4 continues on next page)

Table 4. Modified SILL Items Belonging to Each Factor.
Table 4 (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Loading</th>
<th>Brief Description of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>.62</td>
<td>evaluating one’s progress</td>
</tr>
<tr>
<td>63</td>
<td>.60</td>
<td>learning from one’s mistakes</td>
</tr>
<tr>
<td>65</td>
<td>.59</td>
<td>trying to relax when using the TL</td>
</tr>
<tr>
<td>62</td>
<td>.59</td>
<td>noticing and investigating one’s errors</td>
</tr>
<tr>
<td>38</td>
<td>.58</td>
<td>being cautious about transferring from native language</td>
</tr>
<tr>
<td>54</td>
<td>.57</td>
<td>finding a good study atmosphere</td>
</tr>
<tr>
<td>50</td>
<td>.53</td>
<td>trying to concentrate/not being distracted</td>
</tr>
<tr>
<td>37</td>
<td>.49</td>
<td>avoiding translation</td>
</tr>
<tr>
<td>50</td>
<td>.48</td>
<td>evaluating one’s abilities before a task</td>
</tr>
<tr>
<td>94</td>
<td>.47</td>
<td>practicing pronouncing difficult words</td>
</tr>
<tr>
<td>22</td>
<td>.45</td>
<td>using familiar words to make sentences</td>
</tr>
<tr>
<td>7</td>
<td>.44</td>
<td>visualizing word spellings</td>
</tr>
<tr>
<td>39</td>
<td>.44</td>
<td>looking for patterns in the TL</td>
</tr>
<tr>
<td>44</td>
<td>.40</td>
<td>resorting to gestures or English</td>
</tr>
<tr>
<td>19</td>
<td>.40</td>
<td>revising one’s writing</td>
</tr>
<tr>
<td>80</td>
<td>.39</td>
<td>being aware of other people’s feelings</td>
</tr>
<tr>
<td>67</td>
<td>.39</td>
<td>encouraging oneself to take risks</td>
</tr>
<tr>
<td>15</td>
<td>.38</td>
<td>refreshing one’s memory</td>
</tr>
<tr>
<td>18</td>
<td>.35</td>
<td>rereading until one understands</td>
</tr>
<tr>
<td>34</td>
<td>.33</td>
<td>applying general rules to new situations</td>
</tr>
<tr>
<td>35</td>
<td>.27</td>
<td>dividing a word into parts</td>
</tr>
<tr>
<td>10</td>
<td>.23</td>
<td>remembering where a new word was learned</td>
</tr>
</tbody>
</table>

Factor Three--Pronunciation and memory strategies

<table>
<thead>
<tr>
<th>Item</th>
<th>Loading</th>
<th>Brief Description of Item</th>
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</thead>
<tbody>
<tr>
<td>91</td>
<td>.76</td>
<td>using flash cards for pronunciation</td>
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<tr>
<td>95</td>
<td>.71</td>
<td>doing extra reading about pronunciation</td>
</tr>
<tr>
<td>11</td>
<td>.70</td>
<td>using flash cards (not necessarily for pronunciation)</td>
</tr>
<tr>
<td>96</td>
<td>.67</td>
<td>doing extra work with tapes</td>
</tr>
<tr>
<td>14</td>
<td>.62</td>
<td>scheduling one’s review sessions</td>
</tr>
<tr>
<td>33</td>
<td>.61</td>
<td>making summaries of language material</td>
</tr>
<tr>
<td>97</td>
<td>.60</td>
<td>focusing on specific TL sounds</td>
</tr>
<tr>
<td>92</td>
<td>.57</td>
<td>recording one’s own voice</td>
</tr>
<tr>
<td>81</td>
<td>.48</td>
<td>using symbols/codes to learn pronunciation</td>
</tr>
<tr>
<td>57</td>
<td>.48</td>
<td>planning learning goals</td>
</tr>
<tr>
<td>98</td>
<td>.43</td>
<td>asking someone to pronounce something</td>
</tr>
<tr>
<td>13</td>
<td>.40</td>
<td>reviewing often</td>
</tr>
<tr>
<td>5</td>
<td>.40</td>
<td>using rhyming to remember words</td>
</tr>
<tr>
<td>55</td>
<td>.38</td>
<td>organizing one’s notebook</td>
</tr>
</tbody>
</table>

(Table 4 continues on next page)
Table 4 (continued)

SILL
Item Loading Brief Description of Item
47 -.26 inventing new words if necessary
31 -.36 using reference materials

Factor Four--Affective and memory strategies

<table>
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<tr>
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<td>.65</td>
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<td>.31</td>
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<td>49</td>
<td>.28</td>
</tr>
<tr>
<td>41</td>
<td>-.42</td>
</tr>
</tbody>
</table>

remembering by putting words in sentences
paying attention to signs of stress
remembering by repetition
arranging one’s studying schedule
encouraging oneself
rewarding oneself
remembering through imagery or drawing
talking over one’s feelings about learning
remembering through sounds and images
remembering by drawing word relationships
previewing the lesson
guessing from context

Factor Five--Cooperation strategies

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<td>87</td>
<td>.40</td>
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<td>85</td>
<td>.39</td>
</tr>
<tr>
<td>76</td>
<td>.35</td>
</tr>
</tbody>
</table>

asking for verification
asking someone to provide a needed word
asking another speaker for help
asking a speaker to repeat or clarify
asking someone to correct one’s pronunciation
having humor about mispronunciations
working with other learners
reading aloud
repeating after a speaker or tape
working with a regular partner

Factor Six

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<td>29</td>
<td>.45</td>
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<td>36</td>
<td>.45</td>
</tr>
<tr>
<td>3</td>
<td>.43</td>
</tr>
</tbody>
</table>

remembering by association
identifying the purpose of a task
learning the TL sounds/alphabet right away
skimming first, then seeking details
noticing similarities and contrasts
remembering by grouping

(Table 4 continues on next page)
### Table 4 (continued)

<table>
<thead>
<tr>
<th>SILL Item</th>
<th>Loading</th>
<th>Brief Description of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>83</td>
<td>.34</td>
<td>having fun with pronunciation</td>
</tr>
<tr>
<td>30</td>
<td>.31</td>
<td>seeking details</td>
</tr>
<tr>
<td>4</td>
<td>.29</td>
<td>remembering due to a similar sounding word</td>
</tr>
<tr>
<td>48</td>
<td>-.35</td>
<td>directing the topic of a conversation</td>
</tr>
<tr>
<td>12</td>
<td>-.46</td>
<td>remembering by physical actions</td>
</tr>
</tbody>
</table>

---

**Factors Relating to Pronunciation Ability**

The relationship between pronunciation ability and strategy use as measured by the six factors of the modified SILL is illustrated by Figures 3-8. Note that pronunciation ability is shown in terms of a combined score from all three raters on the y-axes. Substantively equal to the scale of 1 to 7, this scale goes from 3 to 21. Students' average modified SILL scores from 1 to 5 are plotted on the x-axes. Both factor one and factor two seem to have a positive relationship with pronunciation ability.
The average amount of strategy use on factor one items for all students was moderate, at 2.81. Figure 3 shows the scatter plot of the relationship between pronunciation ability and average scores on the factor one items. The distribution of points indicates a generally positive relationship, and there is a strong correlation of .58.

Figure 3. Relationship between pronunciation ability and average scores for factor one. Note: \( r = .58 \)
The average amount of strategy use on factor two items for all students was on the high end of the moderate range, at 3.41. Figure 4 shows the scatter plot of the relationship between pronunciation ability and average scores on the factor two items. A positive relationship seems to be indicated by the points, and there was a moderate correlation of .42.

Figure 4. Relationship between pronunciation ability and average scores for factor two. Note: $r = .42$
The average amount of strategy use on factor three items for all students was just less than moderate, at 2.40. Figure 5 shows the scatter plot of the relationship between pronunciation ability and average scores on the factor three items. The distribution of points cannot be said to indicate a meaningful relationship, and the correlation is low, at .09.

