The Use of Computerized Pronunciation Practice in the Reduction of Foreign Language Classroom Anxiety

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THE USE OF COMPUTERIZED PRONUNCIATION PRACTICE IN THE
REDUCTION OF FOREIGN LANGUAGE CLASSROOM ANXIETY

By

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ABSTRACT

This dissertation examined the use of computerized pronunciation practice as a tool in the reduction of foreign language anxiety. Additionally, the efficacy of computerized practice on the improvement of student French pronunciation was also evaluated. The research was conducted as a quasi-experimental study with a pretest/posttest comparison group design. Students in the experimental group practiced their pronunciation using the computer while students in the comparison group practiced with cassettes. Anxiety was measured using the Foreign Language Classroom Anxiety Scale (Horwitz, Horwitz, & Cope, 1986). The data was analyzed using ANOVAs. While there was an overall decrease in anxiety levels, the statistical analyses indicated no relationship between method of practice and the decrease in anxiety. Regarding pronunciation improvement, the results showed that subjects who practiced with the computer did experience statistically significant improvement in the quality of their pronunciation while those who practiced with the cassettes did not.
CHAPTER 1

INTRODUCTION

Purpose of the Study

The purpose of this study was to investigate the use of computerized pronunciation practice as a tool in the reduction of foreign language anxiety. Because of the reliance on computerized practice – currently a non-traditional approach to pronunciation practice – a second purpose of this study was to evaluate the efficacy of this type of practice method on the improvement of French pronunciation for all subjects, regardless of anxiety level.

Justification of the Study

Whereas the majority of research done on anxiety in second language acquisition has focused on demonstrating its negative consequences on language learning and performance, there seems to be a dearth in the way of solutions available to instructors and students faced with this problem. Instructors are encouraged to maintain a low-anxiety classroom environment. To date, the most common approach has been to equip students with strategies to help them cope with their existing anxiety (Crookall & Oxford, 1991; Ellis & Sinclair, 1989; Powell, 1991). Focusing on coping skills stems from the fact that the sources of second language anxiety (communication apprehension, test-anxiety, and fear of negative evaluation) are intrinsic to the contemporary language classroom and, as such, seem unavoidable. As Horwitz, Horwitz, and Cope (1986) remarked in their early research, reducing language anxiety by changing the context of foreign language learning itself may be the most valuable solution, albeit the most difficult to achieve.

“Reducing stress by changing the context of foreign language learning is the more important and considerably more difficult task. As long as foreign language learning takes place in a formal school setting where
evaluation is inextricably tied to performance, anxiety is likely to continue to flourish” (p.131).

While this remark was made relatively early on in the field of second language anxiety research, few researchers have pursued the idea of investigating ways to alter the format of foreign language learning. This is perhaps due to the perceived constraints and difficulty associated with changing the context of the traditional foreign language classroom. Current advances in computer technology suggest that altering the traditional classroom environment may now be more feasible and worthy of further investigation.

Focusing on the actual source of the anxiety, instead of coping with its symptoms, could prove an effective means of alleviating foreign language anxiety. Pronunciation has been identified as a significant source of student anxiety (Horwitz et al., 1986; Phillips, 1992; Price, 1991). Pronunciation practice would seem to be the solution to the problem of pronunciation anxiety, but it, in fact, can compound the problem for many students due to the nature of the current methods used. Finding a more efficient and less anxiety-producing means to practice pronunciation may, in turn, improve student confidence when speaking or, more specifically, when pronouncing in class. This study examined the use of speech recognition software as a tool in the reduction of foreign language anxiety while also investigating the efficacy and potential of speech recognition software as a viable method of pronunciation practice.

**Research Questions**

**Research Question One**

In order to investigate the use of computerized pronunciation practice as a tool in the reduction of foreign language anxiety, the following research question was posed:

Does practicing pronunciation with the computer have an effect on the foreign language anxiety levels of subjects classified as high-anxiety?
Research Question Two

Because computer-based pronunciation practice is relatively new to the realm of second language instruction, a second goal of the study was to evaluate the software’s efficacy as a learning tool. A second research question was thus developed:

Does practicing pronunciation with the computer have an effect on the quality of subjects’ pronunciation?

Definition of Terms

Independent variables

High-anxiety subjects. Subjects were categorized as having high levels of foreign language anxiety based on their initial scores using the Foreign Language Classroom Anxiety Scale (hereafter referred to as the FLCAS) (Horwitz, 1986). High-anxiety subjects were those who scored 0.75 standard deviations above the mean on this measure. While the author of this measure recommends the use of one standard deviation above the mean as the marker for high-anxiety, the size of the sample used in this study was not large enough to support a division set at one standard deviation.

Computer group. This group received the treatment and included subjects who practiced their French pronunciation with “Tell Me More,” a language learning software program produced by Auralog (1998).

Cassette group. This group of subjects comprised the comparison group who practiced their French pronunciation with the same language content from the “Tell Me More” software but in audiocassette form.

Dependent variables

Anxiety change. Change in anxiety is defined as the change in score from the pre- to post-treatment administrations of the FLCAS.
Atomistic change. Change in pronunciation score from the pre- to post-treatment administrations of the atomistic pronunciation measure. Using this method, a native French speaking rater scored subjects’ pronunciation based on specified sounds, highlighted on the evaluation sheet but not on the text given to the subjects. Details of the scoring process are described in Chapter 3.

Holistic change. Change in pronunciation score from the pre- to post-treatment administrations of the holistic pronunciation measure. Using this method, the rater scored the same sample based on the subjects’ rhythm, intonation, and phrasing. Again, this scoring process is described in greater detail in Chapter 3.

Brief Overview of the Study

This quasi-experimental study used a pretest/posttest comparison group design (Campbell & Stanley, 1963). During the initial stage, subjects completed several instruments including the Foreign Language Classroom Anxiety Scale (FLCAS) and the pronunciation pretest. Based on their FLCAS scores, the subjects were then identified as having high, medium, and low levels of foreign language anxiety. During the second phase, subjects in the treatment group practiced their French pronunciation with the computer, while those in the comparison group practiced their French pronunciation with audiocassettes. At the end of the treatment period, the subjects completed the FLCAS and pronunciation test again and their change scores were noted. ANOVAs were used to determine whether the change scores for the computer group were significantly different from the change scores for the cassette group.
CHAPTER 2
REVIEW OF THE LITERATURE

Introduction
Traditionally, research in foreign language education concerned itself primarily with such issues as method of instruction (grammar-translation, direct method, audio-lingual, etc.), content of instruction, and techniques for the improvement of instruction. Consequently, implications of this research were limited to the cognitive domain with little attention being paid to the affective variables brought into play by individual learners and their different learning styles. By the late twentieth century and especially in the 1970s, researchers and educators alike began to recognize that personality and motivational variables play as significant a role in academic achievement as the well-accepted concept of intellectual aptitude. Among these affective variables, learner anxiety has come to be recognized as an important area of study because of the negative consequences it can have on student achievement.

Defining Anxiety
Anxiety is a universally experienced emotion that affects the way people think and behave. Hilgard, Atkinson, and Atkinson (1971) define anxiety as follows: “Anxiety is commonly described by psychologists as a state of apprehension, a vague fear that is only indirectly associated with an object” (cited in Scovel, 1978, p.135). Anxiety is an emotional state governed by the limbic system, a group of related nervous system structures within the midbrain that are associated with various emotions and feelings such as anger, happiness, and anxiety. Anxiety is usually measured in one of three ways: 1) self-report such as surveys and questionnaires; 2) physiological indications such as blood pressure, blushing, and sweaty palms; and 3) general behavior as in pacing and/or the inability to relax (Gaudry &
Researchers in many fields have been concerned with the effect anxiety can have on learning.

**An Historical Overview of Anxiety in the Educational Setting**

The role of anxiety in educational achievement emerged as a valuable area of study after the mid-twentieth century as researchers began to realize that personality and motivational variables were as important to scholastic achievement as intellectual aptitude had always been believed to be. The emergence of such instruments as Taylor’s Manifest Anxiety Scale (1951), Mandler and Sarason’s Test Anxiety Scale Questionnaire (1952), Alpert and Haper’s Achievement Anxiety Test (1960), and Spielberger and Gorsuch’s State-Trait Anxiety Inventory (1966) attest to the prevalence of the issue of anxiety in the academic setting.

Taylor’s Manifest Anxiety Scale (MAS) draws on prior work done by K. W. Spence, a learning theorist who did basic research in a laboratory setting where he studied simple learning tasks using infra-human subjects. Spence’s experiments led him to see a subject’s possible performance as a function of habit strength and drive. Habit strength (H) is a construct that refers to the existing tendency to make a response. Drive (D) is a motivational construct that refers to the capacity of stimulating or activating a subject’s behavior. Thus, if a subject has a high habit-strength of giving a certain response, if this response is correct, and if the subject has a high drive, the subject will do well. This is often the case with simple tasks. In situations, however, where the task is more complicated, a weakness in habit strength combined with strong drive may actually cause poorer subject performance. In other words, in a simple task where the correct response is dominant, high drive will facilitate performance but in a more complex task where the tendency toward incorrect responses is stronger, high drive will impair performance.

Taylor developed his Manifest Anxiety Scale based on Spence’s basic premise. The MAS asks students to respond “true” or “false” to statements such as, “I frequently find myself worrying about something.” Most studies
using the MAS have found that high-anxiety students perform better on simple tasks than low-anxiety students do. Nevertheless these high-anxiety students perform worse than low-anxiety students on complex tasks.

Mandler and Sarason’s (1952) Test Anxiety Questionnaire (TAQ) developed out of a concern for anxiety as it relates to testing or test-like situations. This questionnaire asks subjects to respond to items such as, “Do you worry a lot before you take a test?” In addition to the TAQ, which is targeted toward adults, there are two other versions, one for adolescents and another for children. Gaudry and Speilberger (1971) offer the following hypotheses as a summary of Sarason’s particular theory:

(1) In general, high test anxiety will interfere with performance on school tests or in situations which are test-like (e.g., giving a speech);

(2) The greater the test-like characteristics of the task, the more anxiety will be manifested and the more it will interfere with performance;

(3) Conversely, reduction in the test-like characteristics of a task should reduce the impairing effects of anxiety. This might be brought about by eliminating time limits, or by giving cues to the correct answers;

(4) High test-anxious students will be more dependent and unaggressive than low-test anxious students.

While the previous research has looked only at the negative effects of anxiety on learning and performance, some researchers, such as Alpert and Haber (1960), are also interested in how anxiety can facilitate the learning process. They developed the Achievement Anxiety Test (AAT) in order to assess the effects of both debilitating and facilitating anxiety on academic performance. Alpert and Haber have also been concerned with clarifying the distinction between these two anxieties. They contend that these anxieties are not mirror images of one another and that, in fact, facilitating anxiety
brings new and independent variables into play. The AAT uses two scales, one relating to facilitating anxiety and the other to debilitating anxiety. Items centered on facilitating anxiety ask students to respond to statements such as, “Nervousness while taking a test helps me to do better,” while items dealing with debilitating anxiety ask questions such as, “I find myself reading the exam questions without understanding them, and I must go back over them so that they will make sense.”

While the work of these researchers has done much to draw attention to the issue of anxiety in general learning situations, it is only recently that foreign language anxiety has become an object of study in and of itself.

**Defining Foreign Language Anxiety**

It was not until the late 1970s that scholars began to consider foreign language anxiety as a distinct issue. Language anxiety can be an impediment to both language learning and language production for many students. Researchers agree that anxiety is a difficult construct to define, measure, and manipulate. Scovel’s (1978) review of the sparse literature on the issue of anxiety led him to describe the available research results as mixed and confusing. In 1991, Horwitz and Young noted that exactly how anxiety impedes language learning had yet to be resolved. And in 1992, Phillips stated that “a comparison of the experimental research examining the relationship between anxiety and second language learning is, to a degree, perplexing, presenting some conflicting evidence and illustrating that anxiety is a complex, multi-faceted construct” (p.14). Given its negative potential and complicated nature, much of the research in foreign language anxiety has focused on defining and identifying its presence.

In an attempt to organize and understand better the relevant research, MacIntyre and Gardner (1991) conducted a literature review and grouped much of the available information on anxiety into three categories: trait, state, and situation-specific anxieties. They refer to Spielberger’s (1983) definitions of trait and state anxiety. Trait anxiety is an “individual’s likelihood of
becoming anxious in any situation,” while state anxiety is the “apprehension experienced at a particular moment in time, for example, prior to taking examinations” (p.90). Because certain anxieties cannot be neatly categorized by either the state or trait definition, an additional category of “situation-specific anxiety” has emerged. “Situation-specific constructs can be seen as trait anxiety measures limited to a given context” (Spielberger, p.90) – that is, an individual’s propensity for anxiety in a particular situation. When anxiety is limited to the language-learning situation, it falls into the category of situation-specific anxiety. Thus, foreign language anxiety is an individual’s likelihood of becoming anxious in the foreign language classroom.

Horwitz et al. (1986) approached the study of foreign language anxiety by first drawing parallels between it and three related performance anxieties: 1) communication apprehension, 2) test anxiety, and 3) fear of negative evaluation. Communication apprehension is defined as “a type of shyness characterized by fear of or anxiety about communicating with people” (p.127). Furthermore, “people who have difficulty speaking in groups are likely to experience even more trouble when doing so in a foreign language class, where in addition to feeling less in control of the communicative situation, they also may feel that their attempts at oral work are constantly being monitored” (p.127).

The emphasis on group work and oral presentations in the modern communicative classroom can be particularly exacerbating for students who have communication apprehension.

An understanding of test anxiety is also pertinent to the discussion of foreign language anxiety, as frequent quizzes and tests are a common feature of many curriculums. As Horwitz et al. (1986) explained, “Test anxiety refers to a type of performance anxiety stemming from a fear of failure” (p.127). When the interpretation of test anxiety is broadened to include performance evaluation (i.e. oral participation), an ongoing aspect of the foreign language classroom, the pervasiveness of this kind of anxiety is
brought to light. It is also important to note that oral testing has the potential of provoking both test and oral communication apprehension. Likewise, the fear of negative evaluation is defined as “apprehension about others’ evaluations, avoidance of evaluative situations, and the expectation that others would evaluate oneself negatively” (p.128). While similar to test anxiety, the fear of negative evaluation is broader in scope because it pertains not only to the teacher’s evaluation of the student, but to the perceived reaction of other students as well.

Horwitz et al. (1986) believe that foreign language anxiety is more than just the conglomeration of these other fears and apprehensions: “…we conceive foreign language anxiety as a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (p.128). What makes language learning unique is its interaction with the concept of “self.”

In sum, the language learner’s self-esteem is vulnerable to the awareness that the range of communicative choices and authenticity is restricted. The importance of the disparity between the “true” self as known to the language learner and the more limited self as can be presented at any given moment in the foreign language would seem to distinguish foreign language anxiety from other academic anxieties such as those associated with mathematics or science. It is likely that no other field of study implicates self-concept and self-expression to the degree that language study does (Horwitz et al., 1986).

Despite these difficulties, a good deal of research has shown that anxiety is associated with problems in second language learning. MacIntyre (1995) notes that in 1976, Gardner, Smythe, Clement, and Gliksman found that as grade level increased from 7 to 11, language anxiety became a better predictor of achievement in second language courses. In addition, significant negative correlation between language anxiety and course grades exists for languages such as Japanese (Saito, 1996), Spanish (Horwitz et al., 1986), and French (MacIntyre & Gardner, 1991). An inverse relationship also exists
between language anxiety and standardized proficiency tests, both written (Gardner, Lalonde, Moorchroft, and Evers, 1987) and oral (Young, 1990).

To date, most of the research and literature concerning foreign language anxiety can be classified into three categories: 1) identifying and measuring this type of anxiety, 2) examining how it affects language learning and performance, and 3) investigating solutions to the problem. Early studies in the field focused on trait and/or state anxiety, others on communication apprehension, and still others on questions of anxiety indirectly through characteristics such as shyness or introverted behavior. Because anxiety cannot be directly or overtly observed, researchers must rely on an operational definition. Just as intelligence may be defined by performance level on certain tests, the presence of anxiety may be inferred through the type of information given in self-reports such as questionnaires. It is for this reason that a significant amount of the more recent research has focused on developing and testing measures valid to the study of foreign language anxiety. The pages that follow include a review of the three categories of research on foreign language anxiety.

**Identifying and Measuring Foreign Language Anxiety**

The pervasiveness of foreign language learning anxiety led Elaine Horwitz (1983, 1986) to develop the Foreign Language Classroom Anxiety Scale (FLCAS), an instrument that specifically measures foreign language classroom anxiety. As noted earlier, Horwitz argues that while foreign language anxiety comprised three related anxieties (communication apprehension, test-anxiety, and fear of negative evaluation), it is more than just the sum of its parts. As such, it is a conceptually distinct variable in foreign language learning. Before developing the instrument, Horwitz and her colleagues first invited students attending beginning language classes to participate in a “Support Group for Foreign Language Learning.” The participants attended group meetings where they discussed their concerns and difficulties in language learning. In turn, counselors presented effective
learning strategies and anxiety management exercises. The experiences that the students related during the meetings subsequently contributed to the development of the FLCAS. The instrument, a 33-item questionnaire, asks students to respond to statements such as, “I feel confident when I speak in my foreign language class” and “I get nervous when the language teacher asks questions which I haven’t prepared in advance.” The items are designed to address the underlying component anxiety, such as test anxiety, fear of negative evaluation, or communication apprehension as in the aforementioned examples.