Figure 5. Relationship between pronunciation ability and average scores for factor three. Note: r = .09
The average amount of strategy use on factor four items for all students was moderate, at 2.64. Figure 6 shows the scatter plot of the relationship between pronunciation ability and average scores on the factor four items. No clear relationship is evidenced by the point distribution, and correlation was low, at .15.

Figure 6. Relationship between pronunciation ability and average scores for factor four. Note: $r=.15$
The average amount of strategy use on factor five items for all students was moderate, at 3.35. Figure 7 shows the scatter plot of the relationship between pronunciation ability and average scores on the factor five items. The distribution of points cannot be said to indicate a meaningful relationship, and the correlation is moderately low, at .21.

Figure 7. Relationship between pronunciation ability and average scores for factor five. Note: r=.21
The average amount of strategy use on factor six items for all students was moderate, at 3.03. Figure 8 shows the scatter plot of the relationship between pronunciation ability and average scores on the factor six items. A relationship between the two variables is not discernible from the plot, though the correlation was moderate, at .29.

Figure 8. Relationship between pronunciation ability and average scores for factor six. Note: r = .29
Secondary Variables

Several variables considered of secondary importance were subjected to an exploratory analysis in terms of their relation to pronunciation ability. These variables are level, sex, pronunciation self-rating compared with classmates, pronunciation self-rating compared with native speakers, subjects' perception of the importance of becoming proficient in the pronunciation of Spanish, amount of out-of-class exposure to Spanish, and strategy use as measured by the original SILL's subscales. Side-by-side box plots and scatter plots were chosen as the best way to illustrate the findings regarding these variables, but tables including all the pertinent numbers and percentages have been included in Appendix H. Note that in Figures 9-14, pronunciation ability is shown in terms of a combined score from all three raters on a scale of 3 to 21.

Figure 9 depicts the relationship between pronunciation ability and level of Spanish. The y-axis represents pronunciation ability as measured by the three raters, and the x-axis shows the three levels of Spanish (beginning, intermediate, and advanced). The boxes in
this figure do not overlap, and this reveals a definite trend toward pronunciation ability increasing as students move up through the different levels of Spanish.

Figure 9. Relationship between pronunciation ability and level.
Figure 10 depicts the relationship between pronunciation ability and sex. The y-axis represents pronunciation ability as measured by the three raters, and the x-axis shows the two-level variable of sex (male or female). The two distributions are quite similar, and no clear difference in pronunciation performances between the sexes was evidenced by the students in this study.

![Boxplot showing pronunciation scores by sex]

**Figure 10.** Relationship between pronunciation ability and sex.

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Figure 11 illustrates the relationship between pronunciation ability and students' pronunciation self-rating compared with their classmates. The y-axis shows pronunciation ability, and the x-axis shows the three levels of self-rating (below average, average, and above average). Few students (only seven) felt that their pronunciation ability was below average. Most students classified themselves as having average pronunciation. An overall trend of higher self-ratings corresponding to higher pronunciation scores can be seen.

![Box plot showing pronunciation scores for different self-rating levels](image)

**Figure 11.** Relationship between pronunciation ability and self-rating compared with classmates.
Figure 12 shows the relationship between pronunciation ability and students' pronunciation self-rating compared with native speakers of Spanish. The y-axis represents pronunciation ability, and the x-axis shows three levels of self-rating (poor, fair, and good). None of the students in this study chose the fourth level of self-rating (excellent), though a few students who classified themselves as "good" had very high pronunciation scores. These plots show a general trend of being able to correctly assess one's own pronunciation ability.

Figure 12. Relationship between pronunciation ability and self-rating compared with native speakers.
Figure 13 illustrates the relationship between pronunciation ability and students' perception of the importance of Spanish pronunciation proficiency. The y-axis represents pronunciation ability, and the x-axis shows the three levels of importance (not so important, somewhat important, and very important). The median scores for both the "not so important" and the "somewhat important" groups are very similar, but those who viewed pronunciation as "very important" tended to perform better than the other two groups.

Figure 13. Relationship between pronunciation ability and perceived importance of proficiency in pronunciation.
Figure 14 shows the relationship between pronunciation ability and amount of out-of-class exposure to Spanish as reported by the students. The y-axis shows pronunciation ability, and the x-axis shows the three levels of out-of-class exposure (very little, some, a lot). There is a slight, overall upward trend in pronunciation scores as the amount of exposure to Spanish increases.

Figure 14. Relationship between pronunciation ability and amount of out-of-class exposure to Spanish.
Figures 15-20 show scatter plots of students' mean scores on the six subscales of the original SILL (x-axes) plotted against pronunciation ability (y-axes). Pearson correlations are also reported.

The average amount of strategy use in the memory subcategory of the original SILL for all students was moderate, at 2.75. Figure 15 is the scatter plot of the relationship between pronunciation ability and the memory-items score on the original SILL. No relationship is evidenced by the point distribution on the plot, and the correlation was negligible, at .02

![Scatter plot](image)

**Figure 15.** Pronunciation ability vs. memory-items score on the original SILL. **Note:** r=0.02
The average amount of strategy use in the cognitive subcategory of the original SILL for all students was moderate, at 3.04. Figure 16 is the scatter plot of the relationship between pronunciation ability and the cognitive-items score on the original SILL. A slight positive relationship could be interpreted by the point distribution on the plot, and the correlation was strong, at .61.

![Figure 16. Pronunciation ability vs. cognitive-items score on the original SILL. Note: r=0.61](image)

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The average amount of strategy use in the compensation subcategory of the original SILL for all students was moderate, at 3.35. Figure 17 is the scatter plot of the relationship between pronunciation ability and the compensation-items score on the original SILL. The point distribution on the plot does not demonstrate a meaningful relationship. The correlation was moderately strong, at .40.

![Figure 17](image)

*Figure 17. Pronunciation ability vs. compensation-items score on the original SILL. Note: r=0.40*
The average amount of strategy use in the metacognitive subcategory of the original SILL for all students was moderate, at 2.91. Figure 18 is the scatter plot of the relationship between pronunciation ability and the metacognitive-items score on the original SILL. A relationship is not evidenced by the point distribution on the plot. The correlation was moderate, at .33.

Figure 18. Pronunciation ability vs. metacognitive-items score on the original SILL. Note: $r=0.33$
The average amount of strategy use in the affective subcategory of the original SILL for all students was moderate, at 2.58. Figure 19 is the scatter plot of the relationship between pronunciation ability and the affective-items score on the original SILL. The point distribution seen does not indicate a meaningful relationship. The correlation was low, at .18.

![Scatter plot of pronunciation ability vs. affective-items score on the original SILL.](image)

Figure 19. Pronunciation ability vs. affective-items score on the original SILL. **Note:** r=0.18
The average amount of strategy use in the social subcategory of the original SILL for all students was moderate, at 3.21. Figure 20 is the scatter plot of the relationship between pronunciation ability and social-items score on the original SILL. No relationship is evidenced by the point distribution on the plot, though the correlation was moderate, at .30.

Figure 20.  Pronunciation ability vs. social-items score on the original SILL.  Note: r=0.30
Reliability and Validity of the Modified SILL

Reliability of the SILL has been assessed throughout the literature using a Cronbach alpha whole measure reliability coefficient, appropriate for tests with Likert-type responses. In this study, the modified SILL’s Cronbach alpha was high at .95.

Concurrent validity was investigated in terms of the relationship between the modified SILL and performance on the pronunciation task. Here, modified SILL factor one was able to explain 33% of the variance in pronunciation scores and modified SILL factor two explained 18% of the variance.

Additionally, construct validity was considered in terms of the factor analysis results. Of six factors, five were considered good measures of distinct strategy areas for both theoretical and statistical reasons (discussed below). Two of these were shown to positively relate (with correlation coefficients of .42 and .58) to measures of pronunciation ability.