Students indicate their response to individual items on the FLCAS by choosing an appropriate answer from a five point Likert scale, which ranges from “strongly agree to “strongly disagree.” Horwitz points out that student responses to two FLCAS items – “I feel overwhelmed by the number of rules you have to learn to speak a foreign language” (34% agree) and “I feel more tense and nervous in my language class than in my other classes” (38% agree) – lend further support to the view of language anxiety as a unique construct, distinct from other anxieties. The FLCAS has demonstrated internal reliability and test-retest reliability (Horwitz, 1991). In addition, Horwitz conducted criterion-related studies with the FLCAS in order to demonstrate its construct validity (Horwitz, 1991). She found that the correlations of the FLCAS with the Trait scale of the State-Trait Anxiety Inventory (Spielberger, 1983), with the Personal Report of Communication Apprehension (McCroskey, 1970), with the Fear of Negative Evaluation Scale (Watson and Friend, 1969), and with the Test Anxiety Scale (Sarason, 1978) suggests that foreign language anxiety can be viewed as distinct from these related anxieties. The researchers conclude that the results of the FLCAS indicate not only the existence of foreign language anxiety, but that it is experienced by a significant number of students and thus warrants proper attention.

Gardner, Moorcroft, and MacIntyre (1987) also distinguish foreign language anxiety from other anxieties and have advanced this idea by
comparing the results of different anxiety measures to language production. They examined the effect of French classroom, French use, interpersonal, trait/state, and test anxiety on two oral production tasks. The French classroom and French use anxiety measures were developed by the researchers to tap into these specific apprehensions. The French classroom anxiety scale involved eight items using a six point Likert response scale. It was designed to measure the degree of apprehension experienced in the French classroom. The French use anxiety scale contained eight items with a six point Likert response scale and was designed to measure the amount of anxiety experienced when using French in interpersonal situations. The results showed that of all the anxiety measures used, only the French classroom, French use, and two of the interpersonal anxiety measures were correlated with the scores on the word production tasks.

MacIntyre and Gardner (1989) expanded upon this previous study while also evaluating the validity of the view of language anxiety as put forth by Horwitz et al. (1986). They designed a study that would test the presence of the proposed three components of foreign language anxiety (communication apprehension, test-anxiety, and fear of negative evaluation) as opposed to the presence of other anxieties.

The study involved three phases. First, the subjects completed a questionnaire containing a series of anxiety scales. These were: Classroom anxieties, French use anxiety, Trait anxiety, Computer anxiety, Test anxiety, Audience sensitivity, and State anxiety. Next, the students had four opportunities to learn 38 English-French word pairs that were administered by computer. The participants were tested on the vocabulary prior to each trial. The final phase involved a French vocabulary production task and free recall of the paired vocabulary words. The anxiety measures were factor-analyzed yielding two independent anxiety factors. The first, labeled General anxiety, incorporated elements from the trait, state, test, math, and computer anxieties. The second, Communicative anxiety, involved the French classroom, French use, English classroom, and audience anxieties. The
results indicate that subjects with high Communicative anxiety learned and recalled fewer vocabulary items than those with low Communicative anxiety. The researchers also stated that the construct of Communicative anxiety includes elements of communication apprehension and fear of negative evaluation, which they term social-evaluative anxiety. These findings support the tenets proposed by Horwitz et al. (1986).

While the previous research has done much to statistically demonstrate the existence of foreign language anxiety, many researchers believe that even without empirical proof, the mere awareness of language anxiety, even on an intuitive level, is testimony enough to its existence and worthy of fuller investigation. For this reason, some key research done in this field has been descriptive in nature. Researchers such as Horwitz (1986), Price (1991), and Young (1990) have interviewed anxious students in order to understand better their experiences. Price had two goals in mind when she interviewed 10 high-anxiety second language students. She wanted to “1) obtain a detailed description of what is like to be an anxious student in a foreign language class, and 2) to use student insights as a source of information on questions of potential interest to the foreign language educator” (p.102). When Price asked the students what aspect of their foreign language class was the most anxiety-provoking for them, they all indicated that it was speaking in the target language in front of the class. They expressed fears of being laughed at and embarrassing themselves. More specifically, the subjects cited concern over making errors in pronunciation. They expressed “great embarrassment” at their “terrible” accents (p.105). As a third source of stress, subjects also cited frustration over not being able to express themselves properly in the target language. This supports the view of language anxiety as unique because of the underlying inability to express all the facets of one’s true self. In addition, subjects expressed worry over what they perceived as the level of difficulty of their language class. Many said that they worked harder in their language class than in any other but without doing as well. While Price agrees with this
view, stating that “Foreign language courses may be more demanding and more difficult than other courses, thus eliciting higher anxiety than other courses” (p.106), this discrepancy may be accounted for by latency caused by language anxiety during the processing stage of learning as proposed by MacIntyre and Gardner (1994).

Horwitz et al. (1986) also found similar concerns during the preliminary interviews that were conducted with students as part of the development of the Foreign Language Classroom Anxiety Scale. From the discussions with students and their responses to the FLCAS, Horwitz et al. gleaned that student anxiety centers on two basic task requirements of foreign language learning: listening and speaking. They found that “difficulty in speaking in class is probably the most frequently cited concern of anxious foreign language students seeking help at the Learning Skills Center,” and they also noted that “anxious language learners complain of difficulties discriminating the sounds and structures of a target language message” (p.126). Students also spoke of “freezing up” when put on the spot and complained about knowing an answer but not being able to recall it during testing.

In order to gain insight and broaden the perspective from which language anxiety is studied, Young (1992) conducted interviews with well-known language specialists such as Krashen, Omaggio Hadley, Terrell, and Rardin. Each had come to an awareness of the effects of anxiety on student learning from different theoretical frameworks and personal experiences. Each also acknowledged some necessity or positive aspect of anxiety to learning, most notably Krashen’s concept of facilitative anxiety and the idea of attentiveness or alertness by Terrell and Rardin. It is important to note the distinction Krashen makes between language learning and language acquisition. According to Krashen, facilitative anxiety plays a role in language learning but not in acquisition; there are no positive aspects to anxiety in the language acquisition process.

All of the interviewees believed in negative language anxiety as a unique construct with potentially detrimental consequences. When asked
what activity seemed to be the most anxiety-provoking for students, Krashen, Omaggio Hadley, and Terrell (in Young, 1992) responded that it is speaking in front of the class; Omaggio Hadley underscored the particular fear of mispronouncing a word in the target language.

In regard to effective anxiety management strategies, Rardin and Krashen (in Young, 1992) offered theoretically-based responses anchored in their own language learning framework or acquisition paradigm. Rardin approaches the issue from a psychological perspective and suggests that the role of teacher includes in it a second function: that of learning counselor. More than just teaching, the learning counselor also builds trust between the student and teacher, creates a secure atmosphere in which to learn, and provides opportunities for the student to make choices about his learning experience. For Krashen, teaching according to the principles of his Input Hypothesis neutralizes the potential for anxiety to hinder language acquisition because these principles (e.g. not requiring students to speak in class before they feel ready to do so, basing communication in high interest information so that the attention of the student is focused on the topic and not on the language mechanisms per se) automatically lower what he calls the affective filter, that is, the blocking mechanisms that are deployed when a student feels anxious.

Responses by Omaggio Hadley and Terrell offer practical, common sense approaches to the language anxiety problem. Their suggestions include placing students in pairs or small groups for oral activities, refraining from putting a student on the spot, and minimizing error correction in front of the class. Young (1992) points out that the use of these classroom tactics is in keeping with earlier suggestions put forth by Rardin and Krashen; that is, they create a positive classroom environment in addition to lowering a student’s affective filter.

Most of the information gathered through these interviews corroborates what is already known about language anxiety through research and from the student perspective. By adding the language specialist’s perspective,
Young’s (1992) article reveals a consistency present in the issue of language anxiety despite the fact that this is a complex, multi-dimensional phenomenon.

**Emerging Research in Foreign Language Anxiety**

As scholars became more confident of the existence of foreign language anxiety, research began to explore particular variables of this anxiety. Whereas the notion of speaking anxiety was the focus of most early studies, reading and writing have also emerged as potential sources of concern.

Saito, Garza, and Horwitz’s (1999) study on reading anxiety showed that it is distinguishable from foreign language classroom anxiety. They found that two aspects of foreign reading in particular elicit feelings of anxiety: 1) unfamiliar scripts and writing systems and 2) unfamiliar cultural material. The fact that differences in writing systems and culture affect levels of reading anxiety demonstrates that this anxiety can vary by target language, unlike foreign language classroom anxiety, which is independent of the target language. Sellers (2000) also confirmed the existence of reading anxiety as a phenomenon distinguishable from general foreign language anxiety. Similarly Cheng found anxiety specific to writing amongst learners of English in Taiwan (cited in Rodriguez & Abreu, 2003).

As scholarly interest in foreign language anxiety grows, researchers are also looking at the stability of anxiety across languages, levels of study, and cultures. Saito (1996) explored the role of anxiety as it relates to student performance across beginning, intermediate, and advanced levels of instruction. Students completed a questionnaire designed to gather data on their anxiety levels and other affective variables related to their study of Japanese. This survey was, in fact, composed of six subscales adapted from previous work done by Ely (1986), Gardner (1985), and Samimy and Tabuse (1992) and was designed to evaluate variables such as level of language
class anxiety, language class risk-taking, feelings of embarrassment in class, sociability, motivation, attitude toward class, and concern for course grades.

Saito (1996) correlated the collected data in order to determine which variables had the greatest predictive power of final course grade at each level of instruction. Of all the variables, year in college was determined to be the best predictor of success at the beginning level of Japanese language study. In other words, seniors had better grades than freshman in the introductory courses. On the other hand, language class anxiety correlated most significantly with final grades for students in the intermediate and advanced courses. That is to say, students with low anxiety did better than those with high anxiety at these levels of instruction. The results, which show that language anxiety was the best predictor of final course grade in the more advanced classes, is in keeping with previous research (Gardner et al. 1976; MacIntyre & Gardner, 1991; Horwitz et al. 1986; Phillips, 1992; Young, 1986). It also demonstrates MacIntyre and Gardner’s (1989) model of causality, which states that foreign language anxiety does not play a significant role in language learning at the early stages, but that it is only after students have had enough experiences that they begin to form attitudes and to develop affective reactions within the context of that specific environment.

Rodriguez and Abreu (2003) examined the stability of foreign language anxiety by comparing the levels of foreign language anxiety amongst Venezuelan students who were simultaneously learning French and English and found no significant differences; students had the same level of anxiety in both languages. The study found relatively low levels of anxiety overall, but it is important to note that the participants were studying to become foreign language teachers, which raises questions about the level of study and motivation as it relates to anxiety. Furthermore, the low level of anxiety overall for this group could be explained by Horwitz’s (2001) findings that different cultural groups exhibit different levels of anxiety. In her study on language anxiety and achievement, she found that Korean EFL learners have exhibited higher levels than Turkish EFL learners.
Casado’s (2001) study on the stability of foreign language anxiety led him to compare students’ perceived levels of anxiety at the first- and second-semester level of Spanish language study. He surveyed 114 students from five randomly selected introductory Spanish classes and 169 students from ten randomly selected second-semester level Spanish classes at the same institution. The subjects from the introductory classes completed the FLCAS at the beginning of their semester, and subjects from the second-semester level classes completed the survey toward the end of their semester. The results showed that anxiety was present in the introductory level class and increased at the second-semester level. Casada postulated that the increase may be due to the more complicated language structures presented in the second-semester level class.

Many language specialists, educators, and students have long been aware of the problems of second language anxiety. As the sensitivity and validity of second language anxiety measures improve, greater evidence of its existence, stability across languages, and association with specific language learning skills is being accumulated and will eventually lead to a better understanding of this issue.

**Examining How Anxiety Affects Language Learning and Performance**

In one of the first studies to investigate how anxiety may affect language learning and production, Kleinmann (1977) examined students’ willingness to use second language structures that were deemed to be more linguistically difficult than their first language counterparts. Subjects were English as a Second Language (ESL) students who were native speakers of either Arabic, Spanish, or Portuguese. Based on contrastive analysis between the languages, Kleinmann believed that the native Arabic speakers would try to avoid using the passive structure in English, while the Spanish and Portuguese native speakers would use this construction with less hesitation. Kleinmann used Alpert and Haber’s (1960) Facilitating/Debilitating Anxiety scale in order to assess the affective state of the subjects. Young
(1986) explained the distinction between these two terms as follows: “Facilitating anxiety is an increase in drive level which results in improved performance while debilitating anxiety is an increase in arousal or drive level which leads to poor performance” (p.440). Kleinmann found that certain students were apt to attempt the difficult structures instead of avoiding them. These were students with high levels of facilitating anxiety. MacIntyre and Gardner (1991) noted, however, that the results of this experiment did not seem completely consistent because debilitating anxiety did not show a correlation with avoidance behavior, and an explanation of this null result was not offered by the researcher.

Research done by Steinberg and Horwitz (1986) revealed that foreign language anxiety may inhibit a student's ability to elaborate on thoughts and thus inhibit practice of the target language. They examined the effect of induced anxiety on the ratio of denotative and interpretive story content. In their experiment, they tested two groups of Spanish ESL students. Half the students were placed in the anxiety arousal group where they were treated in an “aloof manner” by the experimenter and had their session videotaped in order to increase their anxiety level. The other group was treated “warmly;” they engaged in small talk with the experimenter and were not videotaped. Students in both groups were asked to describe three aspects of the same set of ambiguous scenes. They were asked to discuss 1) the elements of the picture, 2) the actual event depicted (denotative content), and 3) their view of what was happening in the scene (interpretive content). The researchers studied the ratio of denotative to interpretive content, and an analysis of the results revealed that students in the anxiety arousal group were significantly less interpretive than those in the relaxed group. While this experiment relied on artificial or induced anxiety instead of seeking out students who naturally had high anxiety levels, it did demonstrate the negative consequences of anxiety to language production.

Gardner, Day, and MacIntyre (1992) also made use of a video camera to induce anxiety in a study they conducted. Two groups of students were
asked to complete a computerized vocabulary acquisition task. One group was videotaped; the other was not. The results from this study indicated that no difference in learning occurred between the groups, nor were there significant differences in the self-reported anxiety measures. The difference in these results from those of Steinberg and Horwitz might be attributed to two different causes. MacIntyre and Gardner (1993) pointed out that the subjects in the Steinberg and Horwitz experiment were purposely treated in an aloof manner by the experimenters, which may have added to their anxiety and decreased their motivation. Secondly, the Steinberg and Horwitz study required students to communicate orally. Oral communication is generally believed to be one of the more, if not the most, anxiety-producing tasks in second language learning (Horwitz et al. 1986; MacIntyre and Gardner, 1991; Price, 1991; and Young, 1991). The computerized vocabulary task in the Gardner, Day, and MacIntyre experiment may not have aroused as much anxiety.

Young (1986) also examined the effects of anxiety on oral production. Of particular concern was the negative effect it could have on scores for the Oral Proficiency Interview (OPI) because of the professional repercussions this prospective qualifying exam may have on future careers. In order to account first for language ability, participants completed a Self-Appraisal of Language Proficiency questionnaire and a dictation test. Subjects then completed four measures of anxiety: Spielberger’s (1983) State Anxiety Scale, Sarason’s (1980) Cognitive Interference Questionnaire, a self-report of anxiety, and an abbreviated form of the FLCAS from Horwitz et al. (1986). Initial results showed negative correlations between anxiety and the OPI. Young stated, however, that once the effects of language ability were accounted for, the correlations were no longer significant.

MacIntyre and Gardner (1991) believed that Young might have been mistaken in her conclusion. They stated that “this particular analysis ignores the difficulty of interpreting the residualized scores used in partial correlation” (p.108). It is also important to note that the anxiety level of the subjects may
not have been representative of those in an authentic situation, as the subjects in this case were aware that this was a non-official administration of the exam and that the scores would have no bearing on their academic or professional lives.

In a similar vein, Phillips (1992) examined the effects of language anxiety on students’ attitudes and oral test performance. In this study, students in an intermediate level French course met individually with their professor in order to complete an oral exam during the eleventh week of the semester. The two-part exam was designed to be communicative and open-ended. First, the teacher asked them to talk freely about a cultural topic related to the chapters being tested. The teacher offered cues only if the student had not said enough or was truly at a loss for words. Otherwise, the instructor’s interaction was limited to non-verbal communication. The second part of the exam required students to lead a role-play activity with the instructor based on a given situation. The situations were designed to elicit indirectly the use of target grammar structures from the chapters being tested. Verbatim transcripts were produced based on the completed oral exams. In order to evaluate the results, Phillips addressed several factors. First, she analyzed the transcripts in terms of eight criterion variables. This method allowed the researcher to quantify and qualify student performance by looking at features such as comprehensible output and linguistic uncertainty. In addition, Phillips developed a system that allowed her to examine student use of complex structures in order to more fully assess their language performance level.

Because the researcher was interested in the effects of anxiety on student performance, Phillips (1992) had the students complete Horwitz’s Foreign Language Class Anxiety Scale in order to establish their level of anxiety. In addition to these measures, Phillips also noted students’ test scores on regular chapter exams and asked the instructors to give a global rating of individual students’ course performance. These variables were important for the final data analysis, as they allowed the researcher to control
for the effects of ability when examining the correlation between language anxiety and scores on the oral test. Phillips also conducted interviews with certain students after the testing portion of the experiment in order to gain insight into their attitude and affective reaction toward the oral exam.

The results of the experiment indicate a moderate inverse relationship between anxiety level and oral test performance. That is, students with high levels of anxiety did less well on the oral test than their low-anxiety counterparts, even when the effects of ability were accounted for. More precisely, the results showed that students with high levels of language anxiety tended to say less and produce fewer dependent clauses and target structures than students with low levels of language anxiety.

As the previous studies have shown, anxiety affects the quantity and quality of language output. But this is only one facet of the language learning process. MacIntyre and Gardner (1994) believed that a true understanding of language anxiety should address more than just overt performance. They approached their research from the perspective of Eysenck’s theory (1979) of anxiety and cognitive interference in mind. Eysenck proposed that anxiety-arousal took up valuable resources needed for cognitive processing of the task at hand because the individual would be distracted by negative and non-productive self-cognition manifesting itself as worry and self-derision. Such a view suggested that this distraction occurred at all stages of language learning. In order to understand better the subtle effects of anxiety on cognitive processing, it is important to investigate its role in all stages of language processing.

MacIntyre and Gardner’s (1994) seminal experiment is based on a model for learning first proposed by Tobias (1979), which describes the effects of anxiety on learning as seen in three stages: input, processing, and output. The authors pointed out that Tobias borrowed these terms from descriptions of computer information processing and stress that while these terms are useful, they should not be taken to mean that learning takes place in discreet, delineated segments. Language learning is an open-ended
process with overlapping features. Nonetheless, the input stage referred to the initial representation of items in memory: “At this stage, external stimuli are encountered and internal representations are made; attention, concentration, and encoding occur” (p.286). The presence of cognitive interference due to anxiety at this stage would mean fewer available resources for attention and concentration, which would result, in turn, in less encoding on the part of the individual. The impact of this limitation would be felt at all subsequent stages of learning. The processing stage deals with the time taken to understand a message or learn new vocabulary. At this stage, the recently inputted material is organized, assimilated, and stored. The more complicated and less organized the material, the heavier the demands on cognitive resources. Therefore, the presence of cognitive interference due to anxiety at this point resulted in latency and less material processed. This explained why the negative effects of language anxiety were greater on difficult tasks than on simple ones. And thirdly, the output stage referred to the production of the material in question. It is during the output stage that students demonstrated their ability to use the second language. “Performance at this stage is highly dependent on previous stages, in terms of the organization of the output and the speed with which items are retrieved from memory” (p.287). Anxiety at this stage affected access to the previously learned material.

MacIntyre and Gardner (1994) used Tobias's model (1979) in their investigation of the effect of anxiety on input, processing, and output in the second language. In their experiment, these three stages were represented by a set of different tasks. The tasks were designed to isolate and measure the learning occurring at each of the language acquisition stages.

The results of the input stage of the experiment showed significant negative correlations with input anxiety and Word Span and T-Scope tasks. The Word Span (memorizing word strings) results suggested that anxious students had difficulty holding discrete verbal items in short-term memory and that this may explain why anxious students have trouble comprehending long
sentences. The T-Scope (recognizing words) showed that anxious students experienced latency (albeit slight) in word identification for items in French but not for those in English. The researchers believed that such latency would increase sharply as the difficulty level of the task increases. The Digit Span test (memorizing numbers), in French or English, did not correlate negatively with any of the anxiety measures.

The results of the processing portion of the experiment showed significant correlation between anxiety and this stage of learning. Anxious students were less willing to take risks at translating unknown words during a paragraph translation exercise. While the Paired Associates task (matching words) showed no significant difference in the number of correct responses between anxiety groups, high-anxiety students took significantly longer to learn the word pairs.

In terms of the output stage, significant negative correlations were observed between output anxiety and performance at this stage. High-anxiety students had more difficulty retrieving appropriate second language items from memory during the Thing Category (producing vocabulary) and the Cloze tests (filling in the blank), and high-anxiety students produced fewer expressions during the French portion of the self-description task than did the low-anxiety students. It is important to note that the absence of negative correlation between output anxiety and the English portions of the Thing Category and self-description tests supports the view of second language anxiety as its own distinct form of anxiety that affects second language learning.

The comprehensive approach used in this study sheds light on the pervasive and compounding nature of the negative effects of anxiety during second language acquisition. Language anxiety could hinder learning not only at each of the three stages (input, processing, and output), but between them as well. When anxiety was present at the input stage, it could reduce the amount of information encoded. The subject would thus enter the next stage already with the disadvantage of less information. When anxiety was
present at the processing stage, it could limit the extent to which the new material was processed. Consequently, the deficit begun at the first stage was further increased during the second stage. Continuing in this vein, the high anxiety student, who was equipped with less information that was not as deeply processed or internalized as his low-anxiety counterpart, faced even further limitations at the output stage when anxiety could restrict the amount of information available to him for retrieval. By using this three-pronged approach, MacIntyre and Gardner’s study (1994) elucidates how anxiety may affect the learning process for high-anxiety subjects. Overall the results suggest that “anxious students have a smaller base of second language knowledge and have more difficulty demonstrating the knowledge that they do possess” (p.301).

Gregerson (2003) studied the reactions of anxious and non-anxious foreign language learners to their own errors. She was trying to determine whether the learners differed and to see if these differences affected the efficiency of their learning. The participants in her qualitative study were videotaped as they answered open-ended questions in the target language. Afterward, the students were videotaped again watching themselves and looking for errors they had made. In this way, the researcher could examine the reactions to their errors. She found that the anxious learners made more errors, self-repaired and resorted to their native language more often, recognized fewer of their own errors when viewing the tape, and overestimated the number of errors they had made. Gregerson’s findings supported much of what MacIntyre and Gardner have proposed on cognitive interference caused by anxiety and its negative effects on learning and performance.

While most scholars have argued that foreign language anxiety impedes learning and performance, Sparks and Ganschow (1991) viewed the issue differently. They agreed that many language learners experience anxiety, but they did not believe that it was the cause of language learning difficulty. According to their theory, the linguistic coding deficit hypothesis
native language aptitude is the primary source of individual
differences in language achievement. Thus the anxiety felt by students is a
likely side effect of weaknesses in native language aptitude that are magnified
when working with a foreign language.

The source of impaired second language learning and performance is
still up for debate; some have argued in favor of LCDH (Sparks & Ganschow,
1991; Sparks, Ganschow, and Javorsky, 2000), while others have claimed
there is, in fact, a debilitating language anxiety (Horwitz, 2000; MacIntyre,
1995). However, researchers such as Bailey (1983) and Phillips (1991) have
stressed that the mere fact that students experience anxiety is important in
and of itself, regardless of its originating source. “Qualitative research, for
example, suggests that students feel(ing) anxiety matters, that it can and will
affect their performance in class and on tests” (Phillips, 1991, p.2).

Investigating Solutions To Foreign Language Anxiety

In general, educators have had two options when dealing with anxious
students: “1) They can help them learn to cope with the existing anxiety-
provoking situation, or 2) they can make the learning context less stressful”
(Horwitz et al., 1986, p.131). A traditional approach to reducing second
language anxiety focuses on equipping students with metacognitive or coping
skills. Educators encourage students to talk about and work through their
feelings of apprehension either with the teacher, other students, and/or by
keeping a diary. Students discuss their attitudes toward language learning,
and educators help dispel myths about the learning process (Campbell &
Ortiz, 1991). On the other hand, teaching methodologies such as Lozanov’s
Suggestopoeida, Terrell and Krashen’s Natural Approach, and Curran’s
Community Language Learning are examples of how some in the profession
have tried to improve language learning by altering the classroom
environment to create a low-stress learning atmosphere. Although foreign
language anxiety is still not perfectly understood, it is evident that with rare
exceptions, reducing its presence in the language classroom can only prove beneficial to students’ language learning experience.

Crookall and Oxford (1991) offered several practical approaches to reducing foreign language anxiety. Some of their suggestions focused on what instructors could do in the classroom to decrease their students’ levels of language anxiety. These suggestions included small group work, pair work, games, simulations, and structured exercises that would alter the communication pattern of the classroom away from one where most of the interaction is student/teacher-centered or where one student performs alone for the class while the others observe. The researchers, however, were quick to point out that these changes may not be enough. They noted that it is sometimes necessary and beneficial to address the issue of student anxiety directly.

Learner training is the most likely area in which anxiety can be addressed directly. Ellis and Sinclair (1989) explained that “learner training aims to help learners consider the factors that affect their learning…. It focuses their attention on the process of learning so that the emphasis is on how to learn rather than on what to learn” (as cited in Crookall & Oxford, 1991, p.144; emphasis original). The idea they proposed was that, just as teachers receive training on how to teach, students should also receive training on how to learn. Crookall and Oxford believed that learner training should also include dealing with anxiety in an explicit and purposeful way. “By helping students to deal with anxiety, we are training them to be better learners” (p.145). In order to help instructors and students address the issue of anxiety, Crookall and Oxford outlined several activities that could be done in class. In one activity, the “Agony Column,” students are encouraged to express their feelings about their language learning experience by writing a letter to an imaginary “Agony Aunt” (such as Dear Abby or Ann Landers). Students then get into groups and review letters from classmates who are not part of their group. They try to think of helpful advice for the author (they play the role of Agony Aunt). Students then return the original letters, along with
the advice, to the author, and the class discusses the types of concerns expressed in the letters and the advice given. In this way, students not only realize that their feelings are often shared by others and thus “normal,” but they also develop coping strategies that will help them better deal with their anxiety.

Gregerson and Horwitz (2002) found similarities between perfectionist behaviors and foreign language anxiety. They studied the reactions of language learners as they watched themselves during a previously videotaped interview in the target language. By studying the subjects’ reactions to their own performances, the researchers found that the comments of the anxious students reflected perfectionist tendencies while the comments of their non-anxious counterparts did not. With this finding, the researchers suggested adopting some of the successful approaches to coping with perfectionism into the realm of managing foreign language anxiety. These suggestions included getting students to develop realistic expectations, setting and keeping time limits, building a supportive learning environment, getting students to understand that mistakes are an essential part of learning, stressing learning and improvement over perfect output, learning how to keep calm, and teaching students how to continue through a conversation and not get stuck when an error has been made.

Inasmuch as the issue of foreign language anxiety needs to be addressed at the level of the individual student’s perceptions, the teacher’s attitude, and the classroom environment, awareness and support programs at the institutional level are also key. Powell (1991) reviewed three support programs that the University of Texas at Austin has developed to help students deal with language learning difficulties, including anxiety. Students have access to a foreign language support group and a Learning Skills Center that sponsors an informal talk every semester on foreign language study skills. Also, the Department of Germanic Languages employs a curriculum for lower division classes that includes, as part of the course, instruction in study skills and effective attitudes toward foreign language
learning. Programs such as these demonstrate how some universities are working to help students cope with their language anxiety and become better language learners.

**Summary**

While the notion of foreign language anxiety did not develop or gain credibility as early as some other academic anxieties or affective variables, the concept of language anxiety is now emerging as valid and worthy of further study. Some of the earlier difficulties in identifying and demonstrating the existence of second language anxiety may have been due to ambiguity in the approach. As more work is being done and as the precision and sensitivity of instruments to measure this type of anxiety is improving, more observable and consistent evidence is accumulating that supports the view of a distinct anxiety that affects the language learning experience for many students.

Most research has focused on identifying the issue and exploring its effects, but other studies have tried to find ways of minimizing the negative effects by using coping strategies. It seems that when dealing with language anxiety, some of the most practiced methods center on awareness. This awareness can be on the part of the instructor, who may try to minimize the anxiety-provoking aspects of her classroom, or on the part of the student, who has been equipped with effective coping strategies when faced with such a problem. Alternatively, the awareness may be on the part of the language program or institution, which may then offer students support systems designed to address their concerns and needs.

Focusing on the actual source of the anxiety, instead of its symptoms, could prove an even more effective means of alleviating foreign language anxiety. The study at hand investigated the use of speech recognition software as a means of altering the traditional foreign language learning format, thus removing many of the sources of the anxiety while also examining its viability as a tool for pronunciation improvement.
CHAPTER 3

PROCEDURES

Description of Research Design

Because the research questions focused on teaching methodology, the study was conceptualized as classroom research and used intact classes as opposed to random assignment of individual subjects to treatment groups. The resultant quasi-experimental study used a pretest/posttest comparison group design (Campbell & Stanley, 1963). All four sections of a second-semester beginning French course offered during the semester in which this study was implemented were involved. The course requirements were the same for each section; only the class meeting times differed. The instructors were listed as “staff” on the course offerings for registration and thus were not identified. Furthermore, because the sections involved were part of the regular curriculum, the subjects had met university requirements for being in these classes. For these reasons, it was assumed that the classes from which the sample was drawn had no biased patterns of enrollment. Subjects did not know about the study before they were asked to participate in the third week of the semester.

During the semester in which the experiment was conducted, the four sections of the second-semester French course were taught by two instructors with each instructor teaching two sections. The two instructors were female U.S. native, English speaking graduate students enrolled in the same Master’s degree program in French at Florida State University. They had both participated in the same six-week teaching assistant preparatory course. Neither had any other teacher training or teaching responsibilities outside of their experience at Florida State University. To balance the design of the study, each instructor was randomly assigned one class in the experimental group (computer practice) and one in the comparison group (cassette practice) by the researcher.
Subjects

The sample consisted of 65 students in four second-semester French classes taught. Of the 65 subjects, 50 were female and 15 male. Forty-five subjects had completed their first semester of French at Florida State University, seven had taken first semester French at another post-secondary institution, and 13 had placed into the second-semester French course based on in-house placement test scores achieved upon matriculation at the university. Sixty-three of the participants were full-time students, and two were part-time. The age of the subjects ranged from 18 to 35 years. None of the participants had spent an extended period of time (more than three weeks) in a French-speaking environment or had lived with a native French speaker.

While the university has a three-semester second language requirement for most majors at the undergraduate level, students were asked why they specifically chose French as their language of study. Fifty-five indicated self-interest as the motivating factor, while four stated that their chosen major specifically required some study of French. One student indicated a desire to major in French, two wished to minor in the language, and three did not indicate a reason for their choice of French as the language to fulfill the second language requirement.

To establish initial similarities and differences among the four classes in the study, t-tests were run using the pretreatment data. The results of these tests showed that the classes were similar on the initial anxiety measure (p = 0.8), and in the English verbal standing as measured by the SAT (p = 0.08). Their scores, however, differed significantly on the standardized French achievement test, the French ACT (p = 0.03). Further investigation revealed that the comparison group had the higher means with 44.5 (SD = 20.3, teacher one) and 33.4 (SD = 10.2, teacher two). The experimental groups’ means were 28.4 (SD = 13.0, teacher one) and 24.1 (SD = 9.0, teacher two).
Instruments

Each participant in the study completed a background questionnaire; the Foreign Language Classroom Anxiety Scale (FLCAS) administered as a pre- and posttest; a pronunciation assessment administered as a pre- and posttest; the ACT French subject exam (American College Testing Program, 1993); and an exit survey.

The background questionnaire (Appendix A) was designed to gather information regarding any previous second language study, the institution where such study was undertaken, the duration of study, experience with study abroad, reasons for taking French, the student’s academic course load, and outside employment for that semester. The form used was the departmental standard, issued to all students in beginning and intermediate level classes in the French division at Florida State University.

Participants also completed the FLCAS (Appendix B) twice – once as a pretest and once as a posttest. This instrument, developed by Horwitz, Horwitz, and Cope (1986), measures a student’s level of foreign language anxiety as it pertains to the traditional classroom approach to learning a second language. The FLCAS was the first instrument to be designed for the express purpose of identifying and measuring foreign language anxiety as a unique situational anxiety, distinct from trait and state anxieties. Items featured in the questionnaire pertain to communication apprehension, fear of negative evaluation, test anxiety, and other aspects of the foreign language classroom. The questionnaire asks the participant to respond to 33 items using a five-point Likert scale, which ranges from strongly agree to strongly disagree.

In the present study, the FLCAS demonstrated reliability with an internal consistency of $r = 0.94$. Additionally, in previous studies the FLCAS has demonstrated good reliability and validity. In one study (Horwitz, Horwitz & Cope, 1986) involving 108 students at the University of Texas at Austin, the FLCAS demonstrated internal consistency of $r = 0.93$. It also showed test-retest reliability in the same study over eight weeks with $r = 0.83$. Additionally,
criterion-related studies have demonstrated the validity of the scale as a measure of foreign language anxiety itself through low correlation scores with measures of trait and state anxiety, communication apprehension, fear of negative evaluation, and test anxiety (Horwitz, 1986). Furthermore, significant negative correlation between FLCAS scores and final course grades demonstrates its predictive validity (Horwitz et al., 1986.)