Discussion

Diary and Interview Methods

In terms of results, the diary-keeping method and the interview method were very similar with respect to the
total number of strategies and the number of new strategies revealed. The diaries revealed the use of 30 strategies, 18 of which were new, and the interviews revealed the use of 29 strategies, 15 of which were new. In addition, both methods tended to reveal basically the same types of strategies (i.e., strategies from a wide range of subgroups).

In other respects, the two different tasks could be said to have their advantages and disadvantages. The downside of the diary keeping was that some, albeit a very small amount, of what the students wrote was confusing until it was clarified by the researcher during the brief follow-up interview. In addition, the diaries sometimes contained numerous comments considered extraneous by the researcher because they did not aid the specific aim of discovering new pronunciation learning strategies. On the other hand, most of the students wrote that they enjoyed taking the two or three-week time period to think about their learning strategies and that they would probably remain more conscious of them and of their pronunciation learning processes as a result of participating in the diary study.

The interviews, on the other hand, all remained very focused, with little extraneous discussion. Any
confusion could be clarified immediately. Most students did appear, however, to need a lot of prompting in order to consciously remember the strategies they use. As opposed to the two to three-week diary-keeping period, an hour or less was all the time the interview students had to think about their pronunciation learning strategy use. The researcher speculated that the interviews might have been much less productive without the prompts, some of which were the direct result of the diary study.

Both methods produced transcripts which could be coded equally well and with equal ease. The fact that each of these methods produced useful results and had some positive and negative aspects lends support to the notion of using multiple methods of data collection.

New Strategies Revealed in Phase One

The most important result of the diary and interview studies is that 23 new, never before documented strategies used by students to help their pronunciation learning were revealed. This is important for its own basic significance: new learner behaviors regarding pronunciation learning were documented for the first time. These new strategies are of a wide variety, and
fall into most of the six subcategories of strategies discussed earlier.

A number of the new strategies revealed were quite distinct from those found in the review of literature; others had just a shade of difference in meaning. For example, the use of flash cards for pronunciation learning had not been documented before. But another strategy—“asking your teacher to pronounce something for you”—is very similar to the previously documented strategy of “seeking out models for sounds.” There appeared to be a distinction between these two in terms of what strategy category they might fall into (social vs. metacognitive), so the researcher chose to consider them as separate strategies for the purpose of generating a complete list of known pronunciation learning strategies. During SILL modification (discussed below), similar strategies then had to be combined into one item on the modified SILL.

**SILL Modification**

The discussion of the SILL modification process seems to begin most naturally with the compromises made in reducing 41 pronunciation learning strategies into only 20 new items. One area of compromise was allowing the
original SILL items to “cover” pronunciation learning strategies if at all possible. This affected several of the strategies. For example, item 17 says, “I imitate the way native speakers talk.” The pronunciation strategy of “imitating teachers or a native speaker” was represented through item 17, even though the word “teachers” is not in the item. The Phase One students confirmed that imitating one’s teacher was a popular strategy, and of course not all Spanish teachers are native speakers. It can only be hoped that students taking the SILL interpreted the items with some flexibility, and that perhaps their tendency to imitate the teacher came to mind when they read this item.

Another area of compromise involved the subcategories into which the pronunciation items fell. Strategies that were considered distinct because of their placement into two different subcategories sometimes had to be combined and then forced into only one category or the other. An example mentioned earlier is appropriate here. “Seeking out models for sounds” was considered a metacognitive strategy because of its emphasis on going out of one’s way to find someone. In contrast, “asking someone to pronounce something” was simply considered a social strategy because it might not involve much planning or
effort. But during SILL modification, these two somewhat different strategies were combined into one and the social category was chosen. In this case, the item was considered social, as opposed to metacognitive, because the students from Phase One tended to ask for correction spontaneously from their classroom teacher.

The compromises made involving subcategories may seem unfortunate, but they really are not overly important. Oxford and Ehrman (1995) have reported strong intercorrelations between the SILL’s subscales and are “cautious about reporting results by each subscale in a way that is any more than tentative” (p. 372). They also caution that it is useful to “talk about the results of the subscales . . . only if one remembers that these subscales have a considerable overlap” (p. 372). The SILL is better viewed as a whole and analyzed through a factor analysis. This particular kind of compromise (involving subcategories) is not of great concern, then, and no doubt these same kinds of compromises were involved in making the original SILL.

One final comment about the elimination of a SILL answer sheet is in order here. Out of concern for time due to the longer length of the modified SILL, answer blanks were added next to each item in the SILL handout.
This appeared to save the students as much as ten to fifteen minutes compared with answering on a separate answer sheet. This modification came as a result of the pilot study, and the significant amount of time saved was surprising. Data entry of the SILL results was no doubt much slower because of this, but this change was necessary in order to make data collection possible.

**Factor Analysis**

The first order of business in completing the factor analysis was determining the appropriate number of factors to examine. The factor analysis performed on the modified SILL produced 20 factors with Eigenvalues greater than 1.0. One common method of choosing the number of factors to retain is to choose those with Eigenvalues greater than 1.0. It was believed, however, that retaining such a large number of factors (20) would detract from the meaningfulness of the results. An alternative method of looking for a large difference in Eigenvalues between adjacent factors was considered more prudent in this case. A scree plot of Eigenvalues showed a difference between six and seven factors. In addition, the fact was considered that the original SILL employs six subscales based on a factor analysis. Also, an
initial examination of the six factors indicated that there were substantial and meaningful differences between items in the six factors. Therefore, the number of factors was determined to be six.

Statistical and theoretical considerations seem to confirm the validity of most of the six factors. Factors one through five have reliability coefficients ranging from .94 to .77. These indicators of consistency point toward the uniqueness of each of these factors. In addition, each of these five factors contains items that share common ground with other items in the same factor. The names given to the factors are substantiated either because most of the items in the factor are related or because at least the items of higher loadings are related to each other. Only factor six was considered to be without meaningful interpretation. Its reliability was lower than the others at only .57. In addition, no clear relationship between the factor six items was evident.

The first factor was called authentic/functional practice strategies. Where possible, factor names used in the literature were given to these factors, and this is the case here. The items with the highest loadings could all be considered strategies of authentic or functional language practice or use, for example “reading
for pleasure in the target language,” “watching TV/movies in the target language,” and “initiating conversations in the target language.”

Reflection strategies is the unifying characteristic of the higher loaded items in factor two. Several types of reflection were present, including reflection or awareness of one’s target language abilities (e.g., “evaluating one’s abilities before a task”), one’s lack of ability (e.g., “learning from one’s mistakes”), and one’s state of mind (e.g., “trying to relax when using the target language”).

Almost all of the items in the third factor are either pronunciation strategies or strategies of memory, hence the name pronunciation and memory strategies. Examples of pronunciation strategy items are “doing extra reading about pronunciation” and “asking someone to pronounce something.” A couple examples from the memory category are “carefully scheduling one’s review sessions” and “making summaries of language material.”

Affective and memory strategies was the name given to factor four. As with factor three, almost all of the items (not just the ones with higher loadings) comply with the factor name. Affective strategy items were items such as “paying attention to signs of stress” and
“rewarding oneself.” Memory strategy items in this factor were items like “remembering by repetition” and “remembering by drawing word relationships.” The distinction between the memory strategies in factors three and four is not clear, and trying to make a distinction might be forcing the issue. Memory strategies are well represented in both factor three and factor four; what distinguished them is their being statistically linked with another type of strategy (pronunciation or affective).

The fifth factor was easily named cooperation strategies, and most of the items can be described as such. They involve getting help from another party in a conversation or working with other learners. These are items like “asking another speaker for help,” “working with a regular language partner,” and “asking someone to correct one’s pronunciation.”

Finally, factor six’s items span almost all of the SILL’s subscales and do not seem to have any other underlying commonalities. It is not at all unusual for factor analyses to produce some factors that cannot be interpreted meaningfully, and this appears to be the case here. Because of factor six’s lack of meaningful
interpretation and its low reliability (.57), it is best to look for meaning in the other five factors.

**Learning Strategies and Pronunciation Ability**

Two of the factors--functional/authentic practice strategies and reflection strategies--could be said to have a positive relationship and to correlate satisfactorily with pronunciation ability. The other factors, even the one entitled pronunciation and memory strategies, did not show evidence of a relationship with pronunciation scores. These results suggest that one’s pronunciation ability may relate to the amount of authentic use of language one engages in and to the awareness one has of one’s own mental state and level of target language knowledge.

It can be noted that factor one mostly involves authentic use of the target language, but factor two basically cannot be classified as authentic language use. The strategies in both of these groups evidently aid pronunciation learning in their own way, some addressing the formal aspects of pronunciation learning and others the functional aspects. Because they both showed a positive relationship to pronunciation ability, it can be
said that both aspects—the formal and the functional—are important.

Within the functional/authentic practice factor and the reflection factor are several pronunciation learning strategies that could help to explain the link with pronunciation ability. The 10 items that were previously determined to assess pronunciation strategies and that fell within the first factor are the following, listed in descending order according to their loadings: (Refer to Table 4 for the complete list of item numbers, item descriptions, and loadings for each of the factors.)

- watching TV/movies in the TL (Item 24)
- teaching/tutoring someone else in the TL (Item 99)
- looking for people to speak the TL with (Item 61)
- imitating the way native speakers talk (Item 17)
- trying out different accents/dialects (Item 93)
- practicing the TL sounds/alphabet (Item 20)
- noticing and imitating TL mouth positions (Item 88)
- concentrating on pronunciation while listening (Item 89)
- concentrating on pronunciation while speaking (Item 90)
- listening to one’s own pronunciation (Item 86)

These items generally fall within the functional nature of the strategies in this factor and might be described
together as strategies that focus on pronunciation during functional language practice.

There were just two items from the reflection factor that had been determined to relate specifically to pronunciation learning strategies: making and revising TL hypotheses (Item 40), which was the item with the highest loading in factor two, and practicing pronouncing difficult words (Item 94). In contrast to the pronunciation-oriented items in the first factor, these two items are probably associated more with the formal than functional aspects of pronunciation learning. They both conform to the reflective nature of the second factor because they require a consciousness of one’s target language knowledge/abilities or lack thereof.

There were, then, a total of 12 items in factors one and two that had been identified as “covering” one or more of the list of pronunciation learning strategies. Looking at the items, one can easily imagine how they could contribute to pronunciation learning. There is no statistical reason, however, to believe that these particular items are any more related to pronunciation ability than the non-pronunciation items in the first two factors. It may be that other items not appearing to relate to pronunciation, such as reading for pleasure in
the TL (Item 27), are equally related to pronunciation learning, but that no students to date have identified them as being used to learn pronunciation. It is important, therefore, to exercise caution when trying to make sense of how the factor one and factor two strategies aid pronunciation learning. Surely it is reasonable to look at and consider making use of (for teaching or learning purposes) individual strategies within these two factors, but one cannot say with certainty that one particular strategy will help pronunciation learning and that another one will not. It is much more prudent to view these items as groups of strategies (e.g., strategies that focus on pronunciation during authentic language use) for the purposes of drawing conclusions.

Secondary Variables

One main purpose of the background questionnaire was to be able to eliminate from consideration any students who did not meet the criteria for eligibility. This mostly involved beginning-level students who were not “true beginners” and a couple of students who appeared to have been raised in Spanish-speaking homes. But an additional benefit of the background information sheet
was that it could provide information that might prove to be useful in interpreting some of the results of this study or, perhaps, be of interest to other researchers. One variable, that of level, turned out to have a prominent role in understanding the main findings of this study.

There was a very clear relationship (illustrated in Figure 9 by side-by-side box plots that do not overlap) between pronunciation ability and level of Spanish. As level of Spanish increases, so does pronunciation ability. Of course, the confirmation that these students’ pronunciation has increased with their continued study of Spanish is valuable in and of itself. It affirms the usefulness of the Spanish programs, classes, teachers, and textbooks under which these students have studied. But this finding’s critical importance to this study is the caveat it raises concerning interpretation of the main results. Pronunciation ability and level of Spanish are confounded here, and it is beyond the scope of this study to attempt to separate them. This study was not able to (nor did it propose to) differentiate between good and poor pronouncers within the same general level of Spanish ability. It is possible that the conclusions made about
the relationship between pronunciation ability and certain modified SILL factors could be made also for level of Spanish. In other words, although the conclusions made can certainly be said to be true of pronunciation proficiency, they may not be unique to pronunciation. They may be common to many aspects of Spanish proficiency. If the box plots for pronunciation and level had overlapped somewhat, it might have been appropriate to view the modified SILL factors as relating more uniquely to pronunciation ability alone.

The findings regarding most of the other secondary variables are not necessarily critical to this study, but are interesting and may be important to other researchers. Regarding self-ratings, it is interesting that, on the one hand, students were reluctant to see their own pronunciation as worse than that of their classmates, but on the other hand were also hesitant to view their pronunciation as excellent compared with native speakers. The overall trend evidenced is that students seem generally able to correctly assess their own pronunciation ability.

The findings regarding attitude toward the importance of pronunciation and out-of-class exposure are not surprising. Viewing pronunciation as very important and
having a lot of exposure to Spanish outside of class are both somewhat related to better pronunciation. This lends support to viewing both of these factors as some of the many variables related to pronunciation ability in a foreign language. (Of course, no causal relationship was determined. It may be that thinking pronunciation is important, for instance, is a result rather than a cause of good pronunciation.) Viewing gender as a factor related to pronunciation ability, on the other hand, did not receive support in this study.

The scatter plots of the original SILL’s subscales indicated a positive relationship between pronunciation ability and the cognitive subscale. Caution should be used in interpreting this finding, however. As mentioned earlier, Oxford and Ehrman (1995) advise de-emphasizing the importance and uniqueness of individual subscales because of their strong intercorrelations. These researchers seem to prefer alternative methods of grouping the items, such as factor analysis. It may be reasonable, then, to put more confidence in factors one and two as opposed to the cognitive subscale when it comes to explaining pronunciation ability. It is very interesting to note that all of the eight most highly loaded items in factor one (all authentic or functional
practice items) belong to the cognitive subscale of the original SILL. Perhaps it is items like these that caused the cognitive subscale to be linked statistically with pronunciation ability.

**Reliability and Validity of the Modified SILL**

The results pertaining to reliability, concurrent validity, and construct validity reported earlier suggest that the modified SILL can be trusted to reasonably assess learning strategies, including pronunciation learning strategies. The statistical findings presented and the conclusions that have grown out of them are also likely to be trustworthy, then.
Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The present study was undertaken with the aim of finding out what kinds of learning strategies adult learners of Spanish are using to improve their second language pronunciation and which of those strategies relate to successful pronunciation. Although no previous study with the sole purpose of examining learning strategies in pronunciation learning was found, 21 pronunciation learning strategies could be gleaned from a literature review. In order to amplify this list, the researcher asked 11 college-level students of Spanish to participate in either diary keeping or interviews regarding their own pronunciation learning strategy use. This phase of the study revealed a list of 23 new pronunciation learning strategies. A revised list containing the 44 documented pronunciation learning strategies was then made.
Oxford's (1990) Strategy Inventory for Language Learning (SILL), a widely used instrument designed to assess general language learning strategy use, was modified with the addition of 20 new items specifically focusing on pronunciation learning. These 20 items, along with nine from the original SILL, were able to encompass the complete list of pronunciation learning strategies reasonably well. Sixty-four college-level students of Spanish took the modified SILL and also recorded samples of their voices during a reading-aloud task that was later judged for quality of pronunciation.