Additional substantiation of the reliability of the FLCAS can be found in Aida’s (1994) study involving students of Japanese. Here the FLCAS demonstrated an internal consistency of 0.94 and had a test-retest reliability score of $r = 0.80$ when re-administered one semester later. Levels of foreign language anxiety were again negatively correlated in this study.

Subjects also completed the standardized ACT placement exam in French as a measure of their language proficiency. This instrument consists of 88 multiple-choice questions. It is a standardized paper and pencil test that many universities use to assess the language proficiency of their students and place them at the correct course level. The ACT tests vocabulary, grammar, and reading comprehension.

The pre- and posttest pronunciation assessments were identical and consisted of two short reading passages. The first was a 173-word extract taken from Antoine de Saint Exupéry’s, “Le Petit Prince”. The second passage was written by the researcher and describes a fictional news story (Appendix C). It was 204 words in length and was designed to elicit a variety of vowel sounds.

The exit survey was designed by the researcher in order to gain insight into student reactions and experience with the type of practice they did during the treatment period. The survey consisted of eight questions for the comparison group (Appendix D) and ten questions for the experimental group (Appendix E). Both versions used a Likert scale and included additional space for narrative commentary.
Procedures

The experimental procedures occurred in three phases. The first phase began the third week of classes during the fall semester. During this period, initial data were collected. The researcher visited each class in order to introduce the study in very general terms and to explain that participation was completely voluntary and anonymous and that any subsequent study-related data would be recorded only for those who had consented. The consent rate was 100%. Identification numbers were assigned, and subjects completed the FLCAS, administration of which took approximately 25 minutes. During the next class period, subjects spent approximately 45 minutes completing the French ACT proficiency test.

The last of the initial data were collected one week later when students took the pronunciation pretest. The researcher escorted the students to a listening laboratory where they received a five-minute instruction session on the use of the recording equipment. The listening laboratory consisted of individual cubicles, each with its own tape-recording console and headset with microphone. Subjects were then given the two reading passages and five minutes to look over the readings after which they began recording onto the blank cassettes they had been given. Subjects were asked to read through the passages at their own pace and to the best of their ability without stopping the recording. If they made a mistake, paused, or were distracted, they were instructed to resume reading from the point where the interruption had occurred.

Once the class had completed the pretest task, they were escorted to their assigned laboratory – either the listening lab or the computer lab, as prescribed by the method of practice to which their class had been assigned. In order to become familiar with the lab and the technology they would be using, the subjects then participated in a 20-minute orientation session conducted by the researcher. The listening laboratory used by the comparison group was similar in layout to the listening laboratory where the pretest had taken place. Each subject had his own cubicle equipped with a
digital recording console, headset, and microphone. During the training session, subjects practiced listening, recording, and playing back the sample lesson to ensure that they were making clear recordings and that they were comfortable manipulating the equipment. The computer laboratory used by the experimental group featured multiple personal computer stations equipped with headsets and microphones and located throughout the room. While there was ample space between stations, the computer lab did not feature cubicle dividers.

Subjects in the experimental group practiced their pronunciation using Auralog’s language learning software program entitled, “Tell Me More.” They learned how to adjust the recording and playback volumes as well as how to record their samples when cued by the computer. The software is divided into twelve lessons each of which includes a set of pronunciation exercises. Both groups practiced with the sentences used in the first seven lessons, one for each practice session (Appendix F). For each pronunciation practice sentence, the computer played an audio version recorded by a native speaker and displayed the written text accompanied by a voice graph (Appendix G) of the speaker’s utterance. The voice graph is a visual representation of speech onset, voice intensity, and intonation. Subjects were instructed to record their own attempts, and the computer then generated a voice graph and gave a pronunciation accuracy score, ranging from one (least accurate) to seven (most accurate) for each attempt. The participants then compared their samples to those of the computer in terms of both their audio and visual qualities. They could examine the voice graph of the native speaker’s sample and compare it to their own voice graph. Both the computer example and the subject’s attempt could be replayed repeatedly. Furthermore, they were shown how to select a particular part of an utterance (a phrase, a word, or a phoneme) in order to practice it in isolation. Participants were instructed to use these software features during each of the seven subsequent weekly practice sessions. While the program is structured to move from less complicated material to more advanced lessons, this shift is more evident in
the subject matter and syntactic structure of the phrases rather than in the length of the words or sentences. Each practice session focused on a new lesson and lasted 50 minutes. Subjects attended these practice sessions in the computer lab with their instructor weekly for seven weeks as part of their regular coursework.

Subjects in the comparison group practiced their pronunciation using audio recordings and typewritten sentences taken from the same “Tell Me More lessons” used by the experimental group. They could repeatedly record, playback and compare their attempts to those of the native speaker. There was, however, no scoring feature or voice graph available to this group. The participants in the comparison group practiced in this way for each of the subsequent seven weekly practice sessions. Subjects attended these practice sessions in the listening lab with their instructor weekly for seven weeks as part of their regular coursework. They practiced for the same amount of time using the same lessons as the experimental group.

The week after the treatment period ended subjects participated in the final set of data gathering activities. They returned to the initial listening lab where they completed the pronunciation posttest following the same procedures they had used during the pretest. Afterward, they completed the anxiety posttest again using the same procedures that had been used for the anxiety pretest. Participants were also presented with a release form asking them to grant the researcher permission to access their SAT scores through university records. (These scores would be used by the researcher to determine similarities among groups.) Finally, during the next class meeting participants completed an exit questionnaire.

**Scoring Procedures**

**FLCAS scores**

The FLCAS was scored by assigning a value of one to five points to the circled Likert response. Responses indicating low-anxiety received one point, and those indicating high anxiety received five points. Thus the possible
range of scores for the FLCAS is 33 to 165. Scores from the pre-treatment administration of the FLCAS (the anxiety pretest) for this particular study ranged from 56 to 162. The mean score was 86.6 and the standard deviation was 20.8.

Other studies involving the use of the FLCAS with first and second year university student populations have shown similar ranges in scores, while the mean scores in those studies were slightly higher than that of the present study. Results from these studies are summarized in Table 1.

Table 1
FLCAS Scores Reported in Current and Other Studies using Similar Populations

<table>
<thead>
<tr>
<th>Study</th>
<th>Population</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Study</td>
<td>2nd semester French</td>
<td>56-162</td>
<td>86.6</td>
<td>20.8</td>
</tr>
<tr>
<td>Phillips, 1990</td>
<td>3rd semester French</td>
<td>55-158</td>
<td>99.3</td>
<td>24.6</td>
</tr>
<tr>
<td>Aida, 1994</td>
<td>1st year Japanese</td>
<td>47-146</td>
<td>96.7</td>
<td>22.1</td>
</tr>
<tr>
<td>Horwitz et al., 1986</td>
<td>1st year Spanish</td>
<td>45-147</td>
<td>94.5</td>
<td>21.4</td>
</tr>
</tbody>
</table>

FLCAS pre-treatment results and categorization of anxiety level

Individual subjects were classified as having high, mid, or low levels of anxiety based on their initial FLCAS score (the anxiety pretest) relative to the entire group mean. Subjects with an initial FLCAS score 0.75 standard deviations above the mean were categorized as high-anxiety; those whose scores ranged from 0.75 below the mean to 0.75 above the mean were classified as mid-anxiety; and subjects whose scores were 0.75 standard deviations below the mean were identified as low-anxiety. Thus, scores of 103 and above qualified as high-anxiety; scores ranging from 72 to 102 were designated mid-anxiety; and scores of 71 or below counted as low-anxiety. Tables 2 and 3 provide the mean, range, and standard deviations for initial FLCAS scores (anxiety pretest), categorized by anxiety level, for the comparison and experimental groups respectively.
Table 2
Initial FLCAS Scores (anxiety pretest) for Comparison Group (cassette)
Categorized by Anxiety Level

<table>
<thead>
<tr>
<th>Anxiety Level</th>
<th>N</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All levels</td>
<td>35</td>
<td>56-124</td>
<td>87.26</td>
<td>18.35</td>
</tr>
<tr>
<td>High-anxiety</td>
<td>9</td>
<td>103-124</td>
<td>109.89</td>
<td>7.78</td>
</tr>
<tr>
<td>Mid-anxiety</td>
<td>16</td>
<td>73-101</td>
<td>88.56</td>
<td>8.77</td>
</tr>
<tr>
<td>Low-anxiety</td>
<td>10</td>
<td>56-71</td>
<td>64.8</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Table 3
Initial FLCAS Scores (anxiety pretest) for Experimental Group (computer)
Categorized by Anxiety Level

<table>
<thead>
<tr>
<th>Anxiety Level</th>
<th>N</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All levels</td>
<td>30</td>
<td>57-162</td>
<td>85.97</td>
<td>23.65</td>
</tr>
<tr>
<td>High-anxiety</td>
<td>6</td>
<td>105-162</td>
<td>123.17</td>
<td>20.24</td>
</tr>
<tr>
<td>Mid-anxiety</td>
<td>15</td>
<td>72-100</td>
<td>83.73</td>
<td>10.65</td>
</tr>
<tr>
<td>Low-anxiety</td>
<td>9</td>
<td>57-71</td>
<td>64.89</td>
<td>5.13</td>
</tr>
</tbody>
</table>

Pronunciation scores
In order to minimize the inherent subjectivity of pronunciation evaluation, the pronunciation pre- and posttests were evaluated using two systems of evaluation. The atomistic method asked the rater to listen for and evaluate specific targeted sounds such as vowel pronunciation, liaisons, and silent versus pronounced word endings. An atomistic approach to pronunciation evaluation was first investigated by Jan van Weeren (1987) as a method of more objectively quantifying pronunciation scoring. The rater was given a written version of the texts used in the pre- and posttests with the targeted sounds highlighted and was asked to indicate on a score sheet whether the sound was correctly or incorrectly pronounced (Appendix H). There were 61 highlighted items total. One point was given for each correctly pronounced item.

The second method was more holistic in nature. The rater was asked to assign a holistic grade based on prosodic features such as intonation, tonic
accent, syllabification, and word-linking in addition to pronunciation. The rater listened for rising or descending intonation, articulation of tonic accent, vowel-based divisions in multi-syllabic words, and finally, liaison. These prosodic features involve whole segments of speech, while pronunciation focuses on individual sounds. The prosodic features are of particular importance in that it is their correct execution that provides the rhythmic measured patterns of spoken French. The rater assigned a letter grade of A through F based on descriptors taken from R.M. Terry’s oral test scoring criteria (Appendix I). This scoring criteria appears in Omaggio Hadley’s (2001) “Teaching Language in Context, 3rd Ed.” as a model for teachers of foreign languages and, as such, represents a widely accepted method of evaluation. These descriptors are one-sentence statements intended to describe the overall quality of the sample. The rater was given no indication as to which method of practice or testing phase the cassette belonged. Once the rater had marked the pre- and posttests, the researcher then tabulated a score for the atomistic method based on the number of correct pronunciations marked by the rater from a total of the 61 sounds in question. No additional calculations were needed for the holistic grades.

**Interrater Reliability**

Because both the atomistic and holistic methods of pronunciation testing involved some subjective evaluation, measures were taken to ensure that this subjectivity was minimized. Consequently, the rater used in this study was asked to participate in a training session with a second rater using both methods of evaluation on twenty sample cassettes. Training was considered complete when the scores given by both raters to twenty practice samples yielded an $r = 0.89$ for atomistic and $0.83$ for holistic scores. The same rater then evaluated all pronunciation measures in this study.

**Threats to Internal Validity**

Measures were taken to reduce the threats to internal validity in this study. In order to minimize the potential for selection bias, the study used all four sections of second-semester French offered during the semester in
question. Course requirements were the same for each class, and instructors were listed as “staff” during the registration period. Only class meeting times differed. Enrollment patterns in the classes studied were thus deemed to be representative of regular classes. Variations in the distribution of characteristics such as age, attitude, gender, and intelligence were seen as naturally occurring and not influenced by the study.

Due to the large number of instruments needing to be completed and the length of the treatment period, the mortality threat was a concern in this study. While the study began with 98 subjects (a 100% consent rate), 33 failed to complete all of the instruments. Therefore, the final sample was 65. Of the 33 subjects who were eliminated from the final sample, 16 were from the comparison group and 17 were from the experimental group. Further investigation revealed that 11 in the comparison group and 10 in the experimental group failed to complete either the anxiety pretest or posttest or did not complete these measures properly by leaving a response blank or circling more than one answer. An additional five in the comparison group and six in the experimental group were eliminated because they had not completed all of the pronunciation measures. And finally, one subject from each group was eliminated because he or she did not complete all seven practice sessions that constituted the treatment period.

For consistency reasons, all testing was conducted in the same room for all subjects, and the procedures followed were the same each time. The practice sessions were conducted in different labs due to the nature of the assigned practice method. The comparison group practiced in the listening lab while the experimental group practiced in the computer lab.

Instrument decay was not an issue in the scoring of the FLCAS measure since answers were in Likert scale format. The pronunciation measures, however, were more subjective in nature. The rater was instructed to stop evaluating the samples when fatigue or outside distractions became a problem. Furthermore, the pretests and posttests of both groups were randomly mixed together without the knowledge of the rater to reduce the
chances of any evaluation pattern affecting one measure or one group’s scores more than the other. In order to guard against bias stemming from data collector characteristics, the same data collector was used for all measures with all classes. Furthermore, all collected data was in the form of surveys or, in the case of the pronunciation measures, audio-recordings of a written text. The data collector did not directly discuss the content of these measures with the subjects. The data collector read all instructions from the same prepared script and followed the same procedures with all classes. This use of standardized procedures, in addition to the use of different individuals in the roles of class instructor, rater, and data collector, also helped reduce the implementation threat.

With the use of an experimental and comparison group design, the testing threat was controlled for because subjects in both groups had an equal potential of being alerted to what was being studied. The use of the comparison group also controlled for the maturation threat. Because both groups practiced their pronunciation and thus received some kind of treatment, the potential for threats such as the Hawthorne effect was also minimized.
CHAPTER 4
RESULTS

This chapter presents the findings of this study. Results of the statistical analyses regarding the reduction in anxiety as measured by the Foreign Language Classroom Anxiety Scale, the improvement in pronunciation based on the atomistic method of evaluation, the improvement in pronunciation based on the holistic method of evaluation, and the summative results for the exit survey are provided.

Foreign Language Anxiety

Research Question One

In order to investigate the use of computerized pronunciation practice as a tool in the reduction of foreign language anxiety, the following research question was posed: Does practicing pronunciation with the computer have an effect on the foreign language anxiety levels of subjects classified as high-anxiety?

This section provides the descriptive statistics of the anxiety pre- and posttests as well as the results of the statistical analysis in answer to this question.

Anxiety reduction as measured by the FLCAS

All but one group showed a reduction in the FLCAS score from pre- to posttest (the exception being low-anxiety subjects in the comparison group). Tables 4 and 5 provide the means and standard deviations for the pre- and post treatment administration of the FLCAS, categorized by anxiety level, for the comparison and experimental groups respectively.
Table 4
FLCAS Pretest and Posttest Scores for Comparison Group (cassette)
Categorized by Anxiety Level

<table>
<thead>
<tr>
<th>Comparison Group Level</th>
<th>Anxiety Level</th>
<th>N</th>
<th>Pretest Mean</th>
<th>SD</th>
<th>Posttest Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All levels</td>
<td>35</td>
<td>87.26</td>
<td>18.35</td>
<td>78.37</td>
<td>16.52</td>
<td></td>
</tr>
<tr>
<td>High-anxiety</td>
<td>9</td>
<td>109.89</td>
<td>7.78</td>
<td>94.44</td>
<td>16.9</td>
<td></td>
</tr>
<tr>
<td>Mid-anxiety</td>
<td>16</td>
<td>88.56</td>
<td>8.77</td>
<td>77.06</td>
<td>11.08</td>
<td></td>
</tr>
<tr>
<td>Low-anxiety</td>
<td>10</td>
<td>64.8</td>
<td>4.7</td>
<td>66.0</td>
<td>11.85</td>
<td></td>
</tr>
</tbody>
</table>

Table 5
FLCAS Pretest and Posttest Scores for Experimental Group (computer)
Categorized by Anxiety Level

<table>
<thead>
<tr>
<th>Experimental Group Level</th>
<th>Anxiety Level</th>
<th>N</th>
<th>Pretest Mean</th>
<th>SD</th>
<th>Posttest Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All levels</td>
<td>30</td>
<td>85.97</td>
<td>23.65</td>
<td>76.23</td>
<td>20.10</td>
<td></td>
</tr>
<tr>
<td>High-anxiety</td>
<td>6</td>
<td>123.17</td>
<td>20.24</td>
<td>102.67</td>
<td>17.08</td>
<td></td>
</tr>
<tr>
<td>Mid-anxiety</td>
<td>15</td>
<td>83.73</td>
<td>10.65</td>
<td>75.6</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td>Low-anxiety</td>
<td>9</td>
<td>64.89</td>
<td>5.13</td>
<td>59.67</td>
<td>12.64</td>
<td></td>
</tr>
</tbody>
</table>

**Comparison of treatment groups and anxiety reduction**

The first research question asked if high-anxiety subjects who practiced their pronunciation with the computer would experience a greater change in their anxiety levels in comparison to subjects who practiced with cassettes. A preliminary look at the data focusing on the reduction of anxiety as noted by the decrease in mean scores from pre- to posttest indicates that high-anxiety subjects in the experimental group (computer group) did experience a greater reduction in their scores that high-anxiety subjects in the comparison group (cassette group). The decrease in the mean for high-anxiety subjects in the computer group was 20.5 points while the decrease for high-anxiety subjects in the cassette group was 15.44. Tables 6 and 7 present information regarding the change in mean scores.
Table 6
FLCAS Change Scores from Pre- to Posttest for Comparison Group (cassette)

<table>
<thead>
<tr>
<th>Comparison Group</th>
<th>Anxiety Level</th>
<th>N</th>
<th>Diff in Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All levels</td>
<td>-8.89*</td>
<td>35</td>
<td>11.77</td>
<td></td>
</tr>
<tr>
<td>High-anxiety</td>
<td>-15.44*</td>
<td>9</td>
<td>12.25</td>
<td></td>
</tr>
<tr>
<td>Mid-anxiety</td>
<td>-11.5*</td>
<td>16</td>
<td>7.83</td>
<td></td>
</tr>
<tr>
<td>Low-anxiety</td>
<td>1.2</td>
<td>10</td>
<td>10.94</td>
<td></td>
</tr>
</tbody>
</table>

* negative indicates reduction

Table 7
FLCAS Change Scores from Pre- to Posttest for Experimental Group (computer)

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Anxiety Level</th>
<th>N</th>
<th>Diff in Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>All levels</td>
<td>-9.73*</td>
<td>30</td>
<td>12.01</td>
<td></td>
</tr>
<tr>
<td>High-anxiety</td>
<td>-20.5*</td>
<td>6</td>
<td>8.96</td>
<td></td>
</tr>
<tr>
<td>Mid-anxiety</td>
<td>-8.13*</td>
<td>15</td>
<td>11.94</td>
<td></td>
</tr>
<tr>
<td>Low-anxiety</td>
<td>-5.22*</td>
<td>9</td>
<td>10.42</td>
<td></td>
</tr>
</tbody>
</table>

* negative indicates reduction

A two-way ANOVA was used to determine whether this difference in anxiety reduction between the experimental and comparison groups was statistically significant (see Table 8). The response variable used for the test was amount of anxiety reduction, and the factors were method of practice (cassette versus computer) and anxiety level (high, mid, and low). Alpha level was set at 0.05.

The results demonstrate that any relationship between method of practice and reduction in anxiety that may have been indicated in the descriptive data was not strong enough to be of statistical significance. Specifically, the interaction between method of practice and anxiety level yielded a p value of 0.22, indicating that method of practice did not affect subjects with high anxiety any differently than those with low anxiety in either
group. More generally, there was also no effect between method of practice and anxiety reduction overall, that is, practicing pronunciation did not reduce anxiety. The \( p \) value for this factor was 0.33. When examining anxiety reduction in terms of initial anxiety alone, regardless of treatment group, the \( p \) value is significant at 0.0, indicating that high-anxiety subjects, overall, experienced a greater reduction in anxiety than low-anxiety subjects. This effect was to be expected since high-anxiety subjects have a greater point spread with which to show a decrease in anxiety level than low-anxiety subjects.

Table 8
Source Table for Treatment and Anxiety Reduction Between-Subjects ANOVA

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Group</td>
<td>106.45</td>
<td>1</td>
<td>106.45</td>
<td>0.97</td>
<td>0.33</td>
</tr>
<tr>
<td>Anxiety level</td>
<td>2097.77</td>
<td>2</td>
<td>1048.88</td>
<td>9.57</td>
<td>0.00*</td>
</tr>
<tr>
<td>Treatment Group*Anxiety Level</td>
<td>343.49</td>
<td>2</td>
<td>171.74</td>
<td>1.57</td>
<td>0.22</td>
</tr>
<tr>
<td>Error</td>
<td>6464.61</td>
<td>59</td>
<td>109.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14501.00</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\( *p < 0.05 \)

**Pronunciation Improvement**

**Research Question Two**

Given that computer-based pronunciation practice is relatively new to the realm of second language instruction, a second goal of the present study was to evaluate its efficacy as a learning tool. Therefore, the following research question was posed: Does practicing pronunciation with the computer have an effect on the quality of subjects’ pronunciation?

The descriptive statistics for the pronunciation pre- and posttests are given here as well as the results of the statistical analysis examining the effect of treatment group on pronunciation improvement in answer to this question.
Atomistic Pronunciation Evaluation

The atomistic pronunciation pre- and posttests were evaluated by assigning one point for every correctly pronounced item. There were 61 items in total, thus the possible range of scores was from 0 to 61. Tables 9 and 10 describe the pre- and posttest scores for both groups.

Table 9
Descriptive Statistics for the Atomistic Pronunciation Evaluation for the Comparison Group

<table>
<thead>
<tr>
<th>Comparison Group</th>
<th>N</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>35</td>
<td>24-55</td>
<td>37.14</td>
<td>8.19</td>
</tr>
<tr>
<td>Posttest</td>
<td>35</td>
<td>24-54</td>
<td>38.74</td>
<td>7.57</td>
</tr>
</tbody>
</table>

Table 10
Descriptive Statistics for the Atomistic Pronunciation Evaluation for the Experimental Group

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>N</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>30</td>
<td>20-44</td>
<td>33.57</td>
<td>6.19</td>
</tr>
<tr>
<td>Posttest</td>
<td>30</td>
<td>22-51</td>
<td>38.17</td>
<td>7.99</td>
</tr>
</tbody>
</table>

Further investigation into the scores revealed that the comparison group increased its score by 1.94 points, while the experimental group increased its score by 4.63 points. Table 11 provides more detailed information.

Table 11
Gain Scores based on the Atomistic Pronunciation Evaluation

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison Group</td>
<td>35</td>
<td>1.94</td>
<td>4.56</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>30</td>
<td>4.63</td>
<td>5.97</td>
</tr>
</tbody>
</table>

Thus, this preliminary examination of the data seems to indicate that method of pronunciation practice does have an effect on pronunciation
improvement. In order to determine whether this difference is of statistical significance, an ANOVA was carried out. The response variable used for the test was the change score (from pre- to posttest) based on the atomistic pronunciation evaluation, and the factor was treatment (cassette versus computer). The results show a statistically significant difference in the effect of method of practice favoring the experimental group with a $p$ value of 0.04. The results of the ANOVA are given in Table 12.

Table 12
Source Table Pronunciation Improvement based on Atomistic Evaluation
Between-Subjects ANOVA

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Group</td>
<td>116.93</td>
<td>1</td>
<td>116.93</td>
<td>4.23</td>
<td>0.04*</td>
</tr>
<tr>
<td>Error</td>
<td>1740.85</td>
<td>63</td>
<td>27.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2517.00</td>
<td>65</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>1857.78</td>
<td>64</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p $< 0.05

Holistic Pronunciation Evaluation

The holistic pronunciation pre- and posttests were evaluated using a categorical system of letter grades: A, B, C, D, and F. These letter grades were encoded as numerical values: five points for an A, four points for a B, three points for a C, two points for a D, and one point for an F. In this manner, the changes in scores from pre- to posttest were noted as a gain, a loss, or as no change in points. Thus, two groups were created. Group one contained subjects who showed a gain in their pronunciation score from pre- to posttest, while group two comprised those who showed either no gain or a decrease in their pronunciation score. A larger percentage of subjects in the experimental group showed an improvement in pronunciation based on the holistic measure. That is to say, 47% of subjects in the experimental group showed improvement whereas only 26% did so in the comparison group.
Table 13 shows the results in pronunciation improvement for the holistic method of evaluation.

Table 13
Results in Pronunciation Improvement for the Holistic Method of Evaluation

<table>
<thead>
<tr>
<th></th>
<th>Improvement</th>
<th>No improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison Group</td>
<td>9 (26%)</td>
<td>26 (74%)</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>14 (47%)</td>
<td>16 (53%)</td>
</tr>
</tbody>
</table>

In order to determine whether method of practice had a statistically significant impact on pronunciation improvement as measured by the holistic method, a Pearson chi-square test was applied. The chi-square test yielded a p value of 0.07 revealing that while the difference in scores in the experimental and comparisons groups may be indicative of greater improvement for subjects who practiced with the computer, the results are not strong enough to be statistically significant.

User Survey

The user survey included both Likert scale statements and an area for open-ended comments. Responses to the Likert questions for both the comparison group (cassette practice) and the experimental group (computer practice) are given in Table 14. Overall, subjects in the experimental group responded more positively to their method of practice. After practicing with the computer, they felt less anxious, they felt their pronunciation improved, and they were in favor of adding computer practice in future sections of the course. In addition, all of the subjects in the experimental group reported that they practiced the exercises a sufficient number of times. The only area where comparison group subjects reported their method of practice more helpful was in hearing and comparing their pronunciation to the speaker on the cassette. It is important to note, however, that the experimental method of practice included both aural and visual elements while the comparison
method offered only listening activities; subjects in the experimental group may not have responded as affirmatively to this question because their method of practice included other features that they may have found equally helpful.

Table 14  
Response Percentages for Exit Survey – Comparison Group (compar) and Experimental Group (exp).

<table>
<thead>
<tr>
<th>Item</th>
<th>Agree compar</th>
<th>Neutral Compar</th>
<th>Disagree compar</th>
<th>Agree exp</th>
<th>Neutral exp</th>
<th>Disagree exp</th>
</tr>
</thead>
<tbody>
<tr>
<td>It was helpful to hear and compare the recordings of my attempts to those of the speaker on the (cassette/software).</td>
<td>88</td>
<td>12</td>
<td>0</td>
<td>50</td>
<td>41</td>
<td>0</td>
</tr>
<tr>
<td>I listened to, repeated, and worked on the exercises a sufficient number of times.</td>
<td>84</td>
<td>4</td>
<td>12</td>
<td>100</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Practicing with the (cassettes/computer) in the lab has helped me to improve my French pronunciation.</td>
<td>72</td>
<td>20</td>
<td>15</td>
<td>85</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Before practicing with the (cassettes/computer), I felt anxious about speaking in front of others because of my pronunciation.</td>
<td>30</td>
<td>15</td>
<td>14</td>
<td>26</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>I feel less anxious about my French pronunciation now because of the practice I did with the (cassettes/computer).</td>
<td>45</td>
<td>45</td>
<td>28</td>
<td>50</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>I would suggest adding similar pronunciation practice time in the (listening/computer) lab to future sections of this course.</td>
<td>68</td>
<td>14</td>
<td>12</td>
<td>86</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Anecdotally, but perhaps more revealing than the numbers, are the statements that the students made themselves in the open-ended commentary section. The following comments from the experimental group refer specifically to the benefit of the voice graph feature:

<table>
<thead>
<tr>
<th>Subject Identification Number</th>
<th>Comment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>53</td>
<td>The voice graph gave me a goal to repeat it until I said it perfectly.</td>
</tr>
<tr>
<td>49</td>
<td>I like the voice graph a lot.</td>
</tr>
<tr>
<td>72</td>
<td>It (the voice graph) helped me to try harder.</td>
</tr>
<tr>
<td>65</td>
<td>This (the voice graph) made me attempt to try to match the computer saying right.</td>
</tr>
<tr>
<td>32</td>
<td>I think it (the voice graph) helps someone like me who is more visual.</td>
</tr>
<tr>
<td>34</td>
<td>I feel it (the voice graph) was the feedback that helped most of all.</td>
</tr>
</tbody>
</table>

Subjects from the experimental group also commented that a language lab component should be incorporated into the course:

<table>
<thead>
<tr>
<th>Subject Identification Number</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>I think that time in the lab definitely helped me in this class. Last semester, I had no lab time and I feel that my verbal skills were hurt by that.</td>
</tr>
<tr>
<td>61</td>
<td>The computer lab was fun and very helpful. I believe that classes should go to this lab whenever they can because it is very beneficial.</td>
</tr>
<tr>
<td>52</td>
<td>I think this is vital because one gets the type of practice they need but can’t get in a regular classroom.</td>
</tr>
</tbody>
</table>
It gives the pronunciation assistance many never get in the classroom.

I think the lab time was more beneficial than the tapes included in the book.

I very much liked the playback part so I could hear myself compared to the native speaker.

…the computer feedback was helpful!

I feel that this practice has been so helpful to me.

I feel it helped me and the class as a whole with our pronunciation.

I’m a music major (...) I think this type of computer-listening practice will benefit language students with overall fluency and accuracy.

Other general comments from the experimental group are included below:

<table>
<thead>
<tr>
<th>Subject Identification Number</th>
<th>Comment:</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>I felt it was excellent practice.</td>
</tr>
<tr>
<td>58</td>
<td>I thoroughly enjoyed our lab exercises. I feel like they really helped!</td>
</tr>
<tr>
<td>67</td>
<td>I really enjoyed the computer sessions and felt an improvement.</td>
</tr>
<tr>
<td>65</td>
<td>I think it was beneficial in helping me pronounce words.</td>
</tr>
<tr>
<td>26</td>
<td>I am more confident now than I used to be.</td>
</tr>
<tr>
<td>47</td>
<td>I had a really good time. The program is awesome!</td>
</tr>
</tbody>
</table>
I feel that it has been so helpful to me.

Unlike the subjects in the experimental group, many in the cassette group commented on the boredom they experienced during the practice sessions. Yet, they still found the experience beneficial:

<table>
<thead>
<tr>
<th>Subject Identification Number</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>I think it has helped my French a lot.</td>
</tr>
<tr>
<td>4</td>
<td>I felt the time spent in the lab greatly improved my pronunciation.</td>
</tr>
<tr>
<td>24</td>
<td>It was like having a personal tutor.</td>
</tr>
<tr>
<td>16</td>
<td>This was extremely beneficial. Fluidity has improved dramatically.</td>
</tr>
<tr>
<td>89</td>
<td>I was at ease knowing I was practicing for myself and not for anyone else to hear.</td>
</tr>
<tr>
<td>75</td>
<td>Builds up self-confidence.</td>
</tr>
<tr>
<td>95</td>
<td>I really think this helped and was not embarrassed to practice.</td>
</tr>
<tr>
<td>95</td>
<td>This seriously should be added to French 1101 and 1102.</td>
</tr>
<tr>
<td>4</td>
<td>I am enrolled in 2200 this spring and hope to have a lab as part of this course too.</td>
</tr>
<tr>
<td>84</td>
<td>This helped a lot.</td>
</tr>
<tr>
<td>80</td>
<td>It was good to help with my accent and (it) helped with my pronunciation.</td>
</tr>
<tr>
<td>76</td>
<td>I’m really glad we got to practice our accents.</td>
</tr>
</tbody>
</table>
Summary of Results

Data consisting of the Foreign Language Classroom Anxiety Scale and two types of pronunciation assessment – holistic and atomistic – were collected from 65 subjects enrolled in second-semester French at Florida State University.

Subjects in both the experimental and comparison groups demonstrated some reduction in foreign language anxiety from pre- to post-treatment as measured by their change scores on the Foreign Language Classroom Scale. A two-way ANOVA was run to determine whether high-anxiety subjects experienced a statistically significant decrease in anxiety related to method of practice. Results from the ANOVA indicate no significant decrease in anxiety occurred for high-anxiety subjects related to treatment. Furthermore, the ANOVA revealed no relationship between method of practice and reduction in anxiety for any of the anxiety levels.

Two methods of pronunciation assessment – atomistic and holistic – were used to evaluate pronunciation improvement. The holistic method was used because it is representative of current classroom practices. The atomistic approach was devised and used in order to provide a more specific and quantifiable measure regarding pronunciation evaluation.

Both groups showed improvement in pronunciation as measured by the atomistic method of evaluation. The results from the atomistic measure showed that improvement for subjects in the experimental group was statistically significant. Results from the holistic measure suggest improvement but were not strong enough to be statistically significant. Beyond these measures, responses from the user survey indicated that subjects in the experimental group found the computer practice to be effective and very engaging, and they enthusiastically endorsed its use in future courses.
CHAPTER 5
DISCUSSION

Language anxiety has been the focus of an ever-increasing amount of research, and yet it remains a difficult construct to define and measure. Scovel (1978) was one of the first to point out the contradictory nature of the research results available in the 1970s. Then, Sparks and Ganschow sparked a heated debate in 1993 when they proposed that foreign language anxiety was, in fact, the result of first language deficiencies and, as such, not a separate and distinct anxiety. While both MacIntyre (1995) and Horwitz (2000) continue to refute this argument, Youngsang Kim (2001) has more recently proposed a new language anxiety model. Despite these complications – or, moreover, because of them – the study of language anxiety is continually being refined and specific new sources are being identified. Just as Sellers (2000) and Saito, Garza, and Horwitz (1999) investigated the particular effects of foreign language reading anxiety, this study focused on foreign language pronunciation as a specific source of anxiety in hopes of expanding our understanding of this issue.