The main objective in the data analysis was to identify any potential relationships between learning strategy use and pronunciation ability. To this end, the modified SILL results were first subjected to a factor analysis that revealed six factors: authentic/functional practice strategies, reflection strategies (regarding language knowledge and state of mind), pronunciation and memory strategies, affective and memory strategies, cooperation strategies, and a sixth factor which could not be satisfactorily named. The relationship between these factors and students' pronunciation scores was then explored. Analysis of scatter plots and correlation coefficients showed that the two factors of
authentic/functional practice strategies and reflection strategies related positively to pronunciation ability.

Additionally, the relationship between pronunciation ability and several secondary variables was investigated through correlation coefficients and scatter plots or side-by-side box plots. A strong positive relationship was seen between pronunciation ability and language level. Variables that also showed somewhat of a positive relationship with pronunciation were self-perception of pronunciation ability, attitude toward pronunciation learning, and out-of-class exposure to Spanish. On the other hand, the variables of sex and performance on the original SILL's subscales (except for the cognitive subscale), did not seem to relate (either positively or negatively) to pronunciation ability. Cognitive strategies showed somewhat of a positive relationship with pronunciation ability.

Conclusions

This study has been of value to the areas of pronunciation learning research and learning strategy research in two main ways. First of all, this was the first study to focus solely on pronunciation and learning strategies. As such, it was able to document 23 new
strategies for pronunciation learning that had not previously appeared in the literature. This is important information because it expands the profession’s basic knowledge about learner behaviors, allows researchers to generate or modify questionnaires/surveys that assess learning strategy or pronunciation learning strategy use, and suggests to students some strategies that could possibly aid their learning of another language’s pronunciation.

The other critical outcome of this study was identifying the probable relationship between pronunciation ability on the one hand and functional practice strategies (modified SILL factor one), reflection strategies (modified SILL factor two), and cognitive strategies (an original SILL subgroup) on the other. These relationships can now be investigated by more than exploratory statistics in future studies. In addition, and perhaps most importantly, students can be made aware of these relationships and can begin to make more use of strategies in these areas to help improve their pronunciation learning. As mentioned earlier, however, caution does need to be exercised by any teachers or students considering embracing particular strategies to aid in pronunciation learning; it would not
be prudent, based on the results of this study alone, to make any conclusions about specific, individual pronunciation learning strategies and their influence on pronunciation learning.

Implications

The findings from Phase One of this study have lent support to the notion of using learning strategy diaries in the classroom. Diaries seem to be an effective way for both students and researchers (or teachers) to find out what language learning strategies are being used; that is, they produce valuable data about students’ learning strategy use. In addition, this study has provided evidence that students tend to find the diary-keeping experience interesting and enjoyable. It would certainly be reasonable to want students to be familiar with their own strategy tendencies before (or in addition to) introducing or suggesting new strategies to them. Dairies can be viewed as a useful tool in helping students to understand what kinds of strategies they are using.

The pedagogical implications of Phase Two’s research findings grow out of the relationship identified between pronunciation ability and functional/authentic practice
and reflection strategies. At this point, elaborate training of students in strategies that may help their pronunciation would not be warranted. This should not come about until more research studies on this topic and several studies of pronunciation strategy training have been conducted.

But it would be appropriate now to inform students that certain types of strategies, namely functional/authentic practice strategies and reflection strategies, have been associated with successful pronunciation. Because it is not warranted statistically and because particular strategies will always be more or less successful with particular students, too much emphasis should not be placed on any individual strategy at this point. But lists containing a number of suggested strategies, such as the list of pronunciation-oriented items in the functional practice and reflection factors, could certainly be provided for students.

To summarize, at this point in time, it is appropriate to help students become familiar with their own learning strategy use (through a method such as diary-keeping) and to tell students about the existing research linking pronunciation success with certain types of learning strategies; that is, engaging in authentic or functional
practice opportunities and cultivating an awareness of one’s language abilities and difficulties may contribute to more successful pronunciation learning. It would also be reasonable to provide students with a list of some suggested strategies.

Recommendations for Future Research

One of the first research projects that should be undertaken to follow up the present study is one that investigates pronunciation ability within a single language level. This kind of study would have as a research question something like the following: Among students of similar overall proficiency in a given second language, what learning strategies can help to account for differences in pronunciation ability? Results could be expected to vary for different language levels, so the researcher would want to choose subjects from the proficiency level that most interested him or her.

Another likely avenue of research would involve languages other than Spanish. Certainly, qualitative and statistical results could be expected to differ, especially where students from different cultural backgrounds are involved. A frequently used ESL version of the SILL exists, as do several other versions in other
languages. (Of course, these do not focus particularly on pronunciation learning strategies.)

It would also be appropriate for studies subsequent to this one to make use of hypothesis testing. There is now at least some basis for forming hypotheses about the relationship between pronunciation and learning strategies.

Although this researcher believes it would be premature to assume much in the way of pronunciation learning strategy training with students at this time, it is not too soon to conduct some strategy training for research purposes. Research in training studies is difficult because it is generally very evaluative in nature; that is, the training situations are unique, and results of any one study can hardly be generalized. General conclusions regarding strategy training are coming about as the number of these varied research projects grows. Because many studies of pronunciation learning strategy training may be necessary before any reliable conclusions can be drawn, it would be reasonable to begin this type of research as soon as possible.

Finally, it may be of value to develop an instrument—something apart from the SILL—that assesses only pronunciation learning strategies. It would be prudent
to do this after obtaining more data from a greater number and variety of language learners.
APPENDIX A

THE STRATEGY INVENTORY FOR LANGUAGE LEARNING (SILL)

Version 5.1


Directions

The STRATEGY INVENTORY FOR LANGUAGE LEARNING (SILL) is designed to gather information about how you, as a student of a foreign or second language, go about learning that language. On the following pages, you will find statements related to learning a new language. Please read each statement. On the separate answer sheet, mark the response (1, 2, 3, 4, or 5) that tells how true the statement is in terms of what you actually do when you are learning the new language.

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

Never or almost never true of me means that the statement is very rarely true of you; that is, you do the behavior which is described in the statement only in very rare instances.

Generally not true of me means that the statement is usually not true of you; that is, you do the behavior which is described in the statement less than half the time, but more than in very rare instances.
Somewhat true of me means that the statement is true of you about half the time; that is, sometimes you do the behavior which is described in the statement, and sometimes you don't, and these instances tend to occur with about equal frequency.

Generally true of me means that the statement is usually true of you; that is, you do the behavior which is described in the statement more than half the time.

Always or almost always true of me means that the statement is true of you in almost all circumstances; that is, you almost always do the behavior which is described in the statement.

Use the separate Worksheet for recording your answers and for scoring. Answer in terms of how well the statement describes you, not in terms of what you think you should do, or what other people do. Answer in reference to the language you are now learning (or the language you most recently learned). There are no right or wrong responses to these statements. Work carefully but write your name, the date, and the language learned.

EXAMPLE

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

Read the item, and choose a response (1 through 5 above), and write it in the space after the item.

I actively seek out opportunities to talk with native speakers of the new language. _____

You have just completed the example item. Answer the rest of the items on the Worksheet.
Strategy Inventory for Language Learning

Version 5.1


1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

(Write answers on Worksheet)

Part A

When learning a new word . . .

1. I create associations between new material and what I already know.

2. I put the new word in a sentence so I can remember it.

3. I place the new word in a group with other words that are similar in some way (for example, words related to clothing, or feminine nouns).

4. I associate the sound of the new word with the sound of a familiar word.

5. I use rhyming to remember it.

6. I remember the word by making a clear mental image of it or by drawing a picture.

7. I visualize the spelling of the new word in my mind.
8. I use a combination of sounds and images to remember the new word.

9. I list all the other words I know that are related to the new word and draw lines to show relationships.

10. I remember where the new word is located on the page, or where I first saw or heard it.

11. I use flash cards with the new word on one side and the definition or other information on the other.

12. I physically act out the new word.

When learning new material . . .

13. I review often.

14. I schedule my reviewing so that the review sessions are initially close together in time and gradually become more widely spread apart.

15. I go back to refresh my memory of things I learned much earlier.

Part B

16. I say or write new expressions repeatedly to practice them.

17. I imitate the way native speakers talk.

18. I read a story or dialogue several times until I can understand it.


20. I practice the sounds or alphabet of the new language.

21. I use idioms or other routines in the new language.

22. I use familiar words in different combinations to make new sentences.
23. I initiate conversations in the new language.

24. I watch TV shows or movies or listen to the radio in the new language.

25. I try to think in the new language.

26. I attend and participate in out-of-class events where the new language is spoken.

27. I read for pleasure in the new language.

28. I write personal notes, messages, letters, or reports in the new language.

29. I skim the reading passage first to get the main idea, then I go back and read it more carefully.

30. I seek specific details in what I hear or read.

31. I use reference materials such as glossaries or dictionaries to help me use the new language.

32. I take notes in class in the new language.

33. I make summaries of new language material.

34. I apply general rules to new situations when using the language.

35. I find the meaning of a word by dividing the word into parts which I understand.

36. I look for similarities and contrasts between the new language and my own.

37. I try to understand what I have heard or read without translating it word-for-word into my own language.

38. I am cautious about transferring words or concepts directly from my language to the new language.

39. I look for patterns in the new language.

40. I develop my own understanding of how the language works, even if sometimes I have to revise my understanding based on new information.
Part C

41. When I do not understand all the words I read or hear, I guess the general meaning by using any clue I can find, for example, clues from the context or situation.

42. I read without looking up every unfamiliar word.

43. In a conversation I anticipate what the other person is going to say based on what has been said so far.

44. If I am speaking and cannot think of the right expression, I use gestures or switch back to my own language momentarily.

45. I ask the other person to tell me the right word if I cannot think of it in a conversation.

46. When I cannot think of the correct expression to say or write, I find a different way to express the idea; for example, I use a synonym or describe the idea.

47. I make up new words if I do not know the right ones.

48. I direct the conversation to a topic for which I know the words.

Part D

49. I preview the language lesson to get a general idea of what it is about, how it is organized, and how it relates to what I already know.

50. When someone is speaking the new language, I try to concentrate on what the person is saying and put unrelated topics out of my mind.

51. I decide in advance to pay special attention to specific language aspects; for example I focus [on] the way native speakers pronounce certain sounds.

52. I try to find out all I can about how to be a better language learner by reading books or articles, or by talking with others about how to learn.
53. I arrange my schedule to study and practice the new language consistently, not just when there is the pressure of a test.

54. I arrange my physical environment to promote learning; for instance, I find a quiet, comfortable place to review.

55. I organize my language notebook to record important language information.

56. I plan my goals for language learning, for instance, how proficient I want to become or how I might want to use the language in the long run.

57. I plan what I am going to accomplish in language learning each day or each week.

58. I prepare for an upcoming language task (such as giving a talk in the new language) by considering the nature of the task, what I have to know, and my current language skills.

59. I clearly identify the purpose of the language activity; for instance, in a listening task I might need to listen for the general idea or for specific facts.

60. I take responsibility for finding opportunities to practice the new language.

61. I actively look for people with whom I can speak the new language.

62. I try to notice my language errors and find out the reasons for them.

63. I learn from my mistakes in using the new language.

64. I evaluate the general progress I have made in learning the language.

Part E

65. I try to relax whenever I feel anxious about using the new language.
66. I make encouraging statements to myself so that I will continue to try hard and do my best in language learning.

67. I actively encourage myself to take wise risks in language learning, such as guessing meanings or trying to speak, even though I might make some mistakes.

68. I give myself a tangible reward when I have done something well in my language learning.

69. I pay attention to physical signs of stress that might affect my language learning.

70. I keep a private diary or journal where I write my feelings about language learning.

71. I talk to someone I trust about my attitudes and feelings concerning the language learning process.

Part F

72. If I do not understand, I ask the speaker to slow down, repeat, or clarify what was said.

73. I ask other people to verify that I have understood or said something correctly.

74. I ask other people to correct my pronunciation.

75. I work with other language learners to practice, review, or share information.

76. I have regular language learning partner.

77. When I am talking with a native speaker, I try to let him or her know when I need help.

78. In conversation with others in the new language, I ask questions in order to be as involved as possible and to show I am interested.

79. I try to learn about the culture of the place where the new language is spoken.
80. I pay close attention to the thoughts and feelings of other people with whom I interact in the new language.

Your name __________________________ Date ________________

Spanish class you are in now ____________________
APPENDIX B
THE MODIFIED SILL

THE STRATEGY INVENTORY FOR LANGUAGE LEARNING (SILL)

Directions

The STRATEGY INVENTORY FOR LANGUAGE LEARNING (SILL) is designed to gather information about how you, as a student of a foreign or second language, go about learning that language. On the following pages, you will find statements related to learning a new language. Please read each statement and mark the response (1, 2, 3, 4, or 5) that tells how true the statement is in terms of what you actually do when you are learning the new language.

1. Never or almost never true of me
2. Generally not true of me
3. Somewhat true of me
4. Generally true of me
5. Always or almost always true of me

Never or almost never true of me means that the statement is very rarely true of you; that is, you do the behavior which is described in the statement only in very rare instances.

Generally not true of me means that the statement is usually not true of you; that is, you do the behavior which is described in the statement less than half the time, but more than in very rare instances.

Somewhat true of me means that the statement is true of you about half the time, that is, sometimes you do the behavior which is described in the statement, and sometimes you don't, and these instances tend to occur with about equal frequency.

Generally true of me means that the statement is usually true of you; that is, you do the behavior which is described in the statement more than half the time.

Always or almost always true of me means that the statement is true of you in almost all circumstances; that is, you almost always do the behavior which is described in the statement.

Answer in terms of how well the statement describes you, not in terms of what you think you should do, or what other people do. Answer in reference to the language you are now learning (or the language you most recently learned). There are no right or wrong responses to these statements. Work carefully but quickly.

Please turn the page and begin.
Part A

When learning a new word . . .

___ 1. I create associations between new material and what I already know.
___ 2. I put the new word in a sentence so I can remember it.
___ 3. I place the new word in a group with other words that are similar in some way (for example, words related to clothing, or feminine nouns).

When learning a new word . . .

___ 4. I associate the sound of the new word with the sound of a familiar word.
___ 5. I use rhyming to remember it.
___ 6. I remember the word by making a clear mental image of it or by drawing a picture.
___ 7. I visualize the spelling of the new word in my mind.
___ 8. I use a combination of sounds and images to remember the new word.
___ 9. I list all the other words I know that are related to the new word and draw lines to show relationships.
___ 10. I remember where the new word is located on the page, or where I first saw or heard it.
___ 11. I use flash cards with the new word on one side and the definition or other information on the other.
___ 12. I physically act out the new word.

When learning new material . . .

___ 13. I review often.
___ 14. I schedule my reviewing so that the review sessions are initially close together in time and gradually become more widely spread apart.
___ 15. I go back to refresh my memory of things I learned much earlier.

Part B

___ 16. I say or write new expressions repeatedly to practice them.
___ 17. I imitate the way native speakers talk.
___ 18. I read a story or dialogue several times until I can understand it.
___ 20. I practice the sounds or alphabet of the new language.
___ 21. I use idioms or other routines in the new language.
22. I use familiar words in different combinations to make new sentences.
23. I initiate conversations in the new language.
24. I watch TV shows or movies or listen to the radio in the new language.
25. I try to think in the new language.
26. I attend and participate in out-of-class events where the new language is spoken.
27. I read for pleasure in the new language.
28. I write personal notes, messages, letters, or reports in the new language.
29. I skim the reading passage first to get the main idea, then I go back and read it more carefully.
30. I seek specific details in what I hear or read.
31. I use reference materials such as glossaries or dictionaries to help me use the new language.
32. I take notes in class in the new language.
33. I make summaries of new language material.
34. I apply general rules to new situations when using the language.
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36. I look for similarities and contrasts between the new language and my own.
37. I try to understand what I have heard or read without translating it word-for-word into my own language.
38. I am cautious about transferring words or concepts directly from my language to the new language.
39. I look for patterns in the new language.
40. I develop my own understanding of how the language works, even if sometimes I have to revise my understanding based on new information.