As noted in chapter two, Horwitz, Horwitz, and Cope’s (1986) definition of foreign language anxiety comprised three related anxieties: communication apprehension, test anxiety, and fear of negative evaluation. Foreign language pronunciation plays a role in each of these components. It can contribute to communication apprehension because the subject may fear that poor pronunciation obscures the meaning of his message. It plays a role in test anxiety when the subject feels that the teacher is assessing and “grading” the quality of pronunciation. It can also contribute to fear of negative evaluation when the speaker fears what others may think of the way she sounds.

This study investigated the use of computerized pronunciation practice as a means to reduce foreign language classroom anxiety because the practice done with the software had the potential to alleviate each of these sources of anxiety. Additionally, the computer software was selected...
because anxiety can often stem from a feeling of not being in control. Since the software allows the subject to set the pace, to privately view scores, and to experiment with the voice graph while modeling samples visually and aurally/orally, the subjects using the computer-aided pronunciation practice should feel more in control of the situation and, therefore, less anxious. Furthermore, the same features identified as possible aids in the reduction of anxiety also provide for an attentive and stimulating practice environment through which subjects can improve their pronunciation. Therefore, the study also investigated whether subjects who practiced with the computer showed greater improvement in their pronunciation skills.

This quasi-experimental study used a pretest/posttest comparison group design. Sixty-five second-semester French students participated in the study. They completed two pretests; one designed to assess the level of their foreign language anxiety and another to evaluate the quality of their pronunciation. Subsequently, subjects in the experimental group practiced their pronunciation over the next seven weeks with the computer software program, while subjects in the comparison group practiced the same content but using an audio-only format. At the end of the treatment period, the subjects completed the anxiety and pronunciation measures again, and their change scores were calculated.

Research Question One

*Does practicing pronunciation with the computer have an effect on the foreign language anxiety levels of subjects classified as high-anxiety?*

Results indicated that subjects overall experienced a reduction in anxiety. Those with high anxiety experienced the greatest decrease in anxiety scores from pre- to posttest. This is to be expected given the greater room for improvement (because a low-anxiety score is closer to the baseline than a high-anxiety score). However, the statistical analyses indicate no relationship between method of practice and decrease in anxiety regardless of initial anxiety levels (high, medium, or low). In other words, students who
practiced with the cassette were as likely to experience a decrease in anxiety as those who practiced with the computer.

The inconclusive results of the statistical analyses used in the anxiety investigation demonstrate the difficulty associated with quantifiably assessing anxiety. The Foreign Language Classroom Anxiety Scale is a widely used and well-recognized measure that evaluates all aspects of foreign language anxiety, including communication apprehension, fear of negative evaluation, and test anxiety, all of which were potential factors in this study. This instrument may not, however, have been sensitive enough to the role that pronunciation anxiety plays as a component of foreign language classroom anxiety. At the time of the present research, no instrument was in wide use for the specific task of measuring pronunciation anxiety.

Research Question Two

Does practicing pronunciation with the computer have an effect on the quality of subjects’ pronunciation?

The results showed that subjects who practiced with the computer did experience a greater improvement in the quality of their pronunciation than those who practiced with the cassettes. The results from the atomistic measure, which rated pronunciation based on specific sounds, indicated a statistically significant increase in pronunciation scores from pretest to posttest ($p = 0.04$). The holistic measure rated pronunciation based on overall pronunciation, rhythm, intonation, and phrasing. The results from the holistic measure suggested an improvement in pronunciation, although these were not statistically significant. The less quantifiable aspect of the holistic results may make improvement harder to detect with this measure. The difficulties associated with this type of evaluation may be symptomatic of the neglected role of pronunciation in the language classroom as noted earlier by Hammond (1990) and Terrell (1989).

Subject responses to the exit survey revealed a good deal about student attitude toward pronunciation practice. Overall, regardless of the method, the
pronunciation practice was well received by the vast majority of the subjects. This demonstrates students' desire to practice their pronunciation and the importance they accord this skill. While most first-year language programs address the teaching of pronunciation at some level in class as well as in homework activities involving the use of textbook audio programs outside of class, the reaction of the subjects in this study indicated that they did not think this was enough. Comments such as, “...it is vital because one gets the type of practice they need but can’t get in a regular classroom;” “It gives the pronunciation practice many never get in the classroom;” and, “Last semester I had no lab time and I feel that my verbal skills were hurt by that” reveal this perceived deficiency. As seen earlier, subject reactions to the computerized pronunciation practice were positive. Several subjects in the computer practice group mentioned the value of the playback feature and added that the voice graph enhanced their learning because of its visual reinforcement. Others affirmed that they benefited from the independent and private nature of practicing with the computer.

From an educator’s perspective, finding a method for pronunciation practice that can be offered to students outside of regularly scheduled class meetings is valuable because it allows more classroom time to be dedicated to communicative activities. Currently most language programs offer only the traditional CD packages that accompany many textbook programs, and as the comments presented previously indicate, many students do not find this sufficient. Using a software program such as the one in this study may satisfy the needs of the students as well as the instructor. This type of practice can be done in a semi-structured environment outside of class. Students can go to the lab on their own, but the instructor can track the time each student spends practicing either through the tracking feature included in the software or with a sign-in sheet posted in the lab. The software program provides feedback such as the voice graph, scoring, and the playback feature, all of which can be accessed by the instructor if this feature is activated. This practice environment is more stimulating than others in that it appeals to several learning styles and
also provides enhancement activities such as video clips, comprehension exercises, and word games that all use the same vocabulary base. Furthermore, this type of practice is more tailored to the specific student since each user sets the pace, chooses the number of times to repeat a sample, and selects any problematic sound structures on which to focus.

**Limitations**

The present study may be limited in its application due to the sample on which it is based: second-semester French students at a large state university. Also due to logistical reasons, it was not possible to randomly assign subjects to the treatments groups. Instead, the study was conceptualized as classroom research and used intact classes. Replication of the study in different educational settings with different student populations is needed in order to establish the generalizability of the current findings. Other more specific limitations can be divided into three subcategories and will be treated individually: anxiety evaluation, pronunciation evaluation, and the size of the sample.

**Limitations of Anxiety Evaluation**

As stated earlier, anxiety can be measured in one of three ways: 1) self-report such as surveys and questionnaires; 2) physiological indications such as blood pressure, blushing, and sweaty palms; and 3) general behavior as in pacing and/or the inability to relax (Gaudry & Spielberger, 1971). Educational research usually relies on the first method – self-reporting through surveys and questionnaires – just as this study relied on the Foreign Language Classroom Anxiety Scale (FLCAS). One inherent problem with this method, however, is the subjectivity that is involved and, in turn, the variability this causes not only between subjects but also between repeated measures for the same subject. The baseline for anxiety is neither constant nor universal, and this makes comparisons difficult. Furthermore, responses to the FLCAS are given using a five-point Likert scale of “strongly agree” to
“strongly disagree,” calling on subjective interpretations of what these terms mean to different individuals. For statistical purposes, researchers using this instrument often quantify these answers by assigning a point value of one through five so that a subject may be viewed in terms of an anxiety “score.” This was the method used in the current study. Numerical data are thus generated but may not be as objective or differentiating as they seem.

Another potential limitation, and one more specific to the nature of this study, was the focus on the reduction of pronunciation anxiety as measured by the FLCAS. While pronunciation anxiety can be a part of overall foreign language anxiety and can be triggered by communication apprehension, fear of negative evaluation, and test anxiety (the components that together comprise foreign language classroom anxiety), the FLCAS may not have been sensitive enough to this specific issue to measure any change. At the time of the present study however, there was no pronunciation-specific measure available.

**Limitations of Pronunciation Evaluation**

The traditional holistic approach to pronunciation evaluation does not yield detailed enough information for the more powerful and revealing statistical tests due to its five-tiered categorical nature (assigning a grade of A, B, C, D, F). To enhance the data being gathered, this method was supplemented with the more specific atomistic measure. The atomistic test asked the rater to indicate whether specific sounds, [ɛ] for example, were properly or improperly pronounced throughout the sample. While this method of evaluation did produce significant findings, it is not the typical approach to pronunciation evaluation and may not capture all the nuances of proper pronunciation. Furthermore, this instrument was designed for this study, and the results it yielded may not be easily replicated elsewhere.
Limitations of Sample Size

Another possible limitation of this study was the sample size. Only four sections of second-semester French were available for use in this study, which initially yielded a sample size of 98 subjects. The mortality threat was an issue because participation required the completion of multiple measures and practice sessions over a seven-week period, and only 65 of the original 98 participants completed the study. Similar numbers in each group were eliminated for similar reasons. In total, 16 from the comparison group and 17 from the experimental group were eliminated. Five from the comparison group and six from the experimental group had not properly completed one or both pronunciation measures. One subject from each group was eliminated for not completing all seven practice sessions. Eleven in the comparison group and ten in the computer group did not properly complete the anxiety measures. While it would be valuable to know how many of the subjects who did not complete the study suffered from high levels of foreign language anxiety, this information is only available for those who completed the FLCAS pretest and is thus incomplete. If the available data is indicative of any trend that may exist, it is important to note that high anxiety subjects represent a slightly higher portion of the dropout rate. Of the 33 subjects who were eliminated, nine ranked as high-anxiety, 10 were medium-anxiety, five were low-anxiety, and no data is available for the remaining nine subjects. Keeping in mind that high-anxiety subjects represented 23% of the participants in the completed study, these numbers may be indicative of a disproportionate elimination rate. Given the negative effects of language anxiety on the learning experience, a higher dropout rate for this portion of the population only underscores the importance of helping students overcome this obstacle.

Additionally sample size was affected by the cell subdivisions. Because the subjects were categorized into high-, medium-, and low-anxiety groups, these divisions with this particular sample led to a small cell size for the high-anxiety group. While fewer subjects qualifying as high-anxiety (as
opposed to mid- or low-anxiety) is to be expected, the small number of subjects in this cell likely affected the statistical tests.

**Initial Differences between Groups**

Another factor that might have affected the results of this study is the difference in initial French knowledge as noted by the ACT French test scores. The comparison group had higher scores indicating a stronger command of French at the outset than the experimental group. This greater knowledge of French might have been the reason this group had a higher initial anxiety score and less of a decrease in anxiety from pre- to posttest measures than the experimental group. Subjects in the comparison group might have been more aware of the potential for mistakes because they knew more about the language. They might have also been more studious, and/or more grade orientated which, in turn, could have affected their anxiety levels.

**Implications for Teaching**

One of the most important implications of this study came from the participants themselves when in comment after comment they indicated a strong desire to have more opportunities to practice their pronunciation. Their statements suggested that they valued the practice offered in a structured and focused environment, and, more specifically, many of them actually enjoyed practicing with the software program in the computer lab.

Computer-aided pronunciation practice may provide a means of addressing what Hammond (1990) and Terrell (1989) viewed as the neglected role of the teaching of pronunciation in the communicative methodologies they surveyed. Furthermore, this type of practice has the potential to address Laroy’s (1995) findings regarding students who feel ill at ease pronouncing non-native language sounds in front of their peers and who then just stop trying; computer-aided pronunciation practice allows them to practice away from the other students’ focus. Another potential benefit of this kind of pronunciation practice is that in cases where class attention was
devoted to pronunciation drills, this valuable classroom time can instead be spent engaging the students in more meaningful communicative activities.

In an earlier discussion of foreign language anxiety and as quoted previously as part of the rationale for this study, Horwitz, Horwitz, and Cope (1986) stated that “reducing stress by changing the context of foreign language learning is the more important and considerably more difficult task” (p.131). The subjects’ positive reactions to the computer-aided pronunciation practice seemed to indicate that this shift may be taking place.

In addition to these environmentally-centered means of addressing language anxiety, instructors should also remain aware that they may have students who experience foreign language anxiety in their classes and that addressing student concerns early on is one of the easiest ways to alleviate this problem.

**Recommendations for Further Research**

This study suggested a number of directions for future research.

1. As more is learned about the nature of foreign language anxiety and as research in this area becomes more focused, the development of an instrument specific to anxiety related to foreign language pronunciation is necessary to help gather relevant data.

2. In light of the difficulties assessing pronunciation in this study, an investigation of pronunciation-testing methods and the possible development of a better evaluative methodology concerning this aspect of foreign language learning could prove beneficial to the field.

3. The implementation of a study investigating the same general principles as the current study, but with a foreign language pronunciation anxiety survey, a larger randomly-selected sample, longer treatment time, and a greater number of pronunciation evaluators could yield significant and interesting results.
4. As technology and language learning become more and more entwined, it is important to evaluate the effectiveness of these new tools. An investigation into the impact that this or similar software has on other aspects of language learning could help language educators maximize the use of classroom time while also providing valuable practice opportunities outside of the regular class curriculum.

5. For years now, language programs in the United States have moved away from what was seen as the redundancy and somewhat empty experience of pronunciation drills. Today’s computer-aided pronunciation practice, however, is able to engage students on multiple levels and can thus provide a more stimulating and richer experience. It would be of value to conduct a study tracking student attitudes toward pronunciation practice in a course where lab attendance is a mandatory component. Such an investigation could shed light on the position of pronunciation practice in today’s language learning paradigm.
APPENDIX A

BACKGROUND QUESTIONNAIRE

Name: ____________________
Major: ____________________

1. Did you study a foreign language in high school? ____yes ____no.
2. If yes, which language(s)? ________________ For how long?________
   When? ______________ *Grade__________

3. Please list your language experience here at FSU.
   Which languages are you or have you studied here? ________________
   FRE 1120: Instructor? _____________________ *Grade____________
   FRE 1121: Instructor? _____________________ *Grade____________

Please briefly describe your language learning experiences. What did you enjoy? Struggle with? Find easy?

_________________________________________________________________
_________________________________________________________________

What type of studying is (was) successful for you? What do you think you would have liked to have done differently?

_________________________________________________________________
_________________________________________________________________


5. Do you have a job? ______yes _____ no.
   If yes, how many hours per week do you work?

6. How many hours are you taking this semester? Any difficult courses?

_________________________________________________________________

*Not required
THE FOREIGN LANGUAGE CLASSROOM ANXIETY SCALE

1. I never feel quite sure of myself when I am speaking in my foreign language class.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

2. I don’t worry about making mistakes in language class.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

3. I tremble when I know that I’m going to be called on in language class.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

4. It frightens me when I don’t understand what the teacher is saying in the foreign language.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

5. It wouldn’t bother me at all to take more foreign language classes.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

6. During language class, I find myself thinking about things that have nothing to do with the course.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

7. I keep thinking that the other students are better at languages than I am.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

8. I am usually at ease during tests in my language class.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

9. I start to panic when I have to speak without preparation in language class.
   Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

10. I worry about the consequences of failing my foreign language class.
    Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
11. I don’t understand why some people get so upset over foreign language classes.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

12. In language class, I can get so nervous I forget things I know.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

13. It embarrasses me to volunteer answers in my foreign language class.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

14. I would not be nervous speaking the foreign language with native speakers.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

15. I get upset when I don’t understand what the teacher correcting.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

16. Even if I am well prepared for language class, I feel anxious about it.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

17. I often feel like not going to my language class.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

18. I feel confident when I speak in foreign language class.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

19. I am afraid that my language teacher is ready to correct every mistake I make.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

20. I can feel my heart pounding when I’m going to be called on in language class.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

21. The more I study for a language test, the more confused I get.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree

22. I don’t feel pressure to prepare very well for language class.

Strongly Agree     Agree     Neutral     Disagree     Strongly Disagree
23. I always feel that the other students speak the foreign language better than I do.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

24. I feel very self-conscious about speaking the foreign language in front of the other students.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

25. Language class moves so quickly I worry about getting left behind.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

26. I feel more tense and nervous in my language class than in my other classes.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

27. I get nervous and confused when I am speaking in my language class.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

28. When I’m on my way to language class, I feel very sure and relaxed.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

29. I get nervous when I don’t understand every word the language teacher says.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

30. I feel overwhelmed by the number of rules you have to learn to speak a foreign language.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

31. I am afraid that the other students will laugh at me when I speak the foreign language.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

32. I would probably feel comfortable around native speakers of the foreign language.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree

33. I get nervous when the language teacher asks questions which I haven’t prepared in advance.

Strongly Agree   Agree   Neutral   Disagree   Strongly Disagree
Vous avez vu le journal ce matin? C’était incroyable, ce que j’ai lu ! Georges Grandpied, un des criminels le mieux connu de toute la France, a été mis en prison.

Apparemment, il y avait un jeune policier, Jean LeJaune, qui avait arrêté une vieille femme devant la banque. Elle a dit que son nom était Madame Ricardou. Le policier lui a demandé pourquoi elle ne portait pas de chaussures.

« Des chaussures ! » Madame Ricardou a crié. « Un moment Monsieur, on ne peut pas être arrêté parce qu’on ne porte pas de chaussures ! Evidemment vous n’êtes pas un bon policier. »

« Au contraire Madame, vous n’êtes pas une bonne criminelle. Ce ne sont pas vos pieds nus qui m’inquiètent, ce sont plutôt les billets de dix mille francs que je vois sortant de votre sac à mains. C’est beaucoup d’argent. On en voit rarement. »

Monsieur LeJaune a continué, « Je sais que vous n’êtes pas Madame Ricardou. Votre vrai nom est Georges Grandpied, vous êtes un des criminels le plus fameux de toute la France. C’était facile de vous reconnaître parce que tout le monde sait que vous n’aimez pas les chaussures à cause de vos pieds énormes. »

Et c’est ainsi que Jean LeJaune a finalement réussi à mettre Georges Grandpied en prison.

1. pieds nus = barefeet
2. apparemment = apparently
3. évidemment= evidently
4. inquiéter = to worry
5. sac à mains = handbag, purse
Identification #: 

Final Survey

Please circle the response that most accurately describes your reaction to the following statements. Please write any specific comments, reactions, thoughts etc. you may have about your experience in the “comments” sections of the questionnaire. Thank you for your assistance with this project.

1. “In general, I was comfortable with the experience of practicing my French pronunciation with the cassettes.”

    strongly agree agree neutral disagree strongly disagree

    Comments: __________________________________________________
    __________________________________________________________

2. “I did not have any difficulty manipulating the cassettes in order to proceed through the pronunciation exercises.”

    strongly agree agree neutral disagree strongly disagree

    Comments: __________________________________________________
    __________________________________________________________

3. “It was helpful to hear and compare the recordings of my attempts to those of the speaker on the cassette.”

    strongly agree agree neutral disagree strongly disagree

    Comments: __________________________________________________
    __________________________________________________________

70
4. “I listened to, repeated, and worked on the exercises a sufficient number of times.”

strongly agree         agree neutral disagree strongly disagree

Comments:
________________________________________________________________________
________________________________________________________________________

5. “Practicing with the cassettes in the lab has helped me to improve my French pronunciation.”

strongly agree         agree neutral disagree strongly disagree

Comments:
________________________________________________________________________
________________________________________________________________________

6. “Before practicing with the cassettes, I felt anxious about speaking in front of others because of my pronunciation.”

strongly agree         agree neutral disagree strongly disagree

Comments:
________________________________________________________________________
________________________________________________________________________

7. “I feel less anxious about my French pronunciation now because of the practice I did with the cassettes.”

strongly agree         agree neutral disagree strongly disagree

Comments:
________________________________________________________________________
________________________________________________________________________

8. “I would suggest adding similar pronunciation practice time in the listening lab to future sections of this course.”

strongly agree         agree neutral disagree strongly disagree
Comments:

_____________________________________________________

_____________________________________________________

Any additional comments?

_____________________________________________________

_____________________________________________________

_____________________________________________________

Again, thank you for your participation.
Identification #: 

Final Survey

Please circle the response that most accurately describes your reaction to the following statements. Please write any comments you may have about your experience in the “comments” sections of the questionnaire. Thank you for your assistance with this project.

1. “In general, I was comfortable with the experience of practicing my French pronunciation with the computer.”

   strongly agree  agree  neutral  disagree  strongly disagree

   Comments: 
   ____________________________________________________________
   __________________________________________________________________

2. “I did not have any difficulty manipulating the computer in order to proceed through the pronunciation exercises.”

   strongly agree  agree  neutral  disagree  strongly disagree

   Comments: 
   ____________________________________________________________
   __________________________________________________________________

3. “It was helpful to see the “voice graph” and to be able to compare my attempt to that of the computer.”

   strongly agree  agree  neutral  disagree  strongly disagree

   Comments: 
   __________________________________________________________________
4. “It was helpful to receive “scores” from the computer.”

strongly agree  agree  neutral  disagree  strongly disagree

Comments:

5. “It was helpful to hear and compare the recordings of my attempts to those of the computer.”

strongly agree  agree  neutral  disagree  strongly disagree

Comments:

6. “I think that I listened to, repeated, and worked on the exercises a sufficient number of times.”

strongly agree  agree  neutral  disagree  strongly disagree

Comments:

7. “Practicing with the software in the lab has helped me to improve my French pronunciation.”

strongly agree  agree  neutral  disagree  strongly disagree

Comments:

8. “Before practicing with the software, I felt anxious about speaking in front of others because of my pronunciation.”

strongly agree  agree  neutral  disagree  strongly disagree
Comments:

_____________________________________________________

_____________________________________________________

9. “I feel less anxious about my French pronunciation now because of the practice I did with the software”

strongly agree  agree  neutral  disagree  strongly disagree

Comments:

_____________________________________________________

_____________________________________________________

10. “I would suggest adding similar pronunciation practice time in the computer lab to future sections of this course.”

strongly agree  agree  neutral  disagree  strongly disagree

Comments:

_____________________________________________________

_____________________________________________________

Any additional comments?

_____________________________________________________

_____________________________________________________

_____________________________________________________

Again, thank you for your participation.
Leçon 1 : Comment se décrire.

Ça va !
Non.
Oui, je suis français.
Non, je suis italien.
En Espagne.
En France, et vous ?
J'habite en Suède.
Oui ! Une grande maison.
Non, j'ai un appartement
Oui, avec un jardin.
Je suis vieux !
Je suis jeune, j'ai 21 ans.
Ce ne sont pas vos oignons !
Surtout pas !
Oui, je suis marié(e).
Je suis célibataire.
Non, pas encore.
Oui, j'ai une fille et un garçon.
J'ai des jumeaux !
A son bureau !
Mon mari, vous voulez dire ?
Elle est avec notre fils et notre fille.
Hé ho ! Je ne suis pas si vieux !
J'aimerais bien l'être.
Oui, j'ai trois petits-fils.
Assez grande, oui.
J'ai beaucoup de tantes et d'oncles.
Non, il y a simplement ma sœur et moi.
Non, je n'en ai pas.
Oui, j'en ai deux. Et je les aime beaucoup.
Oui, mais je ne les vois jamais.
C'est un peu difficile.
Oui, je comprends tout !
Pardon ?
A moi-même !
Non, pas vraiment.
Non, je suis petite.
Oui, je suis grand.
Oui, j'ai les cheveux blonds.
Je suis très brune.
Ils sont verts.
Ils sont bleu-gris.
J'ai les yeux brun et jaunes.
Eh bien oui, ils sont un peu grands !
Non, mais j'ai de grandes mains.
Non, pas vraiment, mais je ne suis pas gros.
Oui, je suis très mince.
Non, j'ai les cheveux courts.
Je les ai jusqu'aux épaules.
Oui, j'ai les cheveux longs.
Une jupe noire.
Un pantalon vert.
Mon plus beau pull, et des jeans.
Non, je ne porte jamais de cravate.
Oui, j'en porte une.
Je porte un nœud papillon.
Oui, j'ai des chaussettes jaunes.
Non, je suis pieds nus.
Je porte des collants.
Des chaussures habillées.
Des bottes.
Je suis en train de manger mon stylo.
Je vous parle !
Je réponds à vos questions stupides !
Ah, très bien.
D'accord. Au revoir.

Leçon 2: Savoir compter

A la maison.
Dans ma chambre.
Au travail.
Dans la salle de bains.
Au salon.
Dans la cuisine !
Oui, je suis assis.
Non, je ne suis pas debout.
Je suis à genoux.
Il y a trois personnes avec moi.
Je suis seul(e).
Nous sommes six.
Oui, jusqu'à cent.
Je n’en suis pas sûr(e) !
Je peux essayer !
Neuf !
Dix !
Onze !
Seize, dix-sept, dix-huit…
On doit dire « treize » ?
Onze, douze, treize, quatorze…
Vingt-sept.
Ça fait trente-huit.
Je ne sais pas !
Cent !
Soixante-dix.
Cinquante.
Je ne sais pas, dis-le-moi.
C’est hit cent soixante.
Neuf cent quatre-vingt-dix-neuf.
Deux cent quatre-vingt-seize.
Voyons … trois cent un ?
J’ai trouvé : deux cent cinq.
Bien sûr !
Oui, mais j’ai du mal avec « W » et « X » !
A, B, C, D, E…
J, E, U, D, I.
Je ne sais pas, dis-le moi.
Ah, c’est facile « jeudi ».
On dit « G » et « J », n’est-ce pas ?
La lettre « W » est la plus dure !
Le « R » français est tellement charmant !
Je préfère l’hiver et la neige.
Je déteste l’automne.
J’aime le printemps et l’été.
Il est le mois de juillet.
Le 24 septembre.
Je ne sais pas comment le dire en français.
Non, pas du tout.
En février.
Quel mois y a-t-il après juillet ?
Oui, mon anniversaire est en août.
Non, après octobre.
C’est en décembre.
Je connais lundi, mardi, et mercredi.
J’oublie toujours ce qu’il y a avant le samedi !
Je connais le dimanche. C’est celui que je préfère.
Je connais aussi jeudi, c’est mon jour de tennis.
Oui, c’est le seul qui m’intéresse.
Non ! Je connais tous les jours de la semaine.
C’est vrai ?
Il y a toujours la queue le samedi.
Tous les samedis ?
J’ai mon cours de gym !
Je sais !
Et, quelle heure est-il ?
Six heures ! Il est temps de partir.
Sept heures moins le quart ?
Je regarde ma montre…
La mienne marche très bien.
Regarde l’horloge.
Et moi, j’ai perdu la mienne.
Je dois être au théâtre dans une demi-heure !
Il est huit heures et demie à l’horloge.
Je vais rester jusqu’à dix-neuf heures.
Pas de montre, pas de lunettes.
Elles sont posées là, sur la table.
Et moi, est-ce que tu me vois ?
Non, promis!
Le travail, c’est la santé !
Mais, je ne travaille pas.
Je me lève toujours à sept heures.
Oh non ! C’est trop dur pour moi !
Je peux essayer…
Oui, nous sommes mercredi.
Aujourd’hui, on est jeudi 5 janvier.
J’ai encore des progrès à faire.
Je plaisante ! J’ai tout compris !
Oh…c’est tellement dur !
D’accord ! A demain !

Leçon 3 : Noms et adjectifs

C’est un crayon.
Une gomme.
Une feuille de papier.
À côté du livre.
Sur mon bureau.
C’est un stylo.
Un taille-crayon.
Un stylo à plume.
Dans le tiroir.
Sur la table.
Sur l’étagère.
Oui, je pense.
Oui, j’en ai une petite.
Non, je n’en ai pas.
En voilà une !
Utilise plutôt de la colle !
Je n’ai pas d’agrafeuse.
Non, elle est petite.
Oui, c’est une grande règle.
Regarde !
Non, mais j’ai une brosse.
Oui, le voici !
J’en ai même deux !
Oui, ce sont les miennes.
Ce sont les clés de mon appartement.
Mes clés de voiture !
Dans le garage.
Dans mon appartement.
Dans la rue !
Oui, j’ai un chien.
Non, et toi ?
Je déteste les chiens !
Il est dehors.
À l’intérieur de la maison.
Dans sa niche !
J’en ai trois.
Oui, j’ai un chat.
Je n’aime pas les chats !
Non ! C’est un rat !
J’espère que non.
C’est plutôt une grenouille.
Non ! Pas du tout !
Je ne les supporte pas !
Oui, un peu.
Où est-il ?
Un singe ?
Comme il est mignon !
Une guêpe.
Une abeille, une mouche…
Le scarabée, c’est un insecte ?
Un ver est un petit animal.
Je bois de l’eau dans un verre.
Il y a des verres dans mes lunettes.
Où ça ?
Ah oui ! Un beau papillon jaune !
Celui qui est rouge et bleu ?
Mon animal préféré c’est la girafe.
J’aime les serpents et les cochons.
Les chevaux, les dauphins et les hérissons.
Oui, je suis heureux.
Bien sûr !
Non, je suis un peu triste…
Non, il fait mauvais.
Oui, très beau !
Ni beau, ni mauvais…
Quelle question !
Non, je suis fatigué(e) aujourd’hui !
Non, mais je suis sympa !
Non, elle est vide.
Oui, elle est pleine !
Elle est à moitié remplie.
Quand je veux…
Non, je suis très lente.
Je suis très rapide.
Non, je ne suis plus très jeune.
J’ai le même âge que toi.
Si, c’est difficile.
Non, ça va.
Quelquefois, c’est dur.
Oui, cette tasse est brûlante !
Mais non, c’est froid !
C’est plutôt tiède !
Bien sûr que c’est vrai !
Oui, je suis riche, intelligent et beau.
Pas vraiment, non.
C’est une question indiscrète.

Leçon 4: Les présentations

Bonjour.
Pardon?
Bonsoir?
Oui, c’est moi.
Comment ?
Franck Jones. C’est ça !
Bien, merci.
Très bien, et vous ?
Je suis un peu fatigué, mais ça ira.
Enchanté !
Ravi de faire votre connaissance !
Excusez-moi ! Qu’avez-vous dit ?
Merci, c’est gentil.
Non, ce n’est pas la peine !
Oh ! Ils sont tellement légers !
Oh, oui.
C’est le plus lourd !
Si vous insistez…
Je peux mettre ma valise dans le coffre ?
Quelle belle voiture !
Ah ! Elle est bloquée !
Que voulez-vous savoir ?
Je suis anglais.
Je ne parle pas très bien le français…
Oui, j’ai trois sœurs.
Non, je suis un enfant unique.
J’ai juste un frère jumeau.
Non. Je ne suis même pas marié !
Oui, cinq enfants.
J’ai un fils et une fille.
C’est J, O, N, E, S.
Je vais vous l’écrire sur un papier.
Que veut dire « orthographe » ?
Oui, toujours.
Non, j’ai vécu en Allemagne pendant cinq ans.
Oui, mais j’ai souvent changé de ville.
Oui, j’ai eu dix-neuf ans la semaine dernière.
Non, j’ai trente et un ans.
J’aurai dix-neuf ans dans un mois.
C’est bien !
C’est l’avantage des séjours linguistiques !
J’espère qu’ils parlent anglais !
C’est une très belle maison !
C’est quelle maison ?
Elle ressemble à la mienne !
Bonsoir, Laurent.
Je m’appelle Franck.
Comment allez-vous ?
Oui, je suis anglais.
Je suis à moitié allemand et à moitié autrichien.
Oui. Et vous, êtes-vous français ?
Oui, nous nous sommes aperçus ce matin.
Non, je ne vous connais pas.
Je ne pense pas !
Je ne la connais pas.
C’est un ami d’Angleterre.
Il n’est pas avec nous.
C’est la fille de M. Dubois, Caroline.
Une de mes amies, qui vient aussi d’Angleterre.
C’est la petite amie de mon neveu.
Caroline, je vous présente Laurent.
Je suis étourdi... j’ai oublié votre nom !
Vous pouvez vous présenter vous-même !
Elle s’appelle Viviane.
Demandez-lui directement !
Elle vous le dira elle-même.
Je ne m’en souviens pas
Oui, il me semble bien.
Non, jamais.
Oui, elle était assise en face de moi.
Non, nous nous sommes rencontrés l’année dernière.
Bien sûr ! Nous sommes venus ensemble.
Non, pas tout à fait.
Vous faites erreur.
Non, mon prénom c’est Franck.
Non, ce n’est pas lui.
Oui, ça devrait être lui.
Il est toujours en retard.
Oh non, mon vocabulaire est très réduit !
Je viens de terminer un cours intensif.
Pardon ?
Non, je suis désolé !
Si, un peu.
Pouvez-vous répéter ?
Juste quelques jours.
Deux semaines.
Je repars mardi.
Merci !
J’espère qu’il le sera !
A bientôt !

Leçon 5: Perdu dans Paris

Je me suis perdu(e).
Où suis-je ?
Je ne sais plus où est mon hôtel.
Oui, je sais !
Est-ce la Place de la Concorde ?
Mais où à Paris ?
Celle-ci.
C’est écrit là.
Une rue à côté de la Place Wagram.
C’est... j’ai oublié !
L’adresse est dans mon sac, c’est l’hôtel...
Rue Monceau.
C’est l’hôtel Beausite.
Le nom est écrit là !
Un instant, c’est écrit dans mon agenda.
Vous ne savez pas où elle est ?
Pardon ?
J’espère que vous la connaissez !
Oui, c’est écrit sur ce papier.
Non, ça c’est mon adresse.
Je vérifie. Oui, c’est ça.
Est-ce que c’est proche d’ici ?
Comment y va-t-on ?
Je n’aime pas les grandes villes, la nuit !
C’est le Georges V.
Ça commence par un « G ».
Un instant, c’est marqué ici aussi.
Est-ce la bonne direction ?
Est-ce à gauche ?
C’est à droite ?
C’est loin ?
Je peux y aller à pied ?
Où est le métro ?
Ah bon ?
Vous êtes sûr ?
Alors, je me suis trompé(e).
Et après ?
Jusqu’à quel endroit ?
Je ne dois pas tourner à droite ?
C’est quoi, un rond-point ?
D’accord.
Est-ce si loin ?
Oui.
Le feu rouge ?
Non, je ne le vois pas.
Oui, j’en ai un.
Oui, mais il est un peu ancien…
Quelque part là-dedans !
Vous avez raison !
Je n’a pas le sens de l’orientation.
Et s’il y a une erreur sur le plan ?
Oui, je vois.
Où est le nord ?
Est-ce que le métro est indiqué ?
Avant le grand magasin ?
Après la pharmacie ?
Derrière le bureau de poste ?
Vous ne me connaissez pas !
On verra bien !
Savez-vous où je peux trouver une banque ?
L'ensemble résidentiel ?
Parfait, merci.
Ah oui ! Je la vois !
Oui, je le pense.
Je vais essayer.
Qu'avez-vous dit ?
Oui, je dois tourner à gauche.
Vous avez dit à droite, n'est-ce pas ?
J'espère !
Merci pour votre aide !
Je peux y aller les yeux fermés, maintenant !
J'ai donc bien compris !
Quel bus ?
Celui de la ligne 27 ?
Combien de temps faut-il en bus ?
C'est une bonne idée de prendre le bus.
Comment savoir où descendre ?
Effectivement, je préfère le bus.
Oh mon Dieu…
Ah oui, c'est vrai, je m'en souviens !
Je vais noter, c'est plus prudent.
Je ne suis pas très doué(e)
C'est mon premier jour, je suis un peu perdu(e).
Je me perds tout le temps !
En réalité, je voulais améliorer mon français.
Merci pour votre gentillesse.
Je sais, je ne dois pas être le premier !
Surtout dans une grande ville !
Toutes les rues se ressemblent !
Et vous, comment faites-vous lorsque vous voyagez ?