Part C

41. When I do not understand all the words I read or hear, I guess the general meaning by using any clue I can find, for example, clues from the context or situation.
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46. When I cannot think of the correct expression to say or write, I find a different way to express the idea; for example, I use a synonym or describe the idea.
47. I make up new words if I do not know the right ones.
48. I direct the conversation to a topic for which I know the words.

Part D

49. I preview the language lesson to get a general idea of what it is about, how it is organized, and how it relates to what I already know.

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62. I try to notice my language errors and find out the reasons for them.

63. I learn from my mistakes in using the new language.

64. I evaluate the general progress I have made in learning the language.

Part E

65. I try to relax whenever I feel anxious about using the new language.

66. I make encouraging statements to myself so that I will continue to try hard and do my best in language learning.

67. I actively encourage myself to take wise risks in language learning, such as guessing meanings or trying to speak, even though I might make some mistakes.

68. I give myself a tangible reward when I have done something well in my language learning.

69. I pay attention to physical signs of stress that might affect my language learning.
70. I keep a private diary or journal where I write my feelings about language learning.

71. I talk to someone I trust about my attitudes and feelings concerning the language learning process.

**Part F**

72. If I do not understand, I ask the speaker to slow down, repeat, or clarify what was said.

73. I ask other people to verify that I have understood or said something correctly.

74. I ask other people to correct my pronunciation.

75. I work with other language learners to practice, review, or share information.

76. I have regular language learning partner.

77. When I am talking with a native speaker, I try to let him or her know when I need help.

78. In conversation with others in the new language, I ask questions in order to be as involved as possible and to show I am interested.

79. I try to learn about the culture of the place where the new language is spoken.

80. I pay close attention to the thoughts and feelings of other people with whom I interact in the new language.

**Part G**

81. When first learning another language, I use phonetic symbols or my own codes to remember how the sounds are pronounced.

82. When first learning another language, I decide to learn the sounds or the alphabet right away.

83. I have fun with pronunciation, for example, speaking English with a Spanish accent.

84. I keep a sense of humor when I mispronounce something.

In order to improve my pronunciation...

85. I repeat (out loud or silently) after my teacher, a native speaker, tapes, or a movie.

86. I talk to myself (out loud or silently) and listen to my pronunciation.

87. I read out loud.

88. I notice a teacher or native speaker's mouth positions and pronunciation and try to imitate them.

89. I concentrate intensely on pronunciation while listening.

90. I concentrate intensely on my pronunciation while speaking.

91. I work with flash cards.

92. I record my own voice to hear my pronunciation.
<table>
<thead>
<tr>
<th></th>
<th>Never or almost never true of me</th>
<th>Generally not true of me</th>
<th>Somewhat true of me</th>
<th>Generally true of me</th>
<th>Always or almost always true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>93</td>
<td>I notice or try out different kinds of accents or dialects.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>I practice pronouncing words that are difficult for me.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>I do extra reading about pronunciation rules.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96</td>
<td>I do extra work with language tapes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>I decide to focus on particular sounds that I will try to learn or listen for.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>98</td>
<td>I ask a teacher or native speaker how they pronounce something.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>I teach, tutor, or help someone else to learn the language.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>I purposely try to avoid producing English language sounds.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

BACKGROUND QUESTIONNAIRE

Based on R. L. Oxford, 1990

BACKGROUND INFORMATION SHEET

Please answer all of the questions; work as quickly as you reasonably can.

1. Name ___________________  2. Date ______  3. Age _____  4. Sex ______

5. Native language ___________  6. Language(s) you speak at home _________________

7. Spanish class ______________  8. At what age did you begin studying Spanish?________

9. How do you rate your overall pronunciation ability in Spanish as compared with the pronunciation ability of other students in your class? (Circle one)
   Below average    Average    Above average

10. How do you rate your overall pronunciation ability in Spanish as compared with the pronunciation ability of native speakers of Spanish? (Circle one)
    Excellent       Good       Fair       Poor

11. How important is it for you to become proficient in the pronunciation of Spanish? (Circle one)
    Very important    Important    Not so important

12. Why do you want to learn Spanish? (Check all that apply)

   _____ interested in the language
   _____ interested in the culture
   _____ have friends who speak the language
   _____ required to take a language course to graduate
   _____ need it for my future career
   _____ need it for travel
   _____ other (list): ____________________________

13. Do you enjoy language learning? (Circle one)   Yes   No

14. What other languages have you studied?______________________________
15. How much time have you spent *besides class or classwork* in Spanish-speaking situations? (Circle one)

<table>
<thead>
<tr>
<th>Very little</th>
<th>Some</th>
<th>A lot</th>
</tr>
</thead>
</table>

If "Some" or "A lot," please explain briefly ____________________________

16. Is there anything else in your background that might have an influence upon your pronunciation ability?  

__________________________________________________________________
APPENDIX D

INSTRUCTIONS TO RATERS

Instructions to Pronunciation Judges

You are going to be listening to various individuals reading a text about a scary event. Each speech sample lasts approximately one minute. Please rate each person’s pronunciation on the following seven point scale.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all native</td>
<td>Intermediately native</td>
<td>Completely native</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If an individual appears to have the pronunciation ability of a native Spanish speaker (from any geographic origin), mark a 7 on the answer sheet. If an individual sounds not at all native, mark a 1. If the individual sounds intermediately native, please mark a score from 2 to 6, depending on degree of nativeness.

Choose an exact number if possible, but if you feel that you must give a fractional number, indicate it clearly. Please feel free to use the whole seven point range.

In addition, if you feel that it would help you to distinguish between scores, especially in the 2-6 range, please feel free to jot down more detailed descriptions of each number during our training period, such as the following:

1 No evidence of knowing Spanish
2 Many pronunciation problems
3 Several pronunciation problems
4 Mostly correct pronunciation
5 Very good, but definitely not native
6 Possibly a native; I can’t be sure
7 Definitely a native speaker

These descriptions are merely examples of what is possible to jot down; please feel free to use your own notation or none at all.

It is critical that pronunciation be the only quality you are judging. Take special care not to let factors like speed, volume, reading ability, or your perception of grammatical ability affect your judgments.
APPENDIX E

HOLISTIC SCORING GUIDE

The pronunciation in this speech sample is:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all native</td>
<td>Intermediately native</td>
<td>Completely native</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX F
PRONUNCIATION TASK

Sentences to be Read Aloud (From Yager, 1988, p. 47)

El accidente

Una noche obscura pero con poco tráfico yo regresaba a mi casa en carro. Al intentar dar la vuelta en la esquina de mi casa, un carro que salió quién sabe de dónde, me pegó, aventándome contra una casa. En ese momento todas mis fuerzas se concentraron en girar el volante para no estrellarme con la casa. No puedo explicarme cómo pasó, pero ahí estaba frente a un poste. Había logrado no chocar contra la casa y me había detenido justo a tiempo para no chocar contra el poste. Estuve unos segundos sin saber qué había pasado. Por fin me bajé del carro y corrí a memorizar las placas del carro que me había pegado y que estaba atrás de mí.
APPENDIX G

INSTRUCTIONS TO SPRING 1996 (DIARY) SUBJECTS

May 15, 1996

Dear Research Participant,

Thank you very much for participating in my study! I am very excited about this investigation, and I hope that someday your participation will lead to helping other students learn to be better pronouncers in a second language.

I hope that you will find participating in my study to be enjoyable, and not too time consuming. Actually, the biggest contribution on your part will be just your THINKING. As you're walking to class, eating lunch, riding the bus, etc., just think about what kinds of things you find yourself doing (or remember having done at any time in the past) to learn or improve your pronunciation in Spanish. These kinds of things are called pronunciation learning strategies. ANY strategies you think of will be important for me to know. Please don't be afraid of being too obvious (e.g., "I try to sound like a native speaker.") or too indirect (e.g., "I went to Spain.")., and don't be embarrassed by any strategy you think is silly (e.g., "I talk to myself to hear the way I pronounce."). Strategies like this (which I do, by the way) are probably very important, and there is no research data to say if anybody is using them. You will be the first participants in any study to document pronunciation learning strategies.

I hope the previous paragraph gave you some understanding of what pronunciation learning strategies are. Now, here's what to do next.
1. For the next couple of weeks, try to write down ANY and EVERY pronunciation learning strategy you use or remember having used at any time in the past. Write your ideas in the folder I have provided, and please try to jot down some notes every day if possible. I will call you three or four times to remind you and to see if you have any questions.

2. A day or so before you meet with me, look over all of your notes and write a summary/reaction of one page (or less). What goes into this one-page "introspective report" is flexible; the point is to get your overall comments about your use of pronunciation learning strategies.

3. The last thing you will need to do is to meet with me briefly when you hand in your notebook. At that time, I will ask you a few questions about your language learning background. Also, I will quickly read over what you have written to see if I have any questions about it. I will be tape recording our interview, and I do not expect it to take more than fifteen minutes. (I will also pay you the promised $15 in cash at that time.)

   Again, I do hope you enjoy this experience. If you have questions at any time, please contact me. I will talk with you very soon, and I look forward to meeting you in a couple weeks. Thank you for your help.

Sincerely,

Susan S. Peterson

Telephone: 538-0693
Email: Peterson.128@osu.edu
APPENDIX H

TABLES AND DESCRIPTIONS CORRESPONDING TO

THE BOX PLOTS AND SCATTER PLOTS

OF THE EXPLORATORY ANALYSIS OF SECONDARY VARIABLES
These results in table form were considered not as useful as the figures presented in the Chapter 4. They are included, nevertheless, for readers who may be interested in seeing the numbers they contain. After each table’s title, in parentheses, is the number of the figure from Chapter Four to which it corresponds. For the purposes of constructing these tables, pronunciation scores, which ranged from 1 (low) to 7 (high) were classified into four groups: low (scores from 1.0 up to but not including 2.5), mid-low (scores from 2.5 up to but not including 4.0), mid-high (scores from 4.0 up to but not including 5.5), and high (scores from 5.5 through 7.0). Overall there were 12 students (18.75%) in the low pronunciation group, 26 students (40.63%) considered mid-low, 24 students (37.50%) in the mid-high group, and 2 students (3.13%) with high pronunciation ability.
<table>
<thead>
<tr>
<th>Pronunciation Ability</th>
<th>Level of Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beginning</td>
</tr>
<tr>
<td>Low</td>
<td>12 (100%)</td>
</tr>
<tr>
<td>Mid-Low</td>
<td>9 (34.62%)</td>
</tr>
<tr>
<td>Mid-High</td>
<td>0 (0.00%)</td>
</tr>
<tr>
<td>High</td>
<td>0 (0.00%)</td>
</tr>
</tbody>
</table>

Table 5. Level of Spanish by Pronunciation Ability.

(Corresponds to Figure 9)
<table>
<thead>
<tr>
<th>Pronunciation Ability</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>8(66.67%)</td>
<td>4(33.33%)</td>
</tr>
<tr>
<td>Mid-Low</td>
<td>14(53.85%)</td>
<td>12(46.15%)</td>
</tr>
<tr>
<td>Mid-High</td>
<td>10(41.67%)</td>
<td>14(58.33%)</td>
</tr>
<tr>
<td>High</td>
<td>2(100%)</td>
<td>0(0.00%)</td>
</tr>
</tbody>
</table>

Table 6. **Sex by Pronunciation Ability.** (Corresponds to Figure 10)
<table>
<thead>
<tr>
<th>Ability</th>
<th>Pronunciation Self-Rating With Classmates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
</tr>
<tr>
<td>Low</td>
<td>5 (41.67%)</td>
</tr>
<tr>
<td>Mid-Low</td>
<td>1 (3.85%)</td>
</tr>
<tr>
<td>Mid-High</td>
<td>0 (0.00%)</td>
</tr>
<tr>
<td>High</td>
<td>1 (0.00%)</td>
</tr>
</tbody>
</table>

Table 7. **Pronunciation Self-Rating Compared with Classmates by Pronunciation Ability.** (Corresponds to Figure 11)
<table>
<thead>
<tr>
<th>Pronunciation Ability</th>
<th>Poor</th>
<th>Fair</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>11(91.67%)</td>
<td>1(8.33%)</td>
<td>0 (0.00%)</td>
<td>0(0.00%)</td>
</tr>
<tr>
<td>Mid-Low</td>
<td>13(50.00%)</td>
<td>10(38.46%)</td>
<td>3(11.54%)</td>
<td>0(0.00%)</td>
</tr>
<tr>
<td>Mid-High</td>
<td>1(4.17%)</td>
<td>15(62.50%)</td>
<td>8(33.33%)</td>
<td>0(0.00%)</td>
</tr>
<tr>
<td>High</td>
<td>0 (0.00%)</td>
<td>0 (0.00%)</td>
<td>2 (100%)</td>
<td>0(0.00%)</td>
</tr>
</tbody>
</table>

Table 8. **Pronunciation Self-Rating Compared with Native Speakers by Pronunciation Ability.** (Corresponds to Figure 12)
<table>
<thead>
<tr>
<th>Pronunciation Ability</th>
<th>Importance of Pronunciation Proficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not So Important</td>
</tr>
<tr>
<td>Low</td>
<td>3 (25.00%)</td>
</tr>
<tr>
<td>Mid-Low</td>
<td>11 (42.31%)</td>
</tr>
<tr>
<td>Mid-High</td>
<td>1 (4.17%)</td>
</tr>
<tr>
<td>High</td>
<td>0 (0.00%)</td>
</tr>
</tbody>
</table>

Table 9. Students' Perception of the Importance of Pronunciation Proficiency by Pronunciation Ability.

(Corresponds to Figure 13)
<table>
<thead>
<tr>
<th>Pronunciation Ability</th>
<th>Amount of Extra Exposure to Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Little</td>
</tr>
<tr>
<td>Low</td>
<td>11 (91.67%)</td>
</tr>
<tr>
<td>Mid-Low</td>
<td>13 (50.00%)</td>
</tr>
<tr>
<td>Mid-High</td>
<td>9 (37.50%)</td>
</tr>
<tr>
<td>High</td>
<td>0 (0.00%)</td>
</tr>
</tbody>
</table>

Table 10. Amount of Out-of-Class Exposure to Spanish by Pronunciation Ability. (Corresponds to Figure 14)
<table>
<thead>
<tr>
<th>Pronunciation Ability</th>
<th>Subgroup</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (n=12)</td>
<td>2.89</td>
<td>2.77</td>
</tr>
<tr>
<td>Mid-Low (n=26)</td>
<td>2.65</td>
<td>2.83</td>
</tr>
<tr>
<td>Mid-High (n=24)</td>
<td>2.77</td>
<td>3.34</td>
</tr>
<tr>
<td>High (n=2)</td>
<td>3.00</td>
<td>3.89</td>
</tr>
<tr>
<td>Total (n=64)</td>
<td>2.75</td>
<td>3.04</td>
</tr>
</tbody>
</table>

Table 11. Strategy Use as Measured by the Original SILL by Pronunciation Ability. (Corresponds to Figures 15-20)

Note: Mem. = memory strategies, Cog. = cognitive strategies, Comp. = compensation strategies, Meta. = metacognitive strategies, Aff. = affective strategies, Soc. = social strategies
LIST OF REFERENCES


Chalhoub-Deville, M. B. (1994). Deriving the underlying dimensions of oral proficiency across various tasks as assessed by different rater groups. Unpublished doctoral dissertation, The Ohio State University, Columbus.