Leçon 6 : Formes ou forme ?

Non, je suis en train de lire.
Je suis en train de danser !
Non, et toi ?
Qu'en penses-tu ?
Bien sûr !
Non, je suis en train de lire un article.
Je t'écoute.
J'apprends le français.
J'écris.
J'écris une lettre d'amour.
J’écris à mes parents.
Un rapport.
Au sujet de mon travail.
Au sujet de la restauration rapide.
A ton sujet !
Je ne peux pas !
Tu plaisantes !
Non, j’aime écrire !
C’est moi qui ris.
Quelqu’un est en train d’éternuer.
Quel bruit ?
Oh ! Je suis aussi en train d’écouter la radio.
Je suis en train de me couper les ongles !
Il vient de toi !
Mais si, je suis en train de manger.
Si, je suis en train de manger une pomme.
Mais oui !
Je ne mens jamais !
Je dis toujours la vérité !
Je ne suis pas un menteur !
Non, pas du tout !
Oui !
Oui, et en plus, il est bon.
Mais bien sûr que oui !
Et toi, tu ne manges pas ?
Et toi, qu’est-ce que tu fais ?
Et qu’est-ce que tu regardes ?
Quoi ?
C’est intéressant.
Rien.
Quelqu’un vient.
Je suis en train de fermer la porte.
C’est le patron.
Je ne sais pas…
C’est le patron. Il n’est pas content…
J’essaie notre nouvelle machine !
Je travaille…
Je suis en train de parler à cet ordinateur.
C’est ce que je suis en train de faire.
C’est ce que j’essaie de faire.
Je vais l’écrire en français !
Je fais les deux à la fois.
J’écoute d’abord, puis j’écris.
Je mémorise.
Non, pas du tout !
Tu ne me crois pas ?
Ça vaut la peine d'essayer, tu sais !
D'accord.
Je fais de gros efforts en ce moment, tu sais !
Au moins, ce n'est pas ennuyeux !
Tu sais ce que tu dois faire ?
Tiens.
Tu verras, c'est épatant !
Mais bien sûr que oui !
J'en ai l'impression !
Oui, je fais des progrès !
L'impression d'apprendre !
Que je m'exprime facilement !
Ça n'a pas d'importance !
Bien sûr que si !
Cette machine marche très bien !
Moi si !
Moi, je souris ?
Je ne souris pas !
Je ris plutôt ! Je m'amuse bien !
Mais si, je bâille !
Mais si ! Ce travail est fatigant !
je me concentre.
Oui, je sais beaucoup de choses !
Non, quoi ?
C'est étonnant !
Ah bon !
Oui, c'est l'heure de rentrer à la maison.
C'est l'heure de la réunion.
Nous avons une réunion chaque vendredi.
C'est juste pour discuter…
Notre réunion de travail hebdomadaire !
A quoi ?
Tu t'en vas ?
Le match de foot est en train de commencer !

Leçon 7: Le petit déjeuner

Bonjour ! C'est pour déjeuner s'il vous plaît.
Est-ce que vous servez le petit déjeuner ?
J'ai faim ! Peut-on manger ?
Ce n'est pas la peine !
Qu'est-ce que vous proposez ?
Je sais ce que je vais commander.
Un petit déjeuner continental, s'il vous plaît.
Typiquement français ? C'est à dire ?
Qu’y a-t-il dans le petit déjeuner canadien ?
Non, j’en mange déjà souvent.
Et des croissants ?
J’aime tellement le pain français !
Je préfère prendre quelque chose de sain.
Non, c’est trop lourd.
Oui, c’est ce que je vais prendre.
Y a-t-il des yaourts ?
Je prendrai des croissants.
Mais que vous reste-il ?
Je vais me contenter d’un peu de pain.
Avez-vous du pain complet ?
Non, c’est beaucoup trop.
Trois petits pains au lait.
Avez-vous de la tarte aux pommes ?
Avez-vous du miel ?
Du beurre et beaucoup de confiture.
Je ne devrais pas manger autant.
Oui, du pain grillé.
J’ai déjà goûté vos pâtisseries.
Non, pas le matin.
Des œufs. Comment ?
Je vais prendre des œufs brouillés.
Des œufs durs.
Deux œufs sur le plat.
Du café, s’il vous plaît.
Oui, avec du lait.
Qu’est-ce qu’il y a dans ce pot ?
C’est la théière, ça ?
Où est le lait ?
Je n’ai pas commandé de café crème.
Je voulais du café noir.
C’est pour la table d’à côté.
Pourrais-je avoir un peu de beurre ?
Il n’y a pas assez de confiture.
Le miel est tellement collant !
Ce café est trop léger.
Mon thé est trop fort !
Le pain est rassis !
Juste de l’eau chaude et un sachet de thé.
Tout est parfait maintenant, merci.
Deux tranches, s’il vous plaît.
J’espère qu’il vous reste du pain.
J’ai encore faim !
Y a-t-il du fromage ?
J’aimerais un fruit.
Je voudrais une orange.
Du jus d’ananas, c’est ce que je préfère.
Je vais en prendre.
Ça me suffit pour la journée !
Pardon ! J’ai fait des saletés.
Le pain est tellement bon !
Oui, j’espère qu’elle sera bonne.
Le petit déjeuner, c’est le meilleur repas de la journée !
APPENDIX G

SAMPLE VOICEGRAPH
"TELL ME MORE"
PRONUNCIATION PRACTICE FEATURE
APPENDIX H
ATOMICST GRADING CRITERIA

**Atomistic grade.**
Now listen to the sample again and note whether the following points are pronounced correctly or incorrectly and indicate with an “x” in the corresponding column.

<table>
<thead>
<tr>
<th>La femme aux pieds nus</th>
<th>Correct</th>
<th>Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vousavez vu</td>
<td>1.</td>
<td></td>
</tr>
<tr>
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<td>le journal ce matin? C’était incroyable,</td>
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<td>ce que j’ai lu! Georges Grandpied, un des criminels</td>
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<td>les plus dangereux en France,</td>
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<td>a été mis en prison.</td>
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<td>Apparemment, il y avait un</td>
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<td>Jeune policier, Jean LeJaune,</td>
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<td>qui avait arrêtée une vieille femme</td>
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<td>devant la banque. Elle a dit que son nom</td>
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<td>était Madame Ricardou.</td>
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91
Le policier lui a demandé pour quoi elle ne portait pas de chaussures. "Des chaussures!" Madame Ricardou a crié. "Un moment Monsieur, on ne peut pas être arrêté parce qu’on ne porte pas de chaussures! Évidemment vous n’êtes pas un bon policier." "Au contraire Madame, vous n’êtes pas une bonne criminelle. Ce ne sont pas vos pieds nus qui m’inquiètent; ce sont plutôt les billets de dix mille francs que je vois sortant de votre sac à main.
C’est beaucoup d’argent. 38.

On en voit rarement.”

Monsieur LeJaune a continué, 39.

“Je sais que vous n’êtes pas Madame Ricardo. 40.

Votre vrai nom est Georges Grandpied, 43.

vous êtes le criminel le plus dangereux de France. 44.

C’était facile de vous reconnaître parce que tout le monde sait que vous n’aimez pas les chaussures à cause de vos pieds énormes.” 49.

Et c’est ainsi que Jean LeJaune a finalement réussi à mettre Georges Grandpied en prison.
Le serpent boa
(excerpt from “Le Petit Prince”)

Lorsque j’avais six $\frac{1}{2}$ ans

j’ai vu, une fois, une magnifique image,

dans un livre sur la Forêt Vierge qui

s’appelait “Histoires Vécues.”

Ça représentait un serpent boa qui avalait un fauve.

Voilà la copie du dessin.


Ensuite ils ne peuvent plus bouger et ils dorment pendant les six mois de leur digestion.”

J’ai alors beaucoup réfléchi sur les aventures de la jungle et, à mon tour, j’ai réussi, avec un crayon de couleur.
à tracer mon premier dessin.\textsuperscript{25}
\textipa{/sl/} 25.

Mon dessin\textsuperscript{26} numéro\textsuperscript{27} 1. Il était comme ça:
\textipa{/sl/} \textipa{/y/} 26. 27.

J’ai montré mon chef-d’œuvre aux grandes personnes\textsuperscript{28}
\textipa{/sl/} 28.

et je leur ai demandé\textsuperscript{29} si mon dessin\textsuperscript{30} leur faisait\textsuperscript{31} peur.
\textipa{/el/} \textipa{/z/} 29. 30. 31.

Elles m’ont répondu\textsuperscript{32}:
\textipa{/yl/} 32.

“Pourquoi\textsuperscript{33} un chapeau ferait-il peur?”
\textipa{/ul/} 33.

Mon dessin\textsuperscript{34} ne représentait\textsuperscript{35} pas un chapeau.
\textipa{/sl/} \textipa{/z/} 34. 35.

Il représentait\textsuperscript{36} un serpent\textsuperscript{37} boa qui digérait un éléphant.
\textipa{/zl/} \textipa{/s/} 36. 37.

J’ai alors dessiné\textsuperscript{38} l’intérieur du serpent boa, afin que
\textipa{/sl/} 38.

les grandes personnes\textsuperscript{39} puissent\textsuperscript{40} comprendre.
\textipa{/sl/} \textipa{/sl/} 39. 40.

Elles\textsuperscript{41} ont toujours\textsuperscript{42,43} besoin\textsuperscript{44} d’explications.
\textipa{/zl/} \textipa{/ul/}, \textipa{/u/}, \textipa{/ul/} \textipa{/zl/} 41. 42. 43. 44.

Mon dessin\textsuperscript{45} numéro\textsuperscript{46} 2 était comme ça:
\textipa{/sl/} \textipa{/yl/} 45. 46.
APPENDIX I

HOLISTIC GRADING CRITERIA

Pronunciation Evaluation

Student Identification number: __________

Cassette Type: RED BLACK

I. Holistic grade.
Please rate the pronunciation samples based on the following criteria. (Circle the letter that best describes the student’s pronunciation level.)

In addition to the pronunciation of vowels and consonants, remember to keep intonation, tonic accent, syllabification, and word-linking in mind while evaluating pronunciation. (These are the elements that constitute prosodics. Prosodic features are suprasegmental features, that is, they involve whole segments of speech.)

A Correct pronunciation and intonation; very few mistakes; almost native-like.

B Some mispronunciation; meaning still clear; tries to “sound French.”

C Pronounced foreign accent requiring extra—sympathetic listening; comprehensible.

D Meaning frequently obscured by poor pronunciation; minimally comprehensible; very “American.”

F No effort at all to “sound French;” often incomprehensible.
APPENDIX J

Permission to use the
Foreign Language Classroom Anxiety Scale

Thank you for your interest in my work. Subject to the usual requirements for acknowledgment, I am pleased to grant you permission to use the Foreign Language Anxiety Scale in your research. Specifically, you must acknowledge the authorship of the FLCAS in any oral or written reports of your research. I also request that you inform me of your findings.

In order to score the FLCAS, you should give the item 5 points whenever it indicates anxiety and 1 point when it doesn't. For example, if the item says, 1. I never feel quite sure of myself when I am speaking English, you should score 5 points if the participant strongly agrees, 4 points if he/she agrees, 3 points for neither agree nor disagree, 2 points for disagree, and one point for strongly disagree. However, several items which indicate a lack of anxiety are reverse-scored. For example, if the item says, I DO NOT worry about making mistakes in English class, you should count 1 point for strongly agree, 2 points for agree, etc.

Generally, moderately high and low anxious people achieve scores 1 standard deviation above and below the mean, respectively. Very high and very low anxious people achieve 2 standard deviations above and below the mean, respectively.

The items cannot be categorized in terms of communication apprehension, test anxiety, and fear of negative evaluation. Horwitz, Horwitz, and Cope, 1986 argued that these concepts for a starting point but that foreign language anxiety was not simply a combination of those anxiety types.

Horwitz, Horwitz, and Cope, 1986 is the correct citation.

Best wishes,
Elaine Horwitz
APPENDIX K

Auralog permission to use “Tell Me More” software

August 31, 2006

Dear Leslie Meyers,

I am writing to thank you for all your help in getting my research project underway. As it turns out, I have found a way to make the “audio only” recording of the lessons I need to use from “Tell Me More.” I’m not sure if you remember, but this is what I needed for my “control group.” (The experimental group will use the real computer software). I was just wondering if you could indicate that I have permission to use Auralog’s, “Tell Me More” for research purposes by signing this letter.

Please call, email, or fax me if there is any problem or if you have any questions.

Thanks again and I’ll keep you posted on my progress.

Sincerely,

[Signature]

Ashley Shams

[Signature] 9/1/06
APPENDIX L

APPROVAL LETTER FOR HUMAN SUBJECTS RESEARCH

Florida State University

Office of the Vice President for Research
Tallahassee, Florida 32306-2763
(850) 644-3260 • FAX (850) 644-492

APPROVAL MEMORANDUM
from the Human Subjects Committee

Date: July 5, 2000
From: David Quadagno, Chair
To: Ashley Shams
Dept: Modern Languages and Linguistics
Re: Use of Human subjects in Research
Project entitled: The Use of Voice Recognition Software as a Tool in the Reduction of Foreign Language Classroom Anxiety

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be exempt per 45 CFR § 46.101(b)2 and has been approved by an accelerated review process.

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

If the project has not been completed by July 5, 2001 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is M1339.

cc: L. LeBlanc
APPLICATION NO. 00.230
APPENDIX M

CONSENT FORM

INFORMED CONSENT FORM

DATE

I freely and voluntarily and without any element of force or coercion, consent to be a participant in the research project entitled "The Use of Technology in the Foreign Language Classroom."

The project is being conducted by Ashley Shams, M.A., a graduate student and teaching assistant at The Florida State University. I understand the purpose of her research project is to study the role of the language lab in learning French. I understand that if I participate in the project I will be asked questions about my past language experience, if any, as well as my academic achievements.

I understand that I will be asked to fill out several pencil and paper questionnaires. I also understand that I will be tape recorded by the researcher. These tapes will be kept by the researcher in a locked filing cabinet. I understand that only the researcher will have access to these tapes and that they will be destroyed by January 1st, 2010.

I understand that my participation is totally voluntary and I may stop participation at any time. I also understand that participation will not affect my grade in French 1121. All my answers to the questions and my audio recordings will be kept confidential to the extent allowed by law. My name will not appear on any of the results. No individual responses will be reported. Only group findings will be reported.

I understand that if I feel any emotional distress during the completion of the surveys or the tests the research assistant, Ashley Shams, will be available to talk to me about any emotional discomfort I may experience while participating.

I understand that there are benefits for participating in this project. First, I will receive practice in the French language and learn about technology in the foreign language classroom. Also, I will be providing information regarding the role of the language lab and the current state of French 1121 at The Florida State University.

I understand that I may contact Ashley Shams, The Florida State University, 362 Diffenbaugh, (850)644-5735, for answers to questions about the project. Group results will be sent to me upon request.

I understand that my consent may be withdrawn at any time without prejudice, penalty or loss of benefits to which I am otherwise entitled. I have been given the right to ask and have answered any inquiry concerning the study. Questions, if any, have been answered to my satisfaction. In the future, I understand that I may contact Ashley Shams M.A., The Florida State University Department of Modern Languages and Linguistics, 362 Diffenbaugh, (850)-644-5735 for answers to questions about this research or my rights. I have read and understand this consent form.

(Signature)

(Date)


Gardner, R.C., Moorcroft, R., & MacIntyre, P.D. (1987). *The role of anxiety in


Speiller, J. (1988). Factors that influence high school students' decision to continue or discontinue the study of French and Spanish after levels II, III, and IV. *Foreign Language Annals, 21*, 535-545.


Ashley Shams received her PhD from Florida State University in the fall of 2006. She is an assistant professor of French in the department of Modern and Classical Languages at the University of St. Thomas in St. Paul, Minnesota. In addition to her interest in French poetry and second language acquisition, she is active in cross-disciplinary, international service-learning and has traveled with students to West Africa and the Caribbean to work on sustainable development projects.